PHARMACY (PHAR)

PHAR 0--. PHAR LOWER DIVISION. (1-10 Credits)
Lower Level Coursework in Pharmacy
Level: Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions: None
Primary grade mode: Transfer
Schedule type(s): Lecture
Area(s) of Inquiry: None

PHAR 1--. PHAR UPPER DIVISION. (1-10 Credits)
Upper Level Coursework in Pharmacy
Level: Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions: None
Primary grade mode: Transfer
Schedule type(s): Lecture
Area(s) of Inquiry: None

PHAR 2--. PHAR-UPPER DIVISION. (1-10 Credits)
Graduate Level Coursework in Pharmacy
Level: Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions: None
Primary grade mode: Transfer
Schedule type(s): Lecture
Area(s) of Inquiry: None

PHAR 011. CAREER, ACADEMIC, AND PROFESSIONAL SUCCESS (CAPS) I: COLLEGE CONNECTIONS. (1 Credit)
The first in a series of four courses, CAPS I is designed to provide students support throughout their transition to Drake University and the College of Pharmacy and Health Sciences (CPHS). Students will be introduced to essential academic policies, procedures, and programs that will assist them in laying a strong foundation for academic success at Drake. Students will have the opportunity to explore various pharmacy professions, relevant pharmacy topics, and useful resources for academic success and career planning. Course activities will include lecture, guest presentations, pharmacist and PharmD student speakers, reflective activities, and class discussions. This course is required for all first-year pre-pharmacy students.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Freshman.

Enrollment is limited to students with an major in HSCI: Clinical&Medical (PPHR).

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 031. CAREER, ACADEMIC, AND PROFESSIONAL SUCCESS (CAPS) II: COMMUNITY CONNECTIONS. (1 Credit)
The second in a series of four courses, CAPS II is designed to help students understand the common professional standards that all pharmacists need to provide excellent care and service. Students will be introduced to these and other crucial soft skills such as work ethic, character, teamwork, cultural competence, interdependence, and well-being. Students will continue to navigate academic policies, procedures, and programs that will assist them in laying a strong foundation for academic success at Drake. Students will have the opportunity to engage in career and professional development including job shadowing and mock interviews. Course activities will include lecture, guest presentations, pharmacist and PharmD student speakers, reflective activities, and class discussions. This course is required for all first-year pre-pharmacy students.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Freshman.

Enrollment is limited to students with an major in HSCI: Clinical&Medical (PPHR).

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 051. CAREER, ACADEMIC, AND PROFESSIONAL SUCCESS (CAPS) III: PROFESSIONAL CONNECTIONS. (0.5 Credits)
The third in a series of four courses, CAPS III builds upon the pharmacy professional standards and concepts related to academic and career success introduced in CAPS I and II. Students will have the opportunity to explore various non-traditional pharmacy career pathways through interacting with a series of pharmacist guest presenters. In addition, students will have the opportunity to build upon academic success skills important for the sophomore pre-pharmacy experience, enhance career success skills, and prepare for the PharmD admission process. Course activities will include lecture, guest presentations, pharmacist and PharmD student speakers, reflective activities, and class discussions. This course is required for all second-year pre-pharmacy students.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Sophomore.

Enrollment is limited to students with an major in HSCI: Clinical&Medical (PPHR).

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 071. CAREER, ACADEMIC, AND PROFESSIONAL SUCCESS (CAPS) IV: CAREER CONNECTIONS. (0.5 Credits)
The fourth in a series of four courses, CAPS IV builds upon the pharmacy professional standards and concepts related to academic and career success introduced in CAPS I, II, and III. Students will have the opportunity to explore various nontraditional pharmacy career pathways through interacting with a series of pharmacist guest presenters. In addition, students will have the opportunity to build upon academic success skills important for the sophomore pre-pharmacy experience and to engage in class activities designed to prepare them for their first professional year in the PharmD program. Course activities will include lecture, guest presentations, pharmacist and PharmD student speakers, reflective activities, and class discussions. This course is required for all second-year pre-pharmacy students.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Sophomore.

Enrollment is limited to students with an major in HSCI: Clinical&Medical (PPHR).

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 091. HISTORY OF HEALTH PROFESSIONS. (3 Credits)
This course will investigate the history of health professions in the Unites States, with a focus on the system of events and influences following World War II to the present-day. This course applies historical foundations and sociological principles to understanding the evolution of specific health professions. To develop an understanding in this context, a variety of perspectives and artifacts will be explored and critiqued including, but are not limited to, organization/association articles, philosophies and scope of practice, regulatory and legislative policy, education and credentialing requirements, the lived experience of professionals as well perspectives of the public. This course will both critique and explain the power exerted by health professionals as well as critique and explain the implied trust bestowed upon them, by society. This course endeavors to deepen students' appreciation of the commonalities among health professions, the unique and diverse contributions of specific health professions, as well as create a foundation for careers in and among interprofessional health care teams. This course will promote critical thinking about how health professionals have helped or hindered a more just health care system in contemporary U.S. society. A combination of reading, discussion, reflective activities, and project composition will be used to facilitate comprehension of the course material.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions: None
Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture
Area(s) of Inquiry: Historical Foundations

PHAR 100. COMMUNITY PHARMACY POCT PROGRAM. (2 Credits)
This course is designed to assist pharmacy students in earning the Community Pharmacy-Based Point-of-Care Testing certificate offered by the National Association of Chain Drug Stores (NACDS). It includes online modules with pre-readings from current literature and govermental agencies, three days of in-class programming, and skills assessment. The infectious disease states most commonly testing by point-of-care tests (influenza, Group A Streptococcus, HIV and hepatitis C) will be reviewed. This will be incorporated into patient assessment for treatment in the community pharmacy, including vital measurements (heart rate, respiratory rate, blood pressure, temperature, and pulse oximetry), and how to perform four types of specimen collection (oral swab, nasal swab, throat swab, and finger stick). Students will perform vitals and specimen collection techniques including nasal/throat swabs, oral fluid collection, and a finger stick on each other as part of the course. In addition to specimen collection and patient assessment, the legal and management issues associated with point-of-care testing and follow-up care will be discussed. The class is primarily lecture based with small group work and other assignments to stimulate active learning. A course fee of $100 will be assessed to cover the cost of the NACDS certificate program.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy, Third year Pharmacy or Fourth year Pharmacy.

