

SYLLABUS

for the education cycle starting in the academic year 2024/25

Name of a course/ module	Toxicology	
Name of a department where course is held	Department of Toxicology	
E-mail of department	toxic@umb.edu.pl	
Faculty of	Faculty of Medicine with the Division of Dentistry and Division of Medical Education in English	
Name of a field of study	Medical Faculty	
Level of education	Uniform master's degree studies	
Form of study	full time <input checked="" type="checkbox"/>	part time <input type="checkbox"/>
Language of instruction	Polish <input type="checkbox"/>	English <input checked="" type="checkbox"/>
Type of course	obligatory <input checked="" type="checkbox"/>	facultative <input type="checkbox"/>
Year of study / Semester	I <input type="checkbox"/> II <input checked="" type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V <input type="checkbox"/> VI <input type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/>
Introductory courses with preliminary requirements	Biochemistry, Physiology, First Aid and Nursing, Occupational Safety and Health Implementation of the learning outcomes in terms of knowledge, skills and competencies of the previous semesters of study.	
Number of didactic hours with specification of forms of conducting classes	lectures – 3 hours, exercises – 7 hours	
Assumptions and aims of the course	<p>The main objective of the course is students' equipment with knowledge about: health hazards (acute, subacute, and chronic poisonings, accumulation in the organism, distant effects – mutagenic, carcinogenic, and teratogenic, civilisation diseases and occupational diseases) created by various chemical substances to which human may be exposed at the everyday life and under occupational conditions; the relationship between chemical pollution of the natural environment and food and health; symptoms of poisonings with various toxic substances, including especially substances which are the most common cause of poisonings (medicines, alcohols and other organic solvents, psychoactive substances, carbon monoxide and other gases, pesticides, nitrates(III), heavy metals, animal and plant toxins, fungi); rules of poisonings diagnostics; rules of causal treatment of poisonings (dependent on the route of poisoning) and antidotes (specific and nonspecific) used in the poisonings treatment.</p> <p>The student should be able to: estimate a toxicological risk, depending on the age and state of health; diagnose most often poisonings (based on clinical symptoms, a detailed medical history and laboratory tests); select biological material for toxicological tests; correctly interpret results of toxicological tests; choose appropriate procedures in the causal treatment of poisonings (dependent on the route of poisoning), including an indication of the appropriate antidotes; preventing poisonings.</p>	
Didactic methods	<ul style="list-style-type: none"> – transfer of knowledge in the form of a lecture – consultation (both regular and organised in individual cases); hours of regular consultations (once a week for 1 hour) are established, taking into consideration the didactic schedule of students and teachers; individual consultations are set dependent on students' needs, taking into consideration the duties of teachers. Persons who conduct lectures and classes have established consultation hours for students (once a week for 1 hour), and this information is available on the website of the Department ("Consultations for students") – discussion – presentation – case description – self-study – study of the literature 	
Full name of the person conducting the course	Lectures – Professor Małgorzata Michalina Brzóska, PhD Exercises – Nazar Smereczański, PhD	
Full name of the person responsible for teaching	Professor Małgorzata Michalina Brzóska, PhD	

Symbol and number of learning outcomes according to the teaching standards and other learning outcomes	Description of directional learning outcomes	Form of classes	Verification methods for achieving intended learning outcomes
Knowledge			
CW13	knows the consequences of exposing human body to chemical and physical factors and prophylactic principles	lectures exercises	assessed based on active participation in exercises and two written tests (test form) covering the entire curriculum <u>Summarising methods:</u> – passing particular exercises – two written tests (test questions) <u>Formative methods:</u> – assessing engagement during lectures – lecture preparation assessment – discussion during lectures
CW34	knows the basic terms of general toxicology	lectures classes	
CW36	knows the symptoms of the most commonly occurring acute poisonings with chosen medicine groups, alcohols and other psychoactive substances, fungi and heavy metals	classes	
CW37	knows the basic principles of diagnostic and therapeutic procedure in poisonings	lectures classes	
Skills			
CU13	can estimate toxicological danger in given age groups and in conditions of liver and kidney failure, as well as prevent medicine poisoning	classes lectures	assessed based on active participation in exercises and two written tests (test form) <u>Summarising methods:</u> – realisation of a particular task – passing particular exercises – two written tests (test questions) <u>Formative methods:</u> – assessing engagement during lectures – lecture preparation assessment – discussion during lectures – case report
Social competence			
K4	notices and recognises own limitations and assesses his/her own deficits and educational needs	classes	constant assessment by the teacher <u>Summarising methods:</u> – constant assessment by the teacher (observation) <u>Formative methods:</u> – discussion during lectures
K6	propagates pro-health behaviours		
K7	uses objective information sources		

