

Course Descriptions

COLLEGE OF PHARMACY

PHARM 3001 INTRODUCTION TO PHARMACY

One hour lecture. Required in the first professional semester, orientates entering students for the College of Pharmacy and initiates concepts of professionalism and professional responsibility. **Prerequisite: Admission to the College of Pharmacy**

PHARM 3010 PHARMACY SEMINAR I

Zero hours lecture. Required in the second semester of the first professional year. Students will participate in professional program activities, which may include continuing professional development, interprofessional education, co-curricular activities, assessment, and portfolio development. **Prerequisite: PHARM 3001.**

PHARM 3012 PHARMACY CALCULATIONS

Two hours lecture. Calculations applicable to the practice of pharmacy including metric and common systems of measurement, dosages, specific gravity, expressions of concentration, pharmaceutical formulas, and determination of patient parameters. **Prerequisite: Admission to the College of Pharmacy**

PHARM 3023 PHARMACEUTICS I

Three hours lecture. A study of the applications of physical chemical and biopharmaceutical principles in pharmacy and pharmaceutical sciences, especially in designing various stable pharmaceutical dosage forms. Discussions involving pertinent mathematical concepts, development issues, processes, regulatory issues and compendial methods of evaluation of commonly administered dosage forms are included. **Prerequisite: Admission to the College of Pharmacy. Concurrent enrollment: PHARM 3012**

PHARM 3123 PHARMACEUTICS II

Three hours lecture. A continued study of pharmaceutical dosage forms with emphasis on novel and targeted drug delivery systems. Discussions focusing on transforming proteins, genes, and other biotechnology driven compounds into therapeutic products including the role of high throughput screening, molecular modeling, and new drug therapies in fabricating rational drug delivery systems are included. **Prerequisites: PHARM 3012, PHARM 3023.**

PHARM 3213 INTRODUCTORY PHARMACY PRACTICE EXPERIENCE – COMMUNITY

Full-time, three-week practicum conducted in a community pharmacy; provides introductory experiences in contemporary pharmacy practice including: dispensing, prescription processing systems, management, and patient counseling. **Prerequisites: PHARM 3311, PHARM 3813.**

PHARM 3311 PHARMACEUTICAL CARE LABORATORY I

Introduction to the prescription, dispensing processes, patient counseling, and pharmaceutical compounding. **Prerequisite: Admission to the College of Pharmacy. Prerequisite or concurrent enrollment: PHARM 3012, PHARM 3023, PHARM 3813.**

PHARM 3321 PHARMACEUTICAL CARE LABORATORY II

Students develop the ability to fill prescriptions rapidly and accurately. Students are presented with numerous written and phoned prescriptions during each lab session, many of which contain intentional errors. Students develop methods to correct prescription errors through appropriate physician communications. Students practice computerized prescription filling and develop patient counseling skills. Students refine their skills in pharmaceutical compounding. **Prerequisites: PHARM 3001, PHARM 3012, PHARM 3311, PHARM 3813. Prerequisite or concurrent enrollment: PHARM 3123.**

PHARM 3405 FUNDAMENTALS OF DRUG ACTION

Five hours lecture. The topic areas include introduction to pharmacodynamics and receptor pharmacology, principles of medicinal chemistry, absorption, distribution, metabolism, excretion and basics of biopharmaceutics, introduction to pharmacogenomics and pharmacogenetics, an introduction to toxicology of drugs and other chemicals and drug resistance. **Prerequisites: CHEM 4124, PHARM 3614.**

PHARM 3614 PHYSIOLOGY

Four hours lecture. This course focuses on the structures of the human body and the integrative regulatory mechanisms through which these structures work together to sustain the normal functions of a living organism. Topics that will be covered during the course include the following: cellular and molecular physiology, as well as the nervous, cardiovascular, respiratory, kidney, digestive, and endocrine systems. **Prerequisite: Admission to the College of Pharmacy.**

PHARM 3813 COMMUNITY PHARMACY I

Three hours lecture. An introduction to various aspects of pharmacy practice in a retail or community setting. A discussion of prescription format and interpretation, drug standards and drug laws, communication skills and patient counseling, as well as important characteristics and counseling information for the most commonly dispensed prescription products will be included. **Prerequisite: Admission to the College of Pharmacy.**