Enrollment is limited to students with an major in Pharmacy.

Enrollment is limited to Professional Health Care level students.

Enrollment limited to students in the Pharmacy & Health Sciences college.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 101. CARDIOLOGY AND SOCIAL IDENTITIES. (2 Credits)
Cardiology and Social Identities is a two-credit hour elective designed to provide a more in-depth investigation and understanding of the integration of social determinants of health (or social identities) with cardiac diseases. The course focuses primarily on arrhythmias and antiarrhythmic agents with pharmacologic and non-pharmacologic treatments both addressed. This course will provide a deeper investigation into specific aspects of cardiovascular disease states and the overlap or divergence with social identities. A variety of learning methods will be utilized, including lecture, case-based discussions, primary literature evaluation, group collaboration, and educational games. Students must have successfully completed Physiology (PHAR 125, HSCI 125) or Introduction to Anatomy and Physiology (BIO 018)
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): PHAR 125 or HSCI 125 or BIO 018
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Junior, Second year Pharmacy, Third year Pharmacy or Senior.

Enrollment is limited to students with an major in HSCI: Clinical&Applied (HS-A), HealthSci: Clinical & Applied, HealthSci: HC Admin/Pub Hlth, HealthSci: Health Services Mgt, HSCI: Clinical&Applied (HS-O) or Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Discussion/Recitation, Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 103. WELL-COACHES COHORT PROGRAM. (2 Credits)
The Wellcoaches Core Health Coach Training Program is a four-day, J-Term elective course for senior health Sciences and P3/P4 Pharmacy students. Other students may be accepted by special request to the course coordinator, Dr. Nora Stelter. Students will learn health coaching techniques to assist patients in reaching their goals for health and wellness taught by the wellcoaches professional health coach instructors. Topics include but are not limited to mindfulness, motivational interviewing, self-determination theory, self-efficacy, and vision and goal setting. This course will use a variety of teaching methods including lecture with discussion, role playing, and self-reflection. This course is the first step in attaining health coaching certification thhrough Wellcoaches.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): PHAR 190 or HSCI 105
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Enrollment is limited to students with an major in Pharmacy.

Enrollment is limited to Professional Health Care level students.

Enrollment limited to students in the Pharmacy & Health Sciences college.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 104. TOPICS IN INFECTIOUS DISEASE. (2 Credits)
This course is designed to enhance students' understanding and ability to apply infectious disease principles to clinical situations. A variety of learning methods will be used including case-based discussions, evaluation of primary literature, debate, written case write-ups, lecture, and topic presentations. Topics may include but are not limited to resistant organisms, antimicrobial stewardship, surgical infection prevention, Clostridium difficile-associated diarrhea, and other topics as directed by the students.
Level: Professional Health Care
Prerequisite(s): PHAR 134
Corequisite(s): PHAR 192
Restrictions:
Enrollment is limited to students with an major in Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 105. DELIVERING MEDICAL MANAGEMENT SERVICES. (3 Credits)
Delivering Medication Management Services is an active learning online course in which participants practice a variety of communication techniques to elicit a patient's medication experience and identify medication-related problems. Cases based on the real-life experiences of MTM providers will be used. Participants will gain experiences interviewing patients, identifying and prioritizing medication-related problems, developing and implementing interventions, and documenting activities. Various business models and billing strategies will be explored, and plans for implementation discussed. Through self-study modules, case studies, hands-on patient interviews, and assessment practice sessions, learners will obtain the knowledge and skills needed to establish medication therapy management services. At the end of this course, the learner will have completed the APHA Delivering Medication Therapy Management Services certificate training program (course fee applies). A course fee will be assessed to your Drake account to cover the cost of the certificate program.
Level: Professional Health Care
Prerequisite(s): PHAR 190
Corequisite(s): None
Restrictions:
Enrollment is limited to students with an major in Pharmacy.

Enrollment is limited to Professional Health Care level students.

Enrollment limited to students in the Pharmacy & Health Sciences college.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 106. PHARMACEUTICAL COMPOUNDING. (2 Credits)
This is a lab-based pharmaceutical compounding course designed to attract motivated PharmD students to basic compounding in hospital and retail pharmacy settings. During this course students will be introduced to good compounding practices, basic physical chemical concepts of successful formulations, proper selection of excipients with special emphasis on quality control and responsibility of the pharmacist. Dosage forms are selected to cover a wide spectrum of preparations ranging from solutions, suspensions, emulsions, ointments, creams, suppositories to troches, lollipops, and capsules.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): PHAR 140
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy or Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 107. CLINICAL LABORATORY MEDICINE. (2 Credits)
Clinical Laboratory Medicine is a 16-week elective course within Drake University College of Pharmacy and Health Sciences. The course content includes common laboratory tests that are used in clinical settings to diagnose or monitor diseases or drug therapy. Students will learn how to identify, interpret and address common laboratory abnormalities. The course design will include both lecture and active learning. Guest lecturers will present in areas of expertise throughout the semester. Students will participate in small group discussions and active learning activities each class period to practice applying concepts learned in lecture or during pre-class reading assignments. Active learning will be in the form of games, cases, and/or problem sets. Assessment of the students' learning will be completed using exams and quizzes throughout the semester. Attendance and participation in the classroom activities will also count towards the final grade.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): PHAR 132
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy or Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 108. ADVANCED PSYCH PHARMACY. (2 Credits)
This course is intended to provide pharmacy students with the opportunity to learn about selected psychiatric disorders. Pharmacologic and non-pharmacologic methods used to treat these conditions will be covered during class. Some of the topics to be discussed during class include the evaluation of the psychiatric patient, personality disorders, impulse control disorders, and childhood psychiatric disorders. Viewing of psychiatric-related films and documentaries will also occur during this class.
Level: Professional Health Care
Prerequisite(s): PHAR 190
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 109L. PHARMACOGENOMICS LAB. (0 Credits)
Laboratory experience that accompanies PHAR 109.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): PHAR 109
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy, Second year Pharmacy or Third year Pharmacy.