ECTS points	1
Student Workload	
Form of activity	Number of hours to complete the activity
Classes that require the participation of a teacher	
1. Realization of the course: lectures (according to the curriculum)	3 h
2. Realization of the course: classes (according to the curriculum)	7 h
3. Realization of the course: seminars; (according to the curriculum)	
4. Realization of the course: electives	
5. Participation in consultation	2 h
	Total hours: 12 h
Student self-study	
1. Preparation for the theoretical and practical classes (realization of projects, documentation, case description etc.)	12 h
2. Preparation for tests/credits	8 h
3. Preparation for an exam/final test-credit	
	Total hours: 20 h

Course contents:

Learning outcomes (symbol and number)	Topics
<p>knows the basic terms of general toxicology (CW34)</p> <p>knows the basic principles of diagnostic and therapeutic procedure in poisonings (CW37)</p> <p>knows the consequences of exposing human body to chemical and physical factors and prophylactic principles (CW13)</p>	<p>Lectures</p> <p>Principles of diagnostic procedures in poisonings and causal treatment of acute poisonings with chemical compounds.</p> <p>Specific and non-specific antidotes used in the treatment of poisonings.</p>
<p>knows the basic terms of general toxicology (CW34)</p> <p>knows the consequences of exposing human body to chemical and physical factors and prophylactic principles (CW13)</p> <p>can estimate toxicological danger in given age groups and in conditions of liver and kidney failure, as well as prevent medicine poisoning (CU13)</p>	<p>Kinds of health hazards created by chemical substances and factors determining toxicity of xenobiotics.</p>
<p>knows the consequences of exposing human body to chemical and physical factors and prophylactic principles (CW13)</p> <p>knows the basic terms of general toxicology (CW34)</p> <p>knows the symptoms of the most commonly occurring acute poisonings with chosen medicine groups, alcohols and other psychoactive substances, fungi and heavy metals (CW36)</p> <p>knows the basic principles of diagnostic and therapeutic procedure in poisonings (CW37)</p> <p>can estimate toxicological danger in given age groups and in conditions of liver and kidney failure, as well as prevent medicine poisoning (CU13)</p>	<p>Classes</p> <p>Toxicology of psychoactive substances and natural poisons.</p> <p>Toxicology of alcohols and other organic solvents, including especially diagnostics and treatment of poisonings.</p> <p>Toxicology of nitrogen compounds and pesticides with particular emphasis on diagnostics and treatment of acute poisoning.</p> <p>Health effects of exposure to toxic gases and metals, and diagnostics and treatment of these poisonings.</p>

Obligatory textbook:

Barile F.A.: Clinical Toxicology. Principles and Mechanisms. 2nd edition, Informa Healthcare, 2010.

Klaassen C.D., Watkins J.B. III: Casarett and Doull's Essentials of Toxicology. McGraw-Hill Medical Publishing Division, USA, 2003.

Optional textbook:

Kwong T.C., Magnani B., Rosano T.G., Shaw L.M.: The Clinical Toxicology Laboratory. Contemporary Practice of Poisoning Evaluation. 2nd edition, AACCC Press, 2013.

Greenberg M.I., Hendrickson R.G., Morocco A., Shrestha M., Bryant S.D.: Medical Toxicology Review, 2nd edition, McGraw-Hill Medical Publishing Division, USA, 2006.

Criteria for assessing the achieved learning outcomes and the form and conditions for receiving credit:

The subject ends with a credit.

The condition for receiving credit for the subject is passing all scheduled classes, two written tests (covering all curriculum; a minimum of 60% of total points is required to pass the test), and attending lectures. There are no marks.

The presence of students at all scheduled lectures and classes is obligatory.

In the case of justified absence, the student has to pass the required material after consultation with the academic teacher.

17.02.2025.....Małgorzata M. Brzóška.....

(date and signature of the person preparing the syllabus)

17.02.2025...Małgorzata M. Brzóška

(date and signature of the Head of the Department where the course is held or course coordinator)