PHARM 3823 HEALTH AND BIostatISTICS

Three hours lecture. A practical application of health-related statistical analysis providing students with the knowledge and skills needed to read, interpret, and evaluate quantitative findings in the pharmacy and medical literature. **Prerequisite: PHARM 3012.**

PHARM 4010 PHARMACY SEMINAR II

Zero hours lecture. Required in the first and second semesters of the second professional year. Students will participate in professional program activities, which may include continuing professional development, interprofessional education, co-curricular activities, assessment, and portfolio development. **Prerequisite: PHARM 3010 and second professional year standing.**

PHARM 4142 HEALTH-SYSTEM PHARMACY

Two hours lecture. An introduction to institutional pharmacy practice and products. Emphasis on preparation, administration and storage of parenteral or enteral products employing aseptic techniques. General principle of primary and secondary engineering control and sterilization methods are covered as they pertain to the maintenance of proper aseptic conditions. This is followed by importance of documentation, policies and procedures relevant to institution, home infusion and compounding practices. **Prerequisite: PHARM 3123. Prerequisite or concurrent enrollment: PHARM 4331.**

PHARM 4223 INTRODUCTORY PHARMACY PRACTICE EXPERIENCE – INSTITUTIONAL

Full-time, three-week practicum conducted in an institutional pharmacy; provides introductory experiences in contemporary institutional pharmacy practice including: dispensing; medication management systems; policies and procedures in institutional pharmacy. **Prerequisites: PHARM 4142, PHARM 4331.**

PHARM 4302 DRUG INFORMATION

Two hours lecture. An overview of drug information sources, retrieval processes, and analysis. **Prerequisites: PHARM 3123, PHARM 3823. Prerequisite or concurrent enrollment: PHARM 4612.**

PHARM 4323 PHARMACOTHERAPY I

Three hours lecture. An introduction to the clinical role of the pharmacist with emphasis on patient interviewing and counseling technique, evaluating physical assessment and clinical laboratory data, and problem list development with SOAP note documentation. **Prerequisite:** PHARM 4302, Blood pressure certification. **Prerequisite or concurrent enrollment:** PHARM 4341.

PHARM 4331 PHARMACEUTICAL CARE LABORATORY III

This course will provide students with hands on experience in preparing and dispensing parenteral and sterile products and admixtures using aseptic techniques. Emphasis will be given on proper garbing, use of laminar flow hood, handling and labeling of sterile products in institutional dispensing systems. **Prerequisite:** PHARM 3321. **Prerequisite or concurrent enrollment:** PHARM 4142.

PHARM 4332 BASIC PHARMACOKINETICS

Two hours lecture. An introduction to pharmacokinetic terminology, particular emphasis on understanding, mathematical and conceptual aspects of basic pharmacokinetics. General principles of pharmacokinetic models are presented as they pertain to the process of absorption, distribution and elimination of drugs in humans and the significance of these processes in drug therapy. **Prerequisite:** PHARM 3405.

PHARM 4341 PHARMACEUTICAL CARE LABORATORY IV

Development of pharmaceutical care plans; medication therapy management; drug information retrieval and application; patient interviewing and assessments; patient case studies. **Prerequisite:** PHARM 4302, PHARM 4331. **Prerequisite or concurrent enrollment:** PHARM 4323.

PHARM 4512 MEDICINAL CHEMISTRY I

Two hours lecture. A study of medicinal chemistry of drug classes involving discussion of important physiochemical parameters, their effects on biochemical including receptors and/or enzymes, pharmacological and pharmacokinetic processes. The study of structure activity relationship (SAR) of the drugs is an important component of the whole course. **Prerequisite:** PHARM 3405. **Prerequisite or concurrent enrollment:** PHARM 4612, PHARM 4634.

PHARM 4522 MEDICINAL CHEMISTRY II

Two hours lecture. A study of medicinal chemistry of drug classes involving discussion of important physiochemical parameters, their effects on biochemical including receptors and/or enzymes, pharmacological and pharmacokinetic processes. The study of structure activity relationship (SAR) of the drugs is an important component of the whole course. **Prerequisite:** PHARM 4512. **Prerequisite or concurrent enrollment:** PHARM 4622, PHARM 4644.

PHARM 4612 PATHOPHYSIOLOGY I

Two hours lecture. A study of the pathology, pathophysiology, and clinical manifestations of human disease states. **Prerequisite:** PHARM 3614. **Prerequisite or concurrent enrollment:** PHARM 4512, PHARM 4634, BIOL 4213.

