



УНИВЕРЗИТЕТ У БАЊОЈ ЛУЦИ
UNIVERSITY OF BANJA LUKA
ПРИРОДНО-МАТЕМАТИЧКИ ФАКУЛТЕТ
FACULTY OF NATURAL SCIENCES AND MATHEMATICS



CHEMISTRY DEPARTMENT

SECOND CYCLE Master in Chemistry

Course name	Biochemical toxicology			
Course code	Course status	Semester	Hours of instruction	ECTS
2Ц16ХЕМ029	elective	I	2+3	5
Teacher(s)	Prof. Biljana Davidović-Plavšić PhD			

Course conditions	Conditions
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Course goals

The aim of the course *Biochemical toxicology* is to acquire knowledge about the interactions of toxic substances and organisms at the molecular level, ie biotransformation of toxic substances, bioinactivation and interactions toxic substances with biomolecules.

Learning outcomes

The student understands general concepts of toxicology, processes of biotransformation of toxic substances; molecular aspects of toxic action, relationship between structure and activity of toxic substances; biochemical basis for the manifestation of toxicity on target organs. The student masters the basic methods and techniques used in toxicological biochemical laboratories.

Course content

Absorption of toxic substances. Transport, distribution and elimination of toxic substances. Biotransformation of xenobiotics. Toxic effect. Reactive types of oxygen as a consequence of the action of toxic substances and antioxidant defense mechanism. Factors influencing the manifestation of toxic effects. Acute and chronic toxicity. Genotoxicity. Chemical mutagenesis, carcinogenesis. Teratogenesis. Manifestation of toxic effect on target organs. Note: Thematic areas will be covered separately for the plant and separately for the animal cell depending on the interest of the students.

Teaching methods

Lectures, laboratory exercises, consultations

Books and other learning materials

Milan Jokanović: **Toksikologija**, Farmaceutski fakultete, Elit Medica, Beograd, 2001.

P. David Josephy: **Molecular toxicology**, Oxford University press, 1997.

Ljuba Mandić: **Uputstva za vježbe**.

Course activities and grading method

The results of the tests are entered in the final grade only if they exceed 50% of the planned points for a given form of test during the semester.

Seminar	40	Final exam	60
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Additional course notes

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Name of the teacher who prepared this form	Biljana Davidović-Plavšić
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