Primary grade mode: Non-Gradeable
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 110. TOPICS IN INTERNAL MEDICINE. (2 Credits)
The goal of the elective is to prepare the PharmD candidate for the advanced types of cases encountered on acute, ambulatory, and specialty care rotations and further develop a set of skills to be applied to post-graduate work. Real internal medicine cases are used to present a complex and challenging set of drug therapy problems. Management of therapies discussed in Pharmacotherapeutics will be employed with a level of detail that is applicable to high level clinical pharmacy practice. Disease states not previously encountered in other course work will also be presented. Multiple active learning techniques will be used along with case based learning. A final seminar presentation will be required of each student.
Level: Professional Health Care
Prerequisite(s): PHAR 190
Corequisite(s): None
Restrictions:
Enrollment is limited to students with an major in Pharmacy.

Enrollment is limited to Professional Health Care level students.

Enrollment limited to students in the Pharmacy & Health Sciences college.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 115. FUND OF DRUG DEVELOPMENT. (2 Credits)
The pharmaceutical industry presents a unique career path for pharmacy students interested in a non-traditional path. This lecture-based course will expose students to many of the topics that are encompassed in drug development including drug selection, pre-clinical animal studies, and Phases 1 through 4 in human trials. As we travel through the drug development continuum, we will highlight aspects such as, Investigational New Drug (IND)application writing, choosing a starting dose in humans, protocol design for both animal and human studies, and more. This course will primarily focus on the development of oncology molecules with an emphasis on the differences and challenges faced when compared to other disciplines. Students will have the opportunity to learn about small molecules as well as the development of large molecules and cellular therapies. At the end of this course, students should feel more comfortable with the terminology and processes involved in drug development. This course will show students the role that a researcher can play in the pharmaceutical industry and how they are essential in the translation of preclinical research/animal data to the clinical setting.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy, Second year Pharmacy or Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture
Area(s) of Inquiry: None

PHAR 116. IMMUNE SYSTEM DISEASES AND PHARMACOLOGY. (3 Credits)
Immune System Diseases and Pharmacotherapy is an advanced examination into the structure and function/dysfunction of the immune system. The overall goal of the class is for students to gain an understanding of the fundamental principles of the immune system, how dysfunction leads to disease, and how therapeutics interact with the immune system to assist and/or correct immune system dysfunction. Topics presented in this class include the chemicals and cells of the immune system, the innate and adaptive immune system, immune system dysfunction and disease, and therapeutics of the immune system. The format for the course includes structured lectures with pertinent student questions and instructor-initiated in-class group exercises.
Level: Professional Health Care
Prerequisite(s): PHAR 125 and PHAR 133 or HSCI 163 PHAR 130
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy or Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 118. LGBTQ HEALTH: ISSUES. (3 Credits)
This class will focus on understanding healthcare issues affecting the LGBTQ population. Learners will examine topics such as health disparities, advocacy, effective communication, as well as mental and physical health concerns for the lesbian, gay, bisexual, and transgender communities. For a significant portion of this course, students will actively engage with local community partners on projects related to LGBTQ health care. This course will include a variety of learning methods: lecture, small group discussion, group presentations, and service-learning.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions: None
Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 119. TOPICS IN NEUROPHARMACOLOGY. (3 Credits)
This course focuses on the relationship between the anatomical and pharmacological underpinnings of neurological and psychiatric disorders and the mechanisms of action of the drugs used to treat these disorders. A major emphasis of the course is on reading and interpreting current research papers in the fields of neuro- and psychopharmacology.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): BIO 129 or PHAR 125 or NSCI 001
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Junior, Second year Pharmacy, Third year Pharmacy or Senior.

Enrollment is limited to students with an major in Biochem/Molecular Biology, Biology, HealthSci: Health Care Admin, HealthSci: Clinical & Medical, HealthSci: Public Health, Neuroscience, Pharmacy or Psychology.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 120. HEALTH COACHING. (2 Credits)
HEALTH COACHING: A GROWING APPROACH TO HEALTH AND WELLNESS is an elective course for health professions students. Students will learn health coaching techniques that can be used to assist patients in reaching their goals for health and wellness. Topics include motivational interviewing, setting SMART goals, and lifestyle modifications for health and wellness. This course will use a variety of teaching methods including lecture with discussion, peer coaching, role playing, and self-reflection.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Junior, First year Pharmacy, Second year Pharmacy, Third year Pharmacy or Senior.

Enrollment is limited to students with an major in HealthSci: Health Care Admin, HealthSci: Clinical & Medical, HealthSci: Public Health, HSCI: Clinical&Medical (HSAT), HSCI: Clinical&Medical (HSNU), HSCI: Clinical&Medical (HSOT), HSCI: Clinical&Medical (PPHR) or Pharmacy.

Enrollment limited to students in the Pharmacy & Health Sciences college.