PHARM 4622 PATHOPHYSIOLOGY II

Two hours lecture. A study of the pathology, pathophysiology, and clinical manifestations of human disease states. **Prerequisite:** PHARM 4612. **Prerequisite or concurrent enrollment:** PHARM 4522, PHARM 4644.

PHARM 4634 PHARMACOLOGY I

Four hours lecture. A study of the classification, mechanism of action, pharmacological effects, and therapeutic uses of medications. **Prerequisite:** PHARM 3405, PHARM 3614. **Prerequisite or concurrent enrollment:** PHARM 4512, PHARM 4612.

PHARM 4644 PHARMACOLOGY II

Four hours lecture. A study of the classification, mechanism of action, pharmacological effects, and therapeutic uses of medications. **Prerequisite:** PHARM 4634. **Prerequisite or concurrent enrollment:** PHARM 4522, PHARM 4622.

PHARM 4712 HEALTH ISSUES I

Two hours lecture. The Health Issues courses are intended to promote awareness of emerging topics and concepts in pharmacy, medicine, and public health. This course will focus on public health policy and the social and behavioral aspects of pharmacy and medicine. **Prerequisite:** PHARM 4302.

PHARM 5010 PHARMACY SEMINAR III

Zero hours lecture. Required in the first and second semesters of the third professional year. Students will participate in professional program activities, which may include continuing professional development, interprofessional education, co-curricular activities, assessment, and portfolio development. **Prerequisite:** PHARM 4010 and third professional year standing.

PHARM 5054 COMMUNITY PHARMACY II

Four hours lecture. This course provides an in-depth examination of medical conditions for which nonprescription products are safe and effective. Emphasis is placed on the role of the pharmacist in pharmacist-assisted self-care, including referral to another practitioner when necessary. Active learning strategies are used to develop medication therapy management (MTM) skills. **Prerequisites:** PHARM 3813, PHARM 4323, PHARM 4341, PHARM 4622, PHARM 4644. **Prerequisite or concurrent enrollment:** PHARM 5204, PHARM 5351.

PHARM 5204 PHARMACOTHERAPY II

Four hours lecture. Predominately lecture-based course which lays the foundation for the principles and application of evidence-based medicine, with an emphasis placed on therapy selection rational, medication and disease monitoring, and drug interactions for common acute and chronic diseases seen in the inpatient and ambulatory care setting. **Prerequisites:** PHARM 4323, PHARM 4341, PHARM 4622, PHARM 4644. **Prerequisite or concurrent enrollment:** PHARM 5351, PHARM 5301.

PHARM 5234 PHARMACOTHERAPY III

Four hours lecture. Predominately lecture-based course which builds upon the basic sciences and clinical based prerequisites. This course further develops knowledge of the principles and application of evidence-based medicine, with an emphasis placed on therapy selection rational, medication and disease monitoring, and drug interactions for additional common acute and chronic diseases seen in the inpatient and ambulatory care setting. **Prerequisites:** PHARM 5204, PHARM 5351. **Prerequisite or concurrent enrollment:** PHARM 5361.

PHARM 5301 CLINICAL PHARMACOKINETICS

One hour lecture. The absorption, distribution metabolism and elimination of common medicinal agents will be reviewed. Mathematical modeling will be used to predict the pharmacokinetic behavior of selected medicinal agents in a variety of patient populations. **Prerequisites:** PHARM 4323, PHARM 4332, PHARM 4341. **Prerequisite or concurrent enrollment:** PHARM 5204, PHARM 5351.

PHARM 5351 PHARMACEUTICAL CARE LABORATORY V

Interactive, advanced patient care course focused on the collection and interpretation of patient specific data, the identification of pharmaceutical care related problems and therapeutic recommendations based on case scenarios. Introductory topics related to patient care not covered elsewhere will be introduced at the beginning of the course. **Prerequisites:** PHARM 4323, PHARM 4341, PHARM 4622, PHARM 4644. **Prerequisite or concurrent enrollment:** PHARM 5204, PHARM 5301.

PHARM 5361 PHARMACEUTICAL CARE LABORATORY VI

Capstone course with increased independent learning via patient case studies focused on the development and implementation of pharmaceutical care plans with emphasis on therapeutic recommendations, monitoring, and adjustments in patients with multiple concomitant diseases. This course is also designed to improve upon professional skills such as problem-solving, presentation skills, writing skills, and drug information skills. **Prerequisite:** PHARM 5204, PHARM 5351, PHARM 5301. **Prerequisite or concurrent enrollment:** PHARM 5234.

