



COURSE DESCRIPTIONS-CLASS 2014

PHARMACEUTICAL SCIENCES

PBS 504 - Anatomy and Pathophysiology (4 credits)

This course is an introduction to the basic concepts of pathophysiology with review of the principles of human physiology and anatomy. The course focuses in understanding the pathophysiological mechanisms that lead to changes and alterations in human physiologic function and human responses. The students will learn how pathophysiological processes affect manifestation and progression of a disease state within the body, including the resulting primary and secondary effects.

PBS 505 - Pharmaceutics I (3 credits)

This course underlines the basic physiochemical principles that govern pharmaceutical systems, particularly with regard to dosage formulation and evaluation of pharmacokinetic and dynamic principles.

PBS 506 - Pharmaceutical Calculations w/lab (3 credits)

Students will be prepared to perform accurate compounding and dosage calculations for solid and liquid dosage forms, injectable medications, and extemporaneously compounded prescription products to ensure patients' therapy, safety, and efficacy. Calculations pertaining to Pharmaceutics I will be integrated into Pharmaceutical Calculation lab sessions.

PBS 508 - Microbiology/Immunology (4 credits)

This course provides a review of the principles of microbiology and immunology with an emphasis on the aspects that pertain to pharmaceutical science, pharmacotherapeutics and patient-centered care.

PBS 511 - Biotechnology (2 credits)

This course provides an introduction to biotechnology and its relationship to pharmacy. Topics include how biotechnology is used to produce drugs, how those drugs work and the predicted potential and current limitations of biotech drugs.

PBS 513 - Biochemistry (4 credits)

A review of the structure, physical/chemical properties, function and interactions of amino acids, peptides and proteins, nucleotides, and nucleic acids, carbohydrates, lipids, and hybrid molecules with an emphasis on its application to medication and clinical uses.

PBS 518 - Pharmaceutics II w/lab (3 credits)

This course is an introduction to drug delivery systems and their physical and chemical properties. Emphasis will be placed on solid, semi-solid and liquid dosage forms. Quality control guidelines and standards of compounding practice will be covered.

PBS 527 – Biopharmaceutics and Pharmacokinetics (4 credits)

This will be an integrated course by the Pharmaceutical Sciences and Clinical and Administrative Sciences Departments. Principles in how drugs perform in a human being and how a physiology system affects the drugs as they relate to absorption, distribution, metabolism, and excretion will be presented. Clinical Pharmacokinetics will build on those concepts to teach how to design a safe and effective drug regimen to patients based on their physiological conditions and disease states and how to monitor therapy regimen for adjustment if needed.

PBS 529 – Introduction to Pharmacology and Medicinal Chemistry (1 credit)

This course provides background information on the molecular, cellular, and the physiologic basis of drug action, the influence of chemical and physical properties in structure- activity relationships, drug chemistry, and mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics in order to prepare the student for the Pharmacology and Medicinal Chemistry I-IV sequence.

PBS 602 - Pharmacology I and Medicinal Chemistry I (4 credits)

Pharmacology and Medicinal Chemistry I is designed to coordinate with the Pharmacotherapeutics sequence and provides the chemical and pharmacological basics for the Pharmacotherapeutics courses. This course furnishes the details of molecular, cellular, and the physiologic basis of drug action, the influence of chemical and physical properties of drugs in structure-activity relationships, drug chemistry, and mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics.

PBS 605 - Introduction to Pharmacogenomics (1 credit)

This will be an integrated course by the Pharmaceutical Sciences and Clinical and Administrative Sciences Departments. An introduction to the human genome, the sciences of genetics and how it relates to medication and treatments will be presented.

PBS 618 - Pharmacology II and Medicinal Chemistry II (5 credits)

Pharmacology and Medicinal Chemistry II is designed to coordinate with the Pharmacotherapeutics sequence and provides the chemical and pharmacological basics for the Pharmacotherapeutics courses. This course furnishes the details of molecular, cellular, and the physiologic basis of drug action, the influence of chemical and physical properties of drugs in structure-activity relationships, drug chemistry, and mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics.

PBS 627 - Pharmacology III and Medicinal Chemistry III (5 credits)

Pharmacology and Medicinal Chemistry III is designed to coordinate with the Pharmacotherapeutics sequence and provides the chemical and pharmacological basics for the Pharmacotherapeutics courses. This course furnishes the details of molecular, cellular, and physiological basis of drug action, the influence of chemical and physical properties of drugs in structure-activity relationships, drug chemistry, and mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics.

PBS 637 – Pharmacology IV and Medicinal Chemistry IV (5 credits)

Pharmacology and Medicinal Chemistry IV is designed to coordinate with the Pharmacotherapeutics sequence and provides the chemical and pharmacological basics for the Pharmacotherapeutics courses. This course furnishes the details of molecular, cellular, and physiological basis of drug action, the influence of chemical and physical properties of drugs in structure-activity relationships, drug chemistry, and mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics.