Primary grade mode: Standard Letter
Schedule type(s): Discussion/Recitation, Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 122. CONTINUING PROFESSIONAL DEVELOPMENT I. (1 Credit)
The first in a series of courses, students will devise and implement continuing professional development plans through various exercises and experiences. Students will document their progress in a portfolio. Students will participate in class sessions; co-curricular activities; introductory pharmacy practice experiences (IPPE); and interprofessional education (IPE) activities. Class session topics include continuing professional development principles, interprofessional education principles, and professional and personal exploration. Co-curricular, IPPE, and IPE experiences will require travel to off-campus locations. Primary class session format is lecture with discussion, individual and group activities, and reflection.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 123. CONTINUING PROFESSIONAL DEVELOPMENT II. (1 Credit)
Students will devise and implement continuing professional development plans through various exercises and experiences. Students will document their progress in a portfolio. Students will participate in class sessions; co-curricular activities; introductory pharmacy practice experiences (IPPE); and interprofessional education (IPE) activities. Class session topics include continuing professional development principles, interprofessional education principles, and professional and personal exploration. Co-curricular, IPPE, and IPE experiences will require travel to off-campus locations. Primary class session format is lecture with discussion, individual and group activities, and reflection.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 125. PHYSIOLOGY. (4 Credits)
Principles of modern medical physiology. Emphasis is on the integration of physiological systems including mechanisms of fundamental principles progressing from molecular events to cellular, organ and system levels. Prereq: Two intro courses of BIO 001, 002, 011, 012, 013, or 018, or equivalent or permission of instructor. Organic chemistry recommended.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): (HSCI 141
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 126. PRINCIPLES OF NUTRITION. (2 Credits)
Principles of normal nutrition are introduced; essential nutrient function and metabolism is covered, as well as dietary choices and disease-related influences. A variety of learning methods will be used, including readings, online videos, evaluation of primary literature, application and reflection, and online collaboration. Students will apply what they are learning to their daily lives.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Graduate (post Bachelor's), Junior, Second Year Occupational Ther, Second year Pharmacy, Third year Pharmacy or Senior.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 128. ADVANCED DIABETES CARE. (3 Credits)
This course has been designed to allow students the opportunity to develop knowledge of principles and learning theories to manage the patient with diabetes. The course will cover three focus areas: enhancement of knowledge on diabetes, practical applications of skills, and marketing diabetes services. A variety of teaching techniques will be illustrated during this program including, but not limited to: case studies, cooperative learning, readings, forum discussions, practice simulations, self-study, video clips, guest speakers, and site visits. Required for Diabetes Concentration students.
Level: Professional Health Care
Prerequisite(s): PHAR 135
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 129. INTEGRATED DIABETES CASES. (2 Credits)
This course should assist students with integrating problem solving across the disciplines of therapeutics, pharmacology, pharmaceutics, social/administrative sciences, and medical ethics as they relate to issues of diabetes care. This course may be taken either as a professional elective or as the final didactic requirement for the diabetes concentration. Two diabetes cases, one a patient with Type I diabetes and one a patient with Type II diabetes, with scenarios and guided questions will be used throughout the semester and guide class discussion of specific topics. Topics include therapeutic management of diabetes, new insulin formulations, insulin pumps, blood glucose pattern management, metabolic syndrome, nutritional issues (carb counting, weight management), local and national diabetes resources, ethical considerations, and psychosocial impacts on diabetes patients. Course format includes lecture with class discussion, presentations by guest faculty, interviews with diabetes patients, student presentations, and field trips. Course content is constructed to address issues of the complexity of and integrative management of the patient with diabetes in light of expanding roles for pharmacists in improving health outcomes.
Level: Professional Health Care
Prerequisite(s): PHAR 190
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 130. BIOCHEMISTRY. (4 Credits)
Biochemistry is a 4-credit course designed to provide students with the fundamental concepts of biochemistry as well as specific biochemistry-related pharmacology and therapeutic information in order to be highly applicable for a career in the healthcare professions. Students will be expected to understand the principles of biochemistry, the diseases that affect biochemical pathways, and the drugs used to treat biochemical abnormalities. This class is designed to include lectures, discussions, and problem-solving sessions.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): CHEM 108 and CHEM 110
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 131. INTRODUCTION TO PHARM SCIENCES. (3 Credits)
This 3-credit course introduces students to fundamental principles that underlie the pharmaceutical sciences. Students will integrate concepts from chemistry, biology, and mathematics to understand and explain issues associated with the design, delivery, disposition, and action of drugs. The format of the course includes lectures, discussions, and problem-solving exercises.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): CHEM 108 and CHEM 110
Corequisite(s): PHAR 130
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 132. PATHOPHYSIOLOGY. (3 Credits)
This course is a study of human physiological changes that are the cause or result of pathologic processes. The course builds upon and expands core knowledge of human anatomy, physiology and biochemistry as it relates to the loss of homeostasis.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): BIO 128 or BIO 129 or PHAR 125 or HSCI 125
Corequisite(s): PHAR 132D
Restrictions:
Enrollment limited to students with a classification of First Year Athletic Training or First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Discussion/Recitation, Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 132D. PATHOPHYSIOLOGY DISCUSSION. (1 Credit)
Discussion section for Phar 132.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First Year Athletic Training or First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Discussion/Recitation, Independent Study, Web Instructed
Area(s) of Inquiry: None

PHAR 133. PRINCIPLES OF DRUG ACTION I. (4 Credits)
Principles of Drug Action I is the first in the series of courses examining the pharmacological and chemical basis of drug action. Students will integrate physiologic, biochemical and pathophysiologic concepts and information to understand the therapeutic and adverse actions and interactions of drugs. Topics included in this part of the sequence are drugs used in the treatment of cancer, bacterial and viral infections, inflammation, diabetes, and disorders of the respiratory tract and gastrointestinal tract. The course is taught primarily in lecture format with some in-class discussion of problems and cases. Students are required to enroll concurrently in PDA I discussion section where the focus is on more in-depth discussion in small groups. CO-REQ: PHAR 132
Level: Professional Health Care
Prerequisite(s): PHAR 130 and PHAR 131 and PHAR 132 (may be taken concurrently)
Corequisite(s): PHAR 133D
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Discussion/Recitation, Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 133D. PRINCIPLES OF DRUG ACTION I DISCUSSION. (1 Credit)
Discussion section for Phar 133.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): PHAR 132D and PHAR 133
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Discussion/Recitation, Independent Study, Web Instructed
Area(s) of Inquiry: None

PHAR 134. PRINCIPLES OF DRUG ACTION II. (4 Credits)
Principles of Drug Action II is a continuation in the series of courses examining the pharmacological and chemical basis of drug action. Students will integrate physiologic, biochemical and pathophysiologic concepts and information to understand the therapeutic and adverse actions and interactions of drugs. Topics included in this part of the sequence are drugs affecting the cardiovascular, endocrine and autonomic nervous systems. The course is taught primarily in lecture format with some in-class discussion of problems and cases. Students are required to enroll concurrently in PDA II discussion section where the focus is on more in-depth discussion in small groups.
Level: Professional Health Care
Prerequisite(s): PHAR 130 or CHEM 130 and PHAR 131 and PHAR 132 and PHAR 134D (may be taken concurrently)
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 134D. PRINCIPLES OF DRUG ACTION II DISCUSSION. (1 Credit)
Discussion section for Phar 134.
Level: Professional Health Care
Prerequisite(s): PHAR 134 (may be taken concurrently)
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 135. PRINCIPLES OF DRUG ACTION III. (3 Credits)
Principles of Drug Action III is a continuation in the series of courses examining the pharmacologic and chemical basis of drug action. Students will integrate physiologic, biochemical and pathophysiologic concepts and information to understand the therapeutic and adverse actions and interactions of drugs. Topics included in this part of the sequence are drugs affecting the central and peripheral nervous systems and the toxicology of select agents. The course is taught primarily in lecture format with some in-class discussion of problems and cases. Students are required to enroll concurrently in PDA III discussion section where the focus is on more in-depth discussion in small groups.
Level: Professional Health Care
Prerequisite(s): (PHAR 130 or CHEM 130) and PHAR 131 and PHAR 132
Corequisite(s): PHAR 135D
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Discussion/Recitation, Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 135D. PRINCIPLES OF DRUG ACTION III DISCUSSION. (1 Credit)
Discussion session for Phar 135.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): PHAR 135
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Discussion/Recitation, Independent Study, Web Instructed
Area(s) of Inquiry: None