PHARM 5753 TOXICOLOGY

Three hours lecture. An introduction to the general principles of toxicology focusing on organ systems response to toxic chemicals; classes of toxic compounds including drugs, industrial chemicals, heavy metals, pesticides, food additives, natural toxins and venoms, and environmental pollutants; and clinical assessment and treatment of poisoning and toxicant exposure. **Prerequisites:** PHARM 4522, PHARM 4622, PHARM 4644.

PHARM 5812 HEALTH ISSUES II

Two hours lecture. A continuation of the Health Issues series, intended to promote awareness of emerging topics and concepts in pharmacy, medicine, and public health. This course will review the basic concepts of pharmacognosy and focus on current topics in the areas of alternative and complementary medicine, nutrition, disease prevention, and wellness. **Prerequisite:** PHARM 4712.

PHARM 5822 HEALTH ISSUES III

Two hours lecture. The Health Issues courses are intended to promote awareness of emerging topics and concepts in pharmacy, medicine, and public health. This course will focus on principles of pharmacogenomics and contemporary issues in personalized medicine including drug efficacy and medication safety. **Prerequisite:** PHARM 5812.

PHARM 5823 PHARMACY ADMINISTRATION

Three hours lecture. An introduction to basic management and administrative processes essential for pharmacy operations. The role of managed care in the delivery of health care at the local and national level is developed. The interface of pharmaceutical care delivery and managed care policy is examined. **Prerequisite or concurrent enrollment:** PHARM 5361.

PHARM 5844 JURISPRUDENCE

Four hours lecture. A survey of federal and state laws and regulations which pertain to the practice of pharmacy. **Prerequisite or concurrent enrollment:** PHARM 5234.

PHARM 5853 PHARMACY MANAGEMENT & MARKETING

Three hours lecture. A study of the basic principles of management with an emphasis on financial accounting, operations analysis, and human

resources. The use of basic marketing principles for product acquisition and promotion of pharmaceutical care services is developed. **Prerequisite:** First professional year standing.

PHARM 5914 and 5924 ADVANCED PHARMACY PRACTICE EXPERIENCE - COMMUNITY A & B

Each is a full-time monthly practicum conducted in an independent and/or chain community pharmacy. Instruction and supervised pharmacy practice training is provided by an instructor in off-campus affiliated teaching community pharmacies. The advanced student applies the knowledge and skills from previous coursework and training to demonstrate pharmaceutical care in ambulatory patients. **Prerequisites:** Fourth professional year standing.

PHARM 5934 ADVANCED PHARMACY PRACTICE EXPERIENCE - INSTITUTIONAL

A full-time monthly practicum conducted in an institutional setting. The advanced student utilizes their previous coursework and training to demonstrate the application of pharmaceutical care. Drug policy management, distribution systems and administrative activities are also covered. **Prerequisites:** Fourth professional year standing.

PHARM 5944 and 5984 ADVANCED PHARMACY PRACTICE EXPERIENCE - SELECTIVE A & B

Each is a full-time monthly practicum conducted at a pharmacy practice site. Instruction and supervised pharmacy practice training is provided by an instructor at a pharmacy practice site. The advanced student selects from a variety of optional pharmacy practice experiences including medicine and/or home health care, consulting practice, nuclear pharmacy, Indian health services, specialty compounding pharmacies, managed care, administrative rotations, additional community or institutional rotations. **Prerequisite:** Fourth professional year standing.

PHARM 5954, 5964 and 5974 ADVANCED PHARMACY PRACTICE EXPERIENCE - MEDICINE SELECTIVE A, MEDICINE SELECTIVE B, & GENERAL MEDICINE

Each is a full-time monthly practicum with supervised instruction in a patient care setting, including ambulatory care. The advanced student must demonstrate the application of pharmaceutical care to patients throughout the rotation experience. This is accomplished by Socratic faculty teaching utilizing low student to faculty ratios and intense problem solving activities. **Prerequisites:** Fourth professional year standing.

PHARM 5994 ADVANCED PHARMACY PRACTICE EXPERIENCE - AMBULATORY CARE

A full-time monthly practicum with supervised instruction in an ambulatory care setting. The advanced student must demonstrate the application of pharmaceutical care to patients throughout the rotation experience. This is accomplished by Socratic faculty teaching utilizing low student to faculty ratios and intense problem solving activities. **Prerequisite:** Fourth professional year standing.