CLINICAL & ADMINISTRATIVE SCIENCES

PCAS 501 - Introduction and Initiation to the Practice of Pharmacy (2 credits)

This course will cover the history of pharmacy, the patient-centered care concept, medical terminology, various pharmacy organizations, and team work concept. Students will visit different settings and will come back to the classroom for discussions and debriefing. The delivery of patient-centered care will be examined from the different types of services in various settings. This will help the students to be introduced from the start to the variety of pharmacy practice.

PCAS 503 - Introduction to Health Care System (2 credits)

An overview of the basic structures and operations of the U.S. health care delivery system, including its historical origins; the changing roles of the components of the system; and the technical, economic, political and social forces responsible for these changes.

PCAS 512 - Medication Safety (2 credits)

Students will learn the mechanism, roots of medication errors, its consequences on patients and health care in general. Mechanisms to promote medication safety will be examined.

PCAS 516 - Communication and Collaborative Solutions (2 credits)

This course will cover interviewing techniques, factors that impact communication, medication histories, patient counseling, and presentation skills. The mechanism of conflicts will be explored and the techniques to establish a harmonious working relationship or to defuse/prevent conflicts at the workplace will be taught. Projects, presentations, simulations, and mock counseling sessions will provide opportunities to practice and refine these communication skills.

PCAS 517 - Medical Informatics (2 credits)

This course is an introduction to the availability of various technologies applicable to the delivery of pharmacy care, its impact on pharmacy practice, and its applications to patient care.

PCAS 521 - Pharmacy Law and Ethics (3 credits)

The laws, regulations and related ethical issues relating to the practice of pharmacy; the regulation and control of drugs, cosmetics, medical devices, mail order and "internet" pharmacy will be presented.

PCAS 522 - Complementary Alternative Medicine/Self Care (3 credits)

This course will offer an overview of conditions and products that patients use in self-care treatment. The course will focus on the pharmacotherapy and the role of the pharmacist in disease state management related to self-care (using non-prescription and herbal therapy). Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics to devise appropriate pharmacy care plans. These plans will include rationale for drug use, selection and dosing regimens, expected outcomes of drug therapy, key monitoring parameters, clinically important drug-drug or drug-disease interactions, counseling and compliance issues. Top 200 drugs will be reviewed during the prescription processing portion of the course. This course will help to introduce students to clinical scenarios likely to be encountered during their Introductory Pharmacy Practice Experiences.

PCAS 525 - Sterile Dosage Forms w/lab (2 credits)

Students will be familiarized with the organization and administration of an admixture program, admixture techniques, the proper utilization of different types of parenteral products, and students will have the opportunity to practice in the laboratory the techniques related to the compounding of sterile dosage forms.

PCAS 526 - Public Health Issues (2 credits)

Issues pertaining to the health of the public and public health policy will be discussed. Their impact on health care and the population will be explored. Pharmacoepidemiology will be emphasized.

PCAS 528 - Research Design and Literature Evaluation I (3 credits)

The structure of a drug information center as well as the role and functions of a drug information pharmacist will be reviewed. The students will be familiarized with the skills required to handle different types of drug information questions and the techniques on how to fully evaluate health care related literature. Students will be introduced to the different phases of a research protocol. Application of the information learned in the course will be emphasized throughout.

PCAS 533 - Physical Assessment w/lab (2 credits)

The students will learn the basics of physical assessment of different organ systems and the art of monitoring the effects of drugs in patients.

PCAS 537, PCAS 538 - Intermediate Pharmacy Practice Experience (10 credits)

Students will practice as a pharmacy extern five weeks in a community setting and five weeks in an institutional setting. They will learn the distribution of a drug from the prescription received to the safe administration of the drug to the correct patient. Students will also learn the operational aspects with all its related issues during the experiences.

PBS/PCAS 604 - Professional Elective I (2 credits)

This course may be offered by both departments, the Sullivan University, or the University of Louisville and will cover topics related to the profession of pharmacy. This course is designed to enhance professional knowledge and promote self-learning.

PCAS 606 - Clinical Laboratory (3 credits)

This course will introduce students to the basics of clinical laboratory reports. A majority of the course will cover the normal and abnormal laboratory values from different organ systems and disease states.

PCAS 608 - Applied Therapeutics Lab I (1 credit)

This course focuses on the pharmacotherapy and the role of the pharmacist in disease state management related to the topics covered in PCAS 609. Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics to devise appropriate pharmacy care plans. These plans will include rationale for drug use, selection and dosing regimens, expected outcomes of drug therapy, key monitoring parameters, clinically important drug-drug or drug-disease interactions, counseling and compliance issues.

PCAS 609 - Pharmacotherapeutics I (4 credits)

This course focuses on the pathophysiology and pharmacotherapy of disease states. Emphasis will be placed on the integration of knowledge and skills gained from previous courses with pathophysiology and therapeutics to devise appropriate pharmacy care plans.