PHAR 138. PHARMACEUTICAL CALCULATIONS. (2 Credits)
This course has four main goals: 1. To reinforce nomenclature, common abbreviations and terminology needed to interpret and compound prescriptions. 2. To make students competent in pharmaceutical calculations as related to specific dosage forms. 3. To demonstrate the ability to organize a calculation's setup in a clear and appropriately documented fashion 4. To demonstrate ability to apply the knowledge gained to practice based pharmaceutics problems The course is taught primarily in lecture format, with in-class calculations and case discussions as appropriate.
Level: Professional Health Care
Prerequisite(s): PHAR 131
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 140. PHARMACEUTICS I. (2 Credits)
This course in Pharmaceutics is designed to teach basic principles and applications of dosage form design and use, and the role of a drug delivery system in the therapeutic efficacy and safety of a drug product. It highlights the physicochemical factors that influence the performance, stability, and use of dosage forms by patients. It also explains the principles of proper dosage form choice and counseling for various therapeutic situations. The course is taught in lecture format with case studies.
Level: Professional Health Care
Prerequisite(s): PHAR 131
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 141. PHARMACEUTICS II. (3 Credits)
This second course in the Pharmaceutics series deals with design and properties of dosage forms, and the role of drug delivery in therapeutic efficacy and safety of a drug product. It expands on the importance of drug properties, patient characteristics and route of administration on design and selection of dosage forms. Students will learn to evaluate the characteristics, advantages, and disadvantages of different drug delivery systems, and select an appropriate route of dosing of a commercial (brand or generic) or compounded product for a particular patient. The course is taught primarily in lecture format with case discussions as appropriate.
Level: Professional Health Care
Prerequisite(s): PHAR 140
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 142. BASIC PHARMACOKINETICS. (3 Credits)
This course deals with the time course of drug disposition in the body. It introduces students to basic pharmacokinetic (PK) functions, and the mathematical and functional relationships between. Students will learn to estimate PK parameters (clearance, volume of distribution, bioavailability) from plasma and urine data and to evaluate PK drug information. Major topics include compartmental modeling, PK of IV bolus, IV infusion and oral dosing, and determinants of hepatic and renal clearance. This information will be used in designing optimum dosage regimens for patients. The course is taught primarily in lecture format, with problem-solving exercises as appropriate.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): PHAR 140
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 143. THERAPEUTIC DRUG MONITORING. (2 Credits)
Therapeutic Drug Monitoring takes the basic pharmacokinetic equations and concepts and applies them to specific drugs used in the clinical setting. In addition to the use of basic pharmacokinetics in determining drug doses for patients, students will learn ways to combine this information with other measures of drug response in patients and establish an effective dosage regimen. Included in the discussion will be factors that alter the pharmacokinetic disposition of a drug, such as drug interactions, physiologic changes, and genetic polymorphisms.
Level: Professional Health Care
Prerequisite(s): PHAR 142
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 144. BASIC PHARMACY SKILLS AND APPLICATIONS I. (2 Credits)
The first course in the Pharmacy Skills and Applications series of courses will incorporate skills from nine basic areas: professionalism, communication, clinical reasoning, cultural competence, drug information, calculations, distribution systems and processes, systems management, and health and wellness. Basic skills in each of these areas will be introduced in the first year. This semester course will be comprised of a one-hour lecture and a two-hour lab.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): PHAR 144L
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 144L. BASIC PHARMACY SKILLS AND APPLICATIONS I LAB. (0 Credits)
Laboratory experience that accompanies PHAR 144.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): PHAR 144
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Non-Gradeable
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 145. BASIC PHARMACY SKILLS AND APPLICATIONS II. (2 Credits)
The second course in the Pharmacy Skills and Applications series of courses will incorporate skills from nine basic areas: professionalism, communication, clinical reasoning, cultural competence, drug information, calculations, distribution systems and processes, systems management, and health and wellness. Basic skills in each of these areas will be introduced in the first year. This semester course will be comprised of a one-hour lecture,and a two-hour lab.
Level: Professional Health Care
Prerequisite(s): PHAR 144
Corequisite(s): PHAR 145L
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: Information Literacy

PHAR 145L. BASIC PHARMACY SKILLS AND APPLICATIONS II LAB. (0 Credits)
Laboratory experience that accompanies PHAR 145.
Level: Professional Health Care
Prerequisite(s): PHAR 144L
Corequisite(s): PHAR 145
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Non-Gradeable
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 147. INTERNATIONAL HEALTH TOPICS. (3 Credits)
This special topics course combines international internship and service learning experiences with pre and post readings, discussions, and reflections in order to maximize student learning, increase student awareness of cultural issues, and increase personal growth related to working in a developing country. Student will build skills in life-long learning, values and ethics, critical thinking, communication and collaboration.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Students cannot enroll who have a major in Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Internship, Web Instructed
Area(s) of Inquiry: Global and Cultural Understand

PHAR 149. IMMUNIZATIONS. (1-2 Credits)
This course trains students to be immunization providers and advocates. Students should acquire an understanding of various infectious diseases that can be prevented by vaccination, will be trained in administration of vaccines, and should be able to implement an immunization practice following this course. This course is based on the certificate program of the American Pharmacists Association and will result in certification to provide immunizations. Topics include, adult and child immunizations, pharmacy law pertaining to immunizations, vaccine administration, immunization practice development, and billing for immunization services. The class is primarily lecture based with small group work and other assignments to stimulate active learning. A course fee will be assessed to your Drake account to cover the cost of the certificate program.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 150. SPECIAL TOPICS IN HEALTH SYSTEMS. (1-3 Credits)
Professional elective initial offerings. Course titles vary.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment is limited to students with an major in Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lab, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 151. TOXICOLOGY: STUDY OF POISONS. (3 Credits)
This is an introductory course to the broader field of toxicology. The course will provide a basic overview of the science of toxicology; explore how toxicology impacts society and our daily lives; and how the science of toxicology drives regulatory policies. The format of this course will include lectures, student-led presentations and discussions.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): (BIO 012 or BIO 013 and (CHEM 001 and (CHEM 003 and (CHEM 002 and (CHEM 004 and (CHEM 097
Corequisite(s): None
Restrictions:
Enrollment is limited to students with an major in Pharmacy.

