Level: master

Course title: Metabolism of drugs and xenobiotics (IB-507)

Status: elective

ECTS: 6

Requirements: none

Learning objectives

To introduce students to the basic principles of biotransformation of drugs and xenobiotics via cytochrome P450 and the other oxygenases as the most important pathways of their metabolism. Because of the great importance of the oxido-reductive biotransformation, students will learn about the enzyme systems involved in these reactions.

Learning outcomes

Obtain the basic theoretical and practical knowledge about the metabolism of drugs and xenobiotics, which will enable students to engage in work in the pharmaceutical industry and other biochemical laboratories.

Syllabus

Theoretical instruction

The classification of drugs. Mixed function oxidase (MFO) and cytochrome P 450th The main routes of biotransformation of drugs through the MFO system: hydroxylation of acyclic and aromatic compounds, N-oxidation, oxidative deamination, O-dealkylation, etc.. Fundamentals of pharmacokinetics and pharmacodynamics of major groups of medications (antibiotics, chemotherapeutic agents, etc.). Testing biological activity of selected drugs and antimetabolites, methods of detection of major groups of drugs and their metabolites.

Weekly teaching load				Other:
Lectures: 2	Exercises: 2	Other forms of teaching:	Student research:	