PCAS 611 - Pharmacy Practice Management (2 credits)

Emphasis is given to the managerial aspects of pharmacy practice within the different settings of the health care system. This course provides the basic financial and operational management, knowledge, and skills necessary for a successful professional practice.

PCAS 614 - Applied Therapeutics Lab II (1 credit)

This course focuses on the pharmacotherapy and the role of the pharmacist in disease state management related to the topics covered in PCAS 619. Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics to devise appropriate pharmacy care plans. These plans will include rationale for drug use, selection and dosing regimens, expected outcomes of drug therapy, key monitoring parameters, clinically important drug-drug or drug-disease interactions, counseling and compliance issues.

PBS/PCAS 616 - Professional Elective II (2 credits)

This course may be offered by both departments, the Sullivan University, or the University of Louisville and will cover topics related to the profession of pharmacy. This course is designed to enhance professional knowledge and promote self-learning.

PBS/PCAS 617 – Professional Elective III (2 credits)

This course may be offered by both departments, the Sullivan University, or the University of Louisville and will cover topics related to the profession of pharmacy. This course is designed to enhance professional knowledge and promote self-learning.

PCAS 619 – Pharmacotherapeutics II (6 credits)

This course focuses on the pathophysiology and pharmacotherapy of disease states. Emphasis will be placed on the integration of knowledge and skills gained from previous courses with pathophysiology and therapeutics to devise appropriate pharmacy care plans.

PCAS 621 - Clinical Nutrition (2 credits)

Students will learn the basic principles of enteral and parenteral nutrition. Students will learn how to write/adjust a parenteral/enteral nutrition formula, adapted to patients' disease state. Students will learn how to monitor the effects of nutrition on patients.

PCAS 624 - Applied Therapeutics Lab III (1 credit)

This course focuses on the pharmacotherapy and the role of the pharmacist in disease state management related to the topics covered in PCAS 628. Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics to devise appropriate pharmacy care plans. These plans will include rationale for drug use, selection and dosing regimens, expected outcomes of drug therapy, key monitoring parameters, clinically important drug-drug or drug-disease interactions, counseling and compliance issues.

PBS/PCAS 625 – Professional Elective IV (2 credits)

This course may be offered by both departments, the Sullivan University, or the University of Louisville and will cover topics related to the profession of pharmacy. This course is designed to enhance professional knowledge and promote self-learning.

PBS/PCAS 626 - Professional Elective V (2 credits)

This course may be offered by both departments, the Sullivan University, or the University of Louisville and will cover topics related to the profession of pharmacy. This course is designed to enhance professional knowledge and promote self-learning.

PCAS 628 - Pharmacotherapeutics III (6 credits)

This course focuses on the pathophysiology and pharmacotherapy of disease states. Emphasis will be placed on the integration of knowledge and skills gained from previous courses with pathophysiology and therapeutics to devise appropriate pharmacy care plans.

PCAS 631 - Pharmacoeconomics & Outcomes (2 credits)

Students are introduced to the principles and tools of Pharmacoeconomics and outcome assessments that are commonly used to study the impact of pharmaceutical care services on the health and health care of a patient or community.

PCAS 633 – Pharmacotherapeutics IV (6 credits)

This course focuses on the pathophysiology and pharmacotherapy of disease states. Emphasis will be placed on the integration of knowledge and skills gained from previous courses with pathophysiology and therapeutics to devise appropriate pharmacy care plans.

PCAS 634 - Applied Therapeutics Lab IV (1 credit)

This course focuses on the pharmacotherapy and the role of the pharmacist in disease state management related to the topics covered in PCAS 633. Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics to devise appropriate pharmacy care plans. These plans will include rationale for drug use, selection and dosing regimens, expected outcomes of drug therapy, key monitoring parameters, clinically important drug-drug or drug-disease interactions, counseling and compliance issues.

PCAS 635 – Pre-Practice Experience Review (1 credit)**PBS/PCAS 636 - Professional Elective VI (2 credits)**

This course may be offered by both departments, the Sullivan University, or the University of Louisville and will cover topics related to the profession of pharmacy. This course is designed to enhance professional knowledge and promote self-learning.

PCAS 638 - Research Design and Literature Evaluation II (1 credits)

Application of the information learned in the Research Design and Literature Evaluation I course will be emphasized throughout.

Advanced Pharmacy Practice Experiences (Total 40 credits)**PCAS 701, PCAS 702, PCAS 711, PCAS 712, PCAS 721, PCAS 722, PCAS 731, PCAS 732**

The students will go through eight experiential education experiences of five weeks each. The experiences include a core of Adult Medicine, Ambulatory Care, Advanced Hospital Pharmacy, and Advanced Community Pharmacy and four electives. This will be the time for students to integrate and apply their knowledge to real patients' situations. It will also be an opportunity for the student to function as a team member of a health care team.

PCAS 700 - Research Project (1 credit)

This course is intended to develop a student's ability to evaluate and synthesize pertinent literature and effectively communicate a pharmacotherapy-related topic in a professional manner.