Enrollment is limited to Professional Health Care level students.

Enrollment limited to students in the Pharmacy & Health Sciences college.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 154. INTERMEDIATE PHARMACY SKILLS AND APPLICATIONS I. (2 Credits)
The third course in the Pharmacy Skills and Applications series will incorporate skills from nine basic areas: professionalism, communications, calculations, clinical reasoning, cultural competence, drug information, distribution systems and processes, health and wellness, and systems management. Many activities performed in IPSA 1 will further develop the skills that were introduced in BPSA. Other activities incorporate new skills in the nine competency areas. All activities are developed to integrate knowledge learned in other courses with their practical applications in pharmacy practice. This course is comprised of a one-hour lecture and a two-hour lab. This course is also designed to assist students in earning a Point-of-Care Testing certificate.
Level: Professional Health Care
Prerequisite(s): PHAR 145
Corequisite(s): PHAR 154L
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 154L. INTERMEDIATE PHARMACY SKILLS AND APPLICATIONS I LAB. (0 Credits)
Laboratory experience that accompanies PHAR 154.
Level: Professional Health Care
Prerequisite(s): PHAR 145L
Corequisite(s): PHAR 134D and PHAR 154
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Non-Gradeable
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 155. INTERMEDIATE PHARMACY SKILLS AND APPLICATIONS II. (2-3 Credits)
The fourth course in the Pharmacy Skills and Applications series will incorporate skills from nine basic areas: professionalism, communication, clinical reasoning, cultural competence, drug information, calculations, distribution systems and processes, systems management, and health and wellness. Many activities performed in IPSA 2 expand upon basic skills that were introduced in BPSA. Other activities incorporate new skills in the nine competency areas. All activities are developed to integrate knowledge learned in other courses with their practical applications in pharmacy practice. This semester course is comprised of a one-hour lecture, a two-hour lab, and an experiential component of up to eight hours per week.
Level: Professional Health Care
Prerequisite(s): PHAR 154
Corequisite(s): PHAR 155L
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 155L. INTERMEDIATE PHARMACY SKILLS AND APPLICATIONS II LAB. (0 Credits)
Laboratory experience that accompanies PHAR 155.
Level: Professional Health Care
Prerequisite(s): PHAR 154L
Corequisite(s): PHAR 155
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Non-Gradeable
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 156. INTRODUCTION TO PHARMACY PRACTICAL EXPERIENCE II. (0 Credits)
Introductory Pharmacy Practice Experiences [IPPE] that are part of the academic year PSA courses but completed during the summer and/or J-term session.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment is limited to students with an major in Pharmacy.

Primary grade mode: Non-Gradeable
Schedule type(s): Independent Study, Web Instructed
Area(s) of Inquiry: None

PHAR 162. PHARMACY LAW AND ETHICS. (3 Credits)
This course addresses the legal and ethical aspects of pharmacy practice. The numerous federal and state statutory and regulatory laws that govern the practice of pharmacy and the manufacturing, distributing, and dispensing of drugs and related products comprise a significant portion of the course. Students are also introduced to a structured approach to decision-making that incorporates basic tenets of ethical conduct along with legal principles and professional knowledge appropriate to specific situations.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: Values and Ethics

PHAR 164. PROBLEMS IN PHARMACY. (0-6 Credits)
This Independent Study course offering provides an opportunity for students to participate in an undergraduate research or experience in a specific area of Pharmacy under the guidance and direction of a faculty member. Registration for this course must be pre-arranged with a faculty member and submitted for approval through the completion of an Independent Study form available in the College Dean's Office to the appropriate Department Chair and Associate Dean. In addition to approaching individual faculty members about opportunities in their areas of expertise, research/experience opportunities may also be available in Career bluePrint and the College of Pharmacy and Health Sciences Weekly Announcements.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy, Second year Pharmacy or Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 165. PROBLEMS IN PHARMACOLOGY. (0.5-6 Credits)
This Independent Study course offering provides an opportunity for students to participate in an undergraduate research or experience in a specific area of Pharmacology under the guidance and direction of a faculty member. Registration for this course must be pre-arranged with a faculty member and submitted for approval through the completion of an Independent Study form available in the College Dean's Office to the appropriate Department Chair and Associate Dean. In addition to approaching individual faculty members about opportunities in their areas of expertise, research/experience opportunities may also be available in Career bluePrint and the College of Pharmacy and Health Sciences Weekly Announcements.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy, Second year Pharmacy or Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 166. PROBLEMS IN PHARMACEUTICAL CHEMISTRY. (1-6 Credits)
This Independent Study course offering provides an opportunity for students to participate in an undergraduate research or experience in a specific area of Pharmaceutical Chemistry under the guidance and direction of a faculty member. Registration for this course must be pre-arranged with a faculty member and submitted for approval through the completion of an Independent Study form available in the College Dean's Office to the appropriate Department Chair and Associate Dean. In addition to approaching individual faculty members about opportunities in their areas of expertise, research/experience opportunities may also be available in Career bluePrint and the College of Pharmacy and Health Sciences Weekly Announcements.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First year Pharmacy, Second year Pharmacy or Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Web Instructed
Area(s) of Inquiry: None

