PHARMACY AND NUTRITION GRADUATE COURSES OFFERED IN 2024-25

Term 1:

PHAR 810.3: Radiopharmacy – Course Coordinator: Dr. Ekaterina Dadachova

During the lectures, the students will be presented with the basic principles of radiochemistry, radiolabeling, making radiopharmaceuticals, their quality control and applications for imaging and therapy of patients. They will have the opportunity to learn how to perform the calculations needed to manufacture radiopharmaceuticals and how to operate a radiopharmacy. They will also take part in two field trips to the Fedoruk Center for Nuclear Innovation and to the Department of Nuclear Medicine at the Royal University Hospital to observe first-hand how radiopharmaceuticals are manufactured and used in patients care, respectively.

PHAR 857.3: Advanced Pharmacotherapy 1 – Course Coordinator: Dr. David Blackburn

A detailed drug therapy course designed to prepare the student for the advanced clinical clerkship. Pathophysiology, clinical presentation, laboratory and clinical monitoring, monitoring and therapeutic regimens, both current and investigational, will be discussed. Topics include cardiovascular and pulmonary disorders, infectious disease and diabetes.

PHAR 860.3: Practice Management and Leadership – Course Coordinator: Dr. Jason Perepelkin

This course introduces students to aspects of leadership (formal and informal) and leadership theory, with emphasis on effective leadership as a pharmacist. Students will explore the qualities, behaviours, and practices of effective leaders by developing an understanding of practice management and leadership which can be applied to the provision of pharmacy services. This course takes a hands-on, pragmatic approach with assessment methods so that students can tangibly relate to and apply course concepts.

PHAR 871.3: Molecular Pharmacology – Course Coordinator: Dr. Robert Laprairie

Students will learn to identify, evaluate, and analyze molecular pharmacology data in order to gain insight into drug mechanism(s) of action, pharmacodynamics, pharmacokinetics, and drug-drug interactions. Learning will utilize real-world data and primary literature to help students learn drug mechanism(s) of action in conjunction with pathophysiological processes of the major body systems. Using knowledge from previous foundational sciences courses, students will learn to integrate knowledge to assess and critique data, information, and pharmacological principles.

Term 2:

PHAR 832.3: Drug Discovery and Development – Course Coordinator(s): Dr. Meena Sakharkar/Dr. Jian Yang

Consideration is given to the way in which new drugs are developed and the importance of drug latentiation is stressed. Some of the chemical, physicochemical and biochemical parameters affecting bioactivity are outlined.

PHAR 848.3: Advanced Pharmacokinetics and Pharmacodynamics – Course Coordinator: Dr. Jane Alcorn

Qualitative and quantitative aspects of drug absorption, disposition, metabolism and excretion, and drug pharmacodynamics. The course emphasizes the use of pharmacokinetic/pharmacodynamic equations and the analysis of the data.

PHAR 855.3: Advanced Pharmacotherapy 2-Mental Health – Course Coordinator: Dr. Katelyn Halpape

This course is designed to provide students interested in mental health with an advanced knowledge in psychopharmacotherapy. This course will provide learners with diverse, structured, and robust learning opportunities necessary to develop the professional attributes required for mental health related patient care activities and instruction of healthcare professionals and learners. This course will be taught using a variety of techniques including independent reading and writing activities, therapeutic discussions, case-based learning, and undergraduate/graduate student instruction, assessment, and mentorship.

PHAR 865.3: Bioanalytical Mass Spectrometry – Course Coordinator: Dr. Anas El-Aneed

This course will cover modern state-of-the-art mass spectrometry techniques and their usefulness in research and discovery. Instrumentation-related topics will be discussed, namely ionization sources, mass analyzers and hybrid tandem mass spectrometers. The advantages of each technique will be highlighted and discussed. A second portion of the course will focus on mass spectra interpretation and the various applications of applied mass spectrometry for small molecule analysis, namely structural elucidation, quantification, analytical method validation, metabolomics and related biomedical and environmental applications. The course will also include lab demonstration of the use of tandem mass spectrometry.

PHAR 870.3: Research Methods in Pharmacy Practice (course only open for pharmacy Graduate students with instructor permission) – Course Coordinator: Dr. David Blackburn

Research methods and outcomes in pharmacy practice settings will be studied. The principles of qualitative and quantitative research are discussed in the context of patient education, adherence, disease state management and quality of life. Issues relating to primary data collection in health care settings and administrative databases will be considered.