

Course Overview



Course Information

Code: PHL-538

Title: Pharmacogenomics

Cr hr: 2+0

Level: 8

Program: PharmD

Co-requisites: None

Prerequisites: PHL-436, PHL-537

Course Description

This advanced course is about the study of how genes affect an individual response to drugs. Students will get the knowledge of combining pharmacology (the science of drugs) and genomics (the study of genes and their functions) to develop effective, safe medications and doses that will be tailored to a person's genetic makeup. As knowledge of the genetic basis of disease increases, so does the opportunities for drug targeting and patient specific-treatments. This course uses cognitive and technical skills to understand the molecular basis of altered health states and the drug response towards personalized medicine.

Topics

- Introduction
- Molecular biology review
- Overview of human genomics
- Making precision medicine a reality through genomics
- Examples of gene-drug interactions
- The influence of pharmacogenetics on pharmacokinetics and pharmacodynamics
- Pharmacogenetics of phase II drug-metabolizing enzymes
- Ethical, social, legal, and economic issues