PHAR 167. CONTINUING PROFESSIONAL DEVELOPMENT III. (1.5 Credits)
Students will build upon previous coursework in this series to revise and implement continuing professional development plans through various exercises and experiences. Students will document their progress in a portfolio. Students will participate in class sessions; co-curricular activities; introductory pharmacy practice experiences (IPPE); and interprofessional education (IPE) activities. Class session topics include self-awareness strategies, leadership and mentoring, professional communication, and professional and personal exploration. Co-curricular, IPPE, and IPE experiences will require travel to off-campus locations. Primary class session format is lecture with discussion, individual and group activities, and reflection.
Level: Professional Health Care
Prerequisite(s): PHAR 123 and PHAR 145 and PHAR 149
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 168. CONTINUING PROFESSIONAL DEVELOPMENT IV. (1.5 Credits)
Students will build upon previous coursework in this series to revise and implement continuing professional development plans through various exercises and experiences. Students will document their progress in a portfolio. Students will participate in class sessions; co-curricular activities; introductory pharmacy practice experiences (IPPE); and interprofessional education (IPE) activities. Class session topics include professional advocacy, APPE opportunities, and professional and personal exploration. Co-curricular, IPPE, and IPE experiences will require travel to off-campus locations. Primary class session format is lecture with discussion, individual and group activities, and reflection. IPPE, IPE, and co-curricular fomat is experiential learning, case discussions, and/or reflection.
Level: Professional Health Care
Prerequisite(s): PHAR 167
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 169. SELF CARE AND NON-PRESCRIPTION THERAPIES. (3 Credits)
This required professional course is intended to impart the pharmacy student with the knowledge, skills, and professional attitudes required to adequately assess patients, determine whether or not self-care is indicated, and guide patients on the most effective and safe choice of self-care and nonprescription products. The ability to critically assess benefits and risks of various self-care therapies will be reinforced, and students' ability to provide solid rationale for their recommendations will be emphasized. Application of knowledge and skills from other College courses, especially Pharmacy Skills and Applications [PSA] and Therapeutics, will be reinforced. The active learning framework for Team Based Learning will constitute the primary instruction in this course.
Level: Professional Health Care
Prerequisite(s): PHAR 190
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: Critical Thinking

PHAR 171. HEALTH CARE SYSTEMS AND POLICIES. (3 Credits)
This course provides an overview of the current and changing health care systems and policies in the United States, history, current status, changes and future trends. Students will gain the ability to analyze state and federal systems and regulationsâ€™ impact on service delivery. This course will examine the ways that the socio-political environment influences patients and health care providersâ€™ behavior during the health care process. At the health system level, students will critique financing incentives and how organizational constraints place pressures on care provision. Finally, students will investigate the ways that culture and beliefs create expectations and place demands on the use of health care services. A combination of lecture, discussion of assigned reading material, in-class activities, group work and reflection papers are used to facilitate comprehension of course material.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of First Year Athletic Training or First year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: Engaged Citizen

PHAR 172. LITERATURE IN EVALUATION METHODS. (3 Credits)
This course is designed to introduce you to three areas of study that enhance your ability to deal with and utilize medical literature. The course helps you integrate and apply the principles of research-design, statistics, and drug information to critically appraise medical and health science literature to enable translation into evidence-based clinical practice.
Level: Non Degree Coursework, Professional Health Care, Undergraduate
Prerequisite(s): STAT 60 or HSCI 60 or PSY 015 or PSY 011
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: Critical Thinking

PHAR 173. APPLIED SOCIAL AND ADMINISTRATIVE PHARMACY. (3 Credits)
Please review Section Text Information below.
Level: Professional Health Care
Prerequisite(s): PHAR 172
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: Critical Thinking

PHAR 174. MANAGEMENT IN PHARMACY. (3 Credits)
This course introduces you to the various management concepts and practices so that you are prepared for leadership and management in the practice of pharmacy. The course builds on many of the concepts introduced in PHAR 171. The course is geared towards a practical approach to management, marketing, and financial principles and strives to introduce you to the overall management of a pharmacy or health-system pharmacy department. These skills will help you analyze business information and situations and allow you to implement new services into your practice.
Level: Professional Health Care
Prerequisite(s): PHAR 171
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 175. CONTINUING PROFESSIONAL DEVELOPMENT V. (2 Credits)
Students will build upon previous coursework in this series to revise and implement continuing professional development plans through various exercises and experiences. Students will document their progress in a portfolio. Students will participate in class sessions; co-curricular activities introductory pharmacy practice experiences (IPPE); and interprofessional education (IPE) activities. Class session topics include applying continuing professional development principles to the advanced pharmacy practice experience (APPE) selection process, professional goal attainment, and professional and personal exploration. The logistical process for submitting APPE preferences will be discussed. Co- curricular, IPPE, and IPE experiences will require travel to off-campus locations. Primary class session format is lecture with discussion, individual and group activities, and reflection. IPPE, IPE, and co-curricular format is experiential learning, case discussions, and/or reflection.
Level: Professional Health Care
Prerequisite(s): PHAR 168 and PHAR 155 and PHAR 169
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 176. CONTINUING PROFESSIONAL DEVELOPMENT VI. (2 Credits)
Students will build upon previous coursework in this series to revise and and implement continuing professional development plans through various exercises and experiences. Students will document their progress in a portfolio. Students will participate in class sessions; co-curricular activities; introductory pharmacy practice experiences (IPPE); and and interprofessional education (IPE) activities. Class session topics include preparation for advanced pharmacy practice experiences (APPE), career strategies and preparation, professional communication, and professional and personal exploration. Co-curricular, IPPE, and IPE experiences will require travel to off- campus locations. Primary class session format is lecture with discussion, individual and group activities, and reflection. IPPE, IPE, and co-curricular format is experiential learning, case discussions, and/or reflection.
Level: Professional Health Care
Prerequisite(s): PHAR 175
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 177. CONTINUING PROFESSIONAL DEVELOPMENT VII. (0.5-1 Credits)
Students will build upon previous coursework in this series to revise and implement continuing professional development plans through various exercises and experiences. This final course of the Continuing Professional Development (CPD) series will serve as a companion course to advanced pharmacy practice experiences (APPE – PHAR 285). Students will build upon previous coursework in CPD to reflect, self-evaluate, and develop plans specific to pharmacy board preparation, post-graduate learning, and employment. The course will use a combination of self-directed study consistent with the models of continuing pharmacy education (CPE) used by practicing pharmacists as well as online class sessions to prepare for initial career steps following graduation. Students will document and reflect on their progress. Online class session formats will also include a one to two hour online session scheduled for each APPE block. The course will require the student to complete a practice licensure exam. This course is required for all pharmacy students in the final year of the professional program.
Level: Professional Health Care, Undergraduate
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Fourth year Pharmacy.