PROFESSIONAL ELECTIVES

PHARM 4101-2 PHARMACEUTICAL RESEARCH

One-two hours credit. Under guidance and supervision by a College of Pharmacy faculty member, pharmacy students will participate in original research projects in the pharmaceutical sciences or in the area of pharmacotherapeutics. **Prerequisites:** Second year standing; consent of instructor.

PHARM 4602 SUBSTANCES OF ABUSE & ADDICTION

A study of misused or abused substances, including addiction theories and mechanisms of addictive behaviors, the action and consequences of substance abuse, and the methods used by society and the medical establishment to treat addictive behaviors. Open to pharmacy, upper division, and graduate non-pharmacy students.

PHARM 4702 CULTURAL COMPETENCY FOR PATIENT-CENTERED CARE

Two hour lecture. An elective course that examines historical and sociological ideas related to the development of cultural competence. A culturally competent healthcare provider, who fully understands the patient's values, preferences, and beliefs about health and wellness, is essential to providing patient-centered care. Culturally competent healthcare providers are self-aware, respectful of others, lifelong learners and provide high quality care to all. **Prerequisite:** Second professional year standing or permission of the instructor.

PHARM 4732 PHARMACY CASE STUDIES

Two-hour lecture. Using an active-learning approach, pharmacy students will evaluate patient information in both community and health-system pharmacy scenarios, identify clinically significant problems, and consult appropriate guidelines from the medical literature to determine solutions to patient problems. The course serves as an introduction to case study analysis for students transitioning to pharmacotherapy course work, but also provides advanced students additional opportunities to apply knowledge and to practice case study skills. **Prerequisites:** PHARM 4612, PHARM 4634 or concurrent enrollment.

PHARM 4811-2 SPECIAL PROBLEMS IN PHARMACY ADMINISTRATION

One-two hour's credit. Seminar/discussion/special projects format of current topics and research in pharmacy administration. **Prerequisite:** First professional year standing.

PHARM 4842 LEGAL ISSUES IMPACTING PHARMACISTS

Two-hour lecture. An elective course that addresses and prepares pharmacy students for many of the challenges facing future leadership and management in the profession. Students will be involved in case discussions, mock events, and a review of laws involving pharmacy employers/employees, business and personal life. **Prerequisite:** Second professional year standing or permission of the instructor.

PHARM 4852 ISSUES IN BUYING AND SELLING A PHARMACY

Two-hour lecture. An elective course that addresses issues when buying and/or selling a pharmacy and prepares the pharmacy student for many of the challenges expected when involved in such a transaction. Students will be exposed to all aspects of such transactions including asset transfer, contract review, financing, and development of the business plan. **Prerequisite:** Second professional year standing or permission of the instructor.

PHARM 4862 INTRODUCTION TO INFECTIOUS DISEASES

Two hours lecture. Interactive elective course that introduces the pharmacy student to basic principles of infectious disease pharmacotherapy. A strong emphasis will be given to the mechanism of action, spectrum of activity, pharmacokinetics, pharmacodynamics, adverse effects, and drug interactions associated with various antimicrobial drug classes. This course is designed to develop the skills necessary to formulate appropriate antimicrobial regimens to treat common infectious diseases.

PHARM 5172 CURRENT CONCEPTS IN PHARMACEUTICS

An elective course dealing with current topics in pharmaceuticals. **Prerequisite:** PHARM 3123 or consent of instructor.

ALTERNATIVE PROFESSIONAL ELECTIVES

SPAN 3023 SPANISH FOR HEALTHCARE PROFESSIONALS

Course designed to develop language skills with a focus on listening and speaking to provide vocabulary and conversational practice in realistic healthcare, pharmacy and/or emergency situations with emphasis on real-life vocabulary. Spanish-language media and public-service opportunities; planned and spontaneous activities augment course text. **F, S**

PHARM 5312 POST GRADUATE PREPARATION

Two-hour lecture/online. An elective course focused on professional preparation for students interested in pursuing residency or other post-graduate opportunities. Focus on development of curriculum vitae, letters of intent, personal statements, and presentation and interviewing skills. Development of other pertinent professional attitudes will be covered. Involvement in pharmacy organizations, volunteerism, and student scholarship will also be discussed and encouraged. There is a service learning requirement as well as encouraged attendance of two state or national pharmacy organizational meetings during the semester. **Prerequisite:** Third professional year standing and instructor approval.

