

GENERAL INFORMATION		
Course	Toxicology	
Course coordinator	Prof. Martina Smolić, MD, PhD	
Assistant/Associate	Vjera Ninčević, MD, PhD Tea Omanović Kolarić, MD, PhD Nikola Raguž-Lučić, MD, PhD	
Study Programme	Integrated undergraduate and graduate university study of Medicine in German language	
Status of the course	Mandatory	
Year of study, semester	4th year, 7th semester	
Grading scale and workload	ECTS	2
	Hours (L+S+E)	30 (15+10+5)
COURSE DESCRIPTION		
Course objectives		
Basic terms and definitions in toxicology. Toxicokinetics. General and laboratory diagnostics in toxicology. Treatment of poisoning. Drug poisoning. Food poisoning Gas poisoning (asphyxiants/irritants). Corrosive. Insecticides/ rodenticides/herbicides. Battle poisons. Heavy metals. Plant poisons. Animal poisons. Narcotic drugs and addictive substances.		
Enrolment requirements and entry competencies		
There are no special requirements for this course except those defined by the curriculum of the entire study program.		
Learning outcomes at the Programme level		
1.1., 1.2., 2.1., 3.1., 3.2., 3.3., 3.5., 4.1., 4.2.		
Learning outcomes (5-10)		
Knowledge		
<ol style="list-style-type: none"> 1. Define basic terms in toxicology 2. Understand toxicokinetics 3. Understand and interpret general and laboratory diagnostics of the most common poisonings 4. Plan and apply general and special procedures for a poisoned patient 5. Describe the basic etiological factors, pathophysiological mechanisms, clinical picture, diagnostic and therapeutic procedures of the most common poisonings 		
skills		
<ol style="list-style-type: none"> 1. Apply general and special diagnostic and therapeutic procedures for poisoning. 		
Course content		
<ol style="list-style-type: none"> 1. Introduction to toxicology <ol style="list-style-type: none"> 1.1.1. history and toxicology 1.1.2. basic terms and definitions in toxicology 1.1.3. epidemiology and sources of poisoning 2. Toxicokinetics <ol style="list-style-type: none"> 2.1.1. physical and chemical nature of the poison 		

- 2.1.2. absorption, distribution, metabolism and elimination of poisons
- 3. Clinical picture of poisoning and frequent toxin syndromes
- 4. General and laboratory diagnosis of poisoning
- 5. Therapeutic procedures for poisoning
- 6. Drug poisoning
- 7. Food poisoning
- 8. Gas poisoning (asphyxiants/irritants).
- 9. Corrosives
- 10. Insecticides/ rodenticides/herbicides
- 11. Battle poisons
- 12. Heavy metals
 - 12.1.1. arsenic, mercury, lead, thallium, other metals
- 13. Plant poisons
- 14. Animal poisons
- 15. Narcotic drugs and addictive substances

Mode of teaching	<input checked="" type="checkbox"/> lectures	<input checked="" type="checkbox"/> independent tasks
	<input checked="" type="checkbox"/> seminars and workshops	<input checked="" type="checkbox"/> multimedia and network
	<input checked="" type="checkbox"/> exercises	<input type="checkbox"/> laboratory
	<input type="checkbox"/> distance education	<input type="checkbox"/> mentoring work
	<input type="checkbox"/> field teaching	<input type="checkbox"/> other

Student obligations

Students are expected to attend all class sessions, as well as to take all the examinations. However, they are allowed for excused absences, totalling 30% of all classes.

Monitoring student work

Attending classes	x	Class activity	x	Seminar work		Experimental work	
Written exam	x	Oral exam	x	Essay		Research	
Project		Continuous knowledge verification		Paper		Practical work	x
Portfolio							

Grading and evaluation of student work during classes and of the final examination

Students' work is evaluated during classes and on the final exam. Students are evaluated numerically and descriptively (insufficient (1), sufficient (2), good (3), very good (4), excellent (5)). During the course, the student will be able to collect a maximum of 100 evaluation points. Students can earn a maximum of 20 points during classes through different forms of activities. At the final exam, students can obtain a maximum of 80 points. The final grade represents the sum of the grade points achieved during classes and on the final exam.

Required reading

1. Toxikologie für Naturwissenschaftler und Mediziner. Stoffe, Mechanismen, Prüfverfahren. Eisenbrand G, Manfred Metzler M, Hennecke FJ. Wiley-VCH; 3. Edition: 2005.

Additional reading

Number of copies of required literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
Toxikologie für Naturwissenschaftler und Mediziner. Stoffe, Mechanismen, Prüfverfahren. Eisenbrand G, Manfred Metzler M, Hennecke FJ. Wiley-VCH; 3. Edition: 2005.		

Course evaluation procedures

The quality of course performance is monitored through an anonymous student survey on the quality of the organization and conduction of classes, the course content and the work of professors. The usefulness of the lectures from the students' perspective, the curriculum content, the professor preparedness, the clarity of the presentation, the amount of new content and the quality of the presentation are evaluated. The curriculum and its execution are administratively compared. The participation of students in lectures and exercises, as well as the excuses for missing classes, are controlled and analyzed.