Primary grade mode: Standard Letter with IP
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 182. PROFESSIONAL ELECTIVE. (4 Credits)
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment is limited to Professional Health Care level students.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 184. ADVANCED PHARMACY SKILLS AND APPLICATIONS I. (2 Credits)
The fifth course in the Pharmacy Skills and Applications series will incorporate skills from nine basic areas: professionalism, communications, calculations, clinical reasoning,cultural competence, drug information, distribution systems and processes, health and wellness, and systems management. Many activities performed in APSA 1 will further develop the skills that were introduced in BPSA and expanded on in IPSA. Other activities incorporate new skills in the nine competency areas. All activities are developed to integrate knowledge learned in other courses with their practical applications in pharmacy practice. This semester course is comprised on a one-hour lecture and a two-hour lab.
Level: Professional Health Care
Prerequisite(s): PHAR 155
Corequisite(s): PHAR 184L
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 184L. ADVANCED PHARMACY SKILLS AND APPLICATIONS I LAB. (0 Credits)
Laboratory experience that accompanies PHAR 184.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): PHAR 184
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Non-Gradeable
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 185. ADVANCED PHARMACY SKILLS AND APPLICATIONS II. (2 Credits)
The sixth course in the Pharmacy Skills and Applications series will incorporate skills from nine basic areas: professionalism, communication, clinical reasoning, cultural competence, drug information, calculations, distribution systems and processes, systems management, and health and wellness. Many activities performed in APSA 2 will further develop the skills that were introduced in BPSA and expanded on in IPSA and APSA 1. Other activities incorporate new skills in the nine competency areas. All activities are developed to integrate knowledge learned in other courses with their practical applications in pharmacy practice. This semester course is comprised of a one-hour lecture, a two-hour lab, and an experiential component of up to eight hours a week.
Level: Professional Health Care
Prerequisite(s): PHAR 184
Corequisite(s): PHAR 185L
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 185L. ADVANCED PHARMACY SKILLS AND APPLICATIONS II LAB. (0 Credits)
Laboratory experience that accompanies PHAR 185.
Level: Professional Health Care
Prerequisite(s): PHAR 184L
Corequisite(s): PHAR 185
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Non-Gradeable
Schedule type(s): Independent Study, Lab, Web Instructed
Area(s) of Inquiry: None

PHAR 186. INTRODUCTION TO PHARMACY PRACTICAL EXPERIENCE III. (0 Credits)
Introductory Pharmacy Practice Experiences [IPPE] that are part of the academic year PSA courses but completed during the summer term and/or J-term session.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment is limited to students with an major in Pharmacy.

Enrollment is limited to Professional Health Care level students.

Primary grade mode: Non-Gradeable
Schedule type(s): Independent Study, Web Instructed
Area(s) of Inquiry: None

PHAR 187. CAREER, ACADEMIC, AND PROFESSIONAL SUCCESS (CAPS) V: PROFESSIONAL PLANNING. (0.5 Credits)
The fifth in a series of six courses, students will participate in various exercises designed to further their career, academic and professional success [CAPS]. Topics include updating their curriculum vitae, setting career goals, and selecting advanced pharmacy practice experience [APPE] preferences to meet these goals. The logistical process for submitting APPE preferences will be discussed. Primary class format is lecture with discussion, individual and group activities, and reflection. In addition, students will attend two preceptor showcases to explore APPE options and will meet with their advisor/mentor for further guidance. This course is required for all pharmacy students in the third year of the professional program.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment is limited to Professional Health Care level students.

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 188. CAREER, ACADEMIC, AND PROFESSIONAL SUCCESS (CAPS) VI: PROFESSIONAL DEVELOPMENT. (0.5 Credits)
The sixth in a series of six courses, students will participate in various exercises designed to further their career, academic and professional success [CAPS]. Strategies for success during the advanced pharmacy practice experience [APPE] year will be the focus of the course including managing conflict, soliciting feedback, providing peer mentoring, and enhancing personal reflection. The logistical processes required for the APPE year will be discussed. Primary class format is lecture with discussion, individual and group activities, and reflection. This course is required for all pharmacy students in the third year of the professional program.
Level: Professional Health Care
Prerequisite(s): PHAR 187
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Junior.

Enrollment limited to students in the Pharmacy & Health Sciences college.

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 190. THERAPEUTICS I. (3 Credits)
Pharmacotherapeutics will utilize team-based learning [TBL] strategies to enable students to manage the drug therapy of individual patients in order to achieve improved clinical outcomes and quality of life. Integration and application of pharmacologic, pharmacokinetic, pathophysiologic and social administrative principles are required to practice higher problem-based learning skills as applied to class-based and group-based discussions.
Level: Professional Health Care
Prerequisite(s): PHAR 132
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Second year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 191. THERAPEUTICS II. (5 Credits)
Pharmacotherapeutics will utilize team-based learning [TBL] strategies to enable students to manage the drug therapy of individual patients in order to achieve improved clinical outcomes and quality of life. Integration and application of pharmacologic, pharmacokinetic, pathophysiologic and social administrative principles are required to practice higher problem-based learning skills as applied to class-based and group-based discussions.
Level: Professional Health Care
Prerequisite(s): PHAR 135
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 192. THERAPEUTICS III. (0-6 Credits)
Pharmacotherapeutics will utilize team-based learning [TBL] strategies to enable students to manage the drug therapy of individual patients in order to achieve improved clinical outcomes and quality of life. Integration and application of pharmacologic, pharmacokinetic, pathophysiologic and social administrative principles are required to practice higher problem-based learning skills as applied to class-based and group-based discussions.
Level: Professional Health Care
Prerequisite(s): PHAR 135
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Third year Pharmacy.

Primary grade mode: Standard Letter
Schedule type(s): Discussion/Recitation, Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 285. EXPERIENTIAL ROTATION BLOCK. (1-22 Credits)
Prereq: All pre-pharmacy and pharmacy course work.
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment limited to students with a classification of Fourth year Pharmacy.

Enrollment is limited to students with an major in Pharmacy.

Enrollment is limited to Professional Health Care level students.

Primary grade mode: Credit/No Credit with IP
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None

PHAR 286. EXPERIENTIAL REMEDIATION. (1-22 Credits)
Level: Professional Health Care
Prerequisite(s): None
Corequisite(s): None
Restrictions:
Enrollment is limited to Graduate level students.

Primary grade mode: Credit/No Credit
Schedule type(s): Independent Study, Lecture, Web Instructed
Area(s) of Inquiry: None