[Medicinski fakultet u Rijeci]

Curriculum
2025/2026

[Za kolegij]

Toxicology

Study programme:	**Medical Studies in English (R)** (elective) [Sveučilišni integrirani prijediplomski i diplomski studij]
Department:	**[Zavod za temeljnu i kliničku farmakologiju s toksikologijom]**
Course coordinator:	**prof. dr. sc. Mršić-Pelčić Jasenka, dr. med.**
Year of study:	**4**
ECTS:	**1.5**
Incentive ECTS:	**0 (0.00%)**
Foreign language:	**Possibility of teaching in a foreign language**

Course information:

The Toxicology course is an optional course in the fourth year of the Integrated Undergraduate and Graduate University Study in Medicine and consists of 25 hours of seminars (1.5 ECTS).

The aim of the course is to train students for active and professional involvement in the processes of monitoring, control and protection against the effects of toxic substances on the human body, as well as on other living beings, and for the prevention and treatment of poisoning; developing a critical approach to the toxicity of certain poisons and potentially toxic substances.

The content of the course is as follows:

Toxicology of drugs; Substances of addiction; Toxicology of food and drinking water: additives and contaminating substances in food and drinking water, drugs in veterinary medicine; Diagnosis and treatment of acute poisoning; Diagnosis and treatment of chronic poisoning; Manifestations of poisoning on target organs - diagnosis and therapy of poisoning: immunotoxicology; toxicology of the respiratory system, liver, kidneys, skin, eye, central nervous system, reproductive and cardiovascular systems; Urgent conditions in toxicology; Peculiarities of treatment of poisoning in children, pregnant women and the elderly; Poisonous plants and animals; Poisoning by marine organisms; Control of biological drugs.

List of assigned reading:

Lu F.: Toxicology: Fundamentals, Target Organs and Risk Assesments, Taylor and Francis, 1996.

List of optional reading:

Timbrell JA: Introduction to toxicology, Taylor & Frances, 2002.

De Matteis F.: Molecular and Cellular Mechanisms of Toxicity, Crc Press Inc, 1995.

Casarett & Doulls Toxicology: Basic Science of Poisons, 6. izdanje, 2001.

Curriculum:

Seminars list (with titles and explanation):

S1. Drug-Induced Liver Injury: Mechanisms, Risk Factors, Prevention; Toxicology of Recreational Drugs: Mechanisms and Clinical Management

S2. Toxicity of Herbal Supplements: Myth vs Scientific Evidence; Food Additives and Their Toxicological Assessment

S3. Drug-Drug Interactions and Toxicological Consequences; Heavy Metals in Food and the Environment: Chronic Exposure and Human Health Risks

S4. Mitochondrial Toxicity as a Mechanism of Drug-Induced Organ Damage; Foodborne Mycotoxins: Sources, Toxicity, Prevention Strategies

S5. Toxicological Aspects of Nanomedicine and Nanoparticles; Endocrine Disruptors in Everyday Life: Sources, Mechanisms, Health Effects

Student obligations:

Students are obliged to attend classes regularly and actively participate in them.

Exam (exam taking, description of the written/oral/practical part of the exam, point distribution, grading criteria):

Written exam, final mark is formed based on the points obtained from the activities at the seminars and the written exam.

Other notes (related to the course) important for students:

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COURSE HOURS 2025/2026

Toxicology

Seminars (Place and time or group)
10.11.2025
S1. Drug-Induced Liver Injury: Mechanisms, Risk Factors, Prevention; Toxicology of Recreational Drugs: Mechanisms and Clinical Management: • [ONLINE] (16:00 - 20:00) [172]   ○ Tox
prof. dr. sc. Mršić-Pelčić Jasenka, dr. med. [172]
11.11.2025
S2. Toxicity of Herbal Supplements: Myth vs Scientific Evidence; Food Additives and Their Toxicological Assessment: • [ONLINE] (16:00 - 20:00) [172]   ○ Tox
prof. dr. sc. Mršić-Pelčić Jasenka, dr. med. [172]
12.11.2025
S3. Drug-Drug Interactions and Toxicological Consequences; Heavy Metals in Food and the Environment: Chronic Exposure and Human Health Risks: • [ONLINE] (16:00 - 20:00) [172]   ○ Tox
prof. dr. sc. Mršić-Pelčić Jasenka, dr. med. [172]
13.11.2025
S4. Mitochondrial Toxicity as a Mechanism of Drug-Induced Organ Damage; Foodborne Mycotoxins: Sources, Toxicity, Prevention Strategies: • [ONLINE] (16:00 - 20:00) [172]   ○ Tox
prof. dr. sc. Mršić-Pelčić Jasenka, dr. med. [172]
14.11.2025
S5. Toxicological Aspects of Nanomedicine and Nanoparticles; Endocrine Disruptors in Everyday Life: Sources, Mechanisms, Health Effects: • [ONLINE] (16:00 - 20:00) [172]   ○ Tox
prof. dr. sc. Mršić-Pelčić Jasenka, dr. med. [172]

List of lectures, seminars and practicals:

SEMINARS (TOPIC)	Number of hours	Location

S1. Drug-Induced Liver Injury: Mechanisms, Risk Factors, Prevention; Toxicology of Recreational Drugs: Mechanisms and Clinical Management	5	[ONLINE]
S2. Toxicity of Herbal Supplements: Myth vs Scientific Evidence; Food Additives and Their Toxicological Assessment	5	[ONLINE]
S3. Drug-Drug Interactions and Toxicological Consequences; Heavy Metals in Food and the Environment: Chronic Exposure and Human Health Risks	5	[ONLINE]
S4. Mitochondrial Toxicity as a Mechanism of Drug-Induced Organ Damage; Foodborne Mycotoxins: Sources, Toxicity, Prevention Strategies	5	[ONLINE]
S5. Toxicological Aspects of Nanomedicine and Nanoparticles; Endocrine Disruptors in Everyday Life: Sources, Mechanisms, Health Effects	5	[ONLINE]

EXAM DATES (final exam):