PHARM 5342 CURRENT CONCEPTS IN PHARMACY PRACTICE

An elective course dealing with current topics in pharmacy practice. **Prerequisite:** PHARM 4323 or consent of instructor.

PHARM 5422 CURRENT CONCEPTS IN MEDICINAL CHEMISTRY

Two-hour lecture. An elective course dealing with new processes and techniques in medicinal chemistry and drug discovery. After giving a brief introduction about different processes in drug discovery, some important drug discovery cases will be studied. **Prerequisite:** PHARM 3405, PHARM 4512 or permission of instructor.

PHARM 5712 VETERINARY PHARMACOLOGY

Two-hour lecture. An elective course dealing with the overview of drugs and/or drug use that is unique to veterinary practice as well as discussion of the pathophysiology and pharmacology of veterinary diseases. **Prerequisite or concurrent enrollment:** PHARM 4644 or consent of instructor.

PHARM 5772 CURRENT CONCEPTS IN PHARMACOLOGY

An elective course dealing with current topics in pharmacology. **Prerequisite:** PHARM 4634 or permission of the instructor.

PHARM 5802 CURRENT TOPICS IN PHARMACY ADMINISTRATION

Two-hour lecture. The exploration of current administrative principles which affect the practice of retail, home health and institutional pharmacy with the objective of orienting the student to the latest developments in areas of risk management, business enhancement and management theory. **Prerequisite:** Second professional year standing or permission of the instructor.

PHARM 5902 FINANCIAL MANAGEMENT FOR THE PHARMACIST

Two-hour lecture. A study of financial planning, investment analysis, tax analysis, budgeting, and other aspects of personal and business finances. **Prerequisites:** Second professional year standing or permission of the instructor.

PROFESSIONAL ELECTIVES PharmD/MBA Dual Program Students Only

Successful completion of any two of the following ten business courses will meet the professional elective requirements for the doctor of pharmacy program.

ACCTG 5633 FINANCIAL ACCTG FOR DECISION MAKING

ECONO 5653 ADVANCED MANAGERIAL ECONOMICS

ECONO 5763 ADVANCED BUSINESS STATISTICS

FINAN 5263 ADVANCED FINANCIAL MANAGEMENT

MNGMT 5xx3 MANAGEMENT ELECTIVE

MNGMT 5433 ADV HUMAN RESOURCE MANAGEMENT

MNGMT 5533 MNGMT & ORGANIZATIONAL BEHAVIOR

MNGMT 5643 ADV QUANT METHODS & OPER ANALYSIS

MNGMT 5923 BUSINESS STRATEGY & POLICY

MRKTG 5623 MARKETING STRATEGY

LEADERSHIP DEVELOPMENT PROGRAM ELECTIVE COURSES

PHARM 5432 LEADING TRANSFORMATIONAL CHANGE IN PHARMACY

Two-hour lecture. This course develops participant's knowledge and expertise in leading transformational change. Some change happens incrementally, while others are disruptive requiring transformation to achieve positive outcomes. The transformational change model is a systems approach that addresses human behavior, social systems, and organizational structures. Leaders of transformational change must develop skills in the development of resilience, creation of a compelling vision, collaboration, and development of a learning culture. **Prerequisite: Second professional year standing.**

PHARM 5443 LEADING IMPACTFUL INNOVATION IN PHARMACY

Three-hour lecture/group work. Innovation is a creative process that allows individuals within an organization the freedom to think beyond the current boundaries of practice. Leading Impactful Innovation is designed to develop scholar practitioners that have knowledge of the principles of innovation and an understanding of the way that leaders influence the development of a culture open to the risks necessary for impactful innovation. Emphasis is placed on application using systems theory and an evidence-based approach to innovation in the field of pharmacy. **Prerequisite: PHARM 5432, Instructor approval.**

PHARM 5454 QUALITY OUTCOME EVALUATION IN PHARMACY

Four-hour lecture/group work. This course produces scholar practitioners that understand the challenges associated with leading a pharmacy/health care organization to overcome the quality gap. Students review quality from the organizational and patient/customer perspective focusing on improvement of process, procedure, and structure to address quality as reliability and excellence. Students connect the process of continuous quality improvement within the organization to the need to address outcome measures. **Prerequisite: PHARM 5443, Instructor approval.**