

Syllabus

Course description

Course title	Food Toxicology
Course code	44734
Scientific sector	BIO/14
Degree	Master in Food Sciences for Innovation and Authenticity
Semester	1
Year	II
Academic year	2022/23
Credits	4
Modular	

Total lecturing hours	40
Total exercise hours	0
Attendance	
Prerequisites	
Course page	

Specific educational objectives	<p>The course of Food Toxicology consists of a first general part concerning the description of the general principles of toxicology, toxicokinetics and the toxicity mechanisms of xenobiotics. This part will investigate the main toxicological parameters and the main toxicological tests applied to the risk assessment area. The second part of the course takes into consideration aspects of chemical carcinogenesis and the toxicological evaluation of possible food contaminants. The last part of the course deals with different topics, in particular: the influence of food in the modulation of metabolism with specific attention to nutraceutical products and food supplements.</p>
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Lecturer	Elda Favari
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Learning outcomes	<p>Knowledge and ability to understand</p> <p>During the course, the student will have to acquire an in-depth knowledge of the basic concepts of toxicokinetics and of toxicodynamics, of experimental toxicology methods that can offer the evaluation cues related to the risk-benefit bases in exposure to xenobiotics in general and to food components in particular. The student must acquire the ability to correlate and integrate the general aspects with the specific characteristics of the individual foods and be able to highlight the possible interactions and side effects.</p> <p>Expertise</p>
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	<p>The student must be able to use the knowledge acquired to understand and predict the molecular transformations underlying the formation of xenobiotics. During the course, the student will be driven to the evaluation of the results from toxicological and epidemiological studies and he will have to acquire the skills to apply the knowledge of the mechanisms of action of toxic compounds in order to evaluate the possible toxicity of food and food supplements.</p> <p>Autonomy of judgment The student must be able to define which metabolism and interactions may occur or can be induced in a food and how can be related to a possible toxicological response.</p> <p>Communication skills The student must be able to use the scientific language and the specific words of toxicology in an appropriate manner, demonstrating the ability to illustrate and transmit the acquired concepts in oral and written form.</p> <p>Learning ability The student who attended the course will be able to deepen their knowledge in the field of toxicology, through the independent consultation of specialized texts, scientific papers and appropriate databases, even outside the topics dealt with strictly in class.</p>
<p>Assessment</p>	<p>Indicate the types of assessment (according to the table) and check the coherence with the Dublin descriptors During classes, which will be lead with the help of PowerPoint presentations and on the blackboard, the different aspects that characterize the topics of toxicology will be discussed and treated. Particular reference to food contaminants and food supplements will be dealt with. Lectures and seminars will be held by international specialists.</p> <p>The lessons will be organized as follows: - in person with the possibility of using the lessons also remotely in synchronous mode (via Teams). To promote active participation in the course, various individual and small group activities will be proposed, through the use of the resources present in Elly.</p> <p>-written and project work: written exam with review questions and written project report done in groups</p>
<p>Assessment language</p>	<p>English</p>
<p>Evaluation criteria and criteria for awarding marks</p>	<p>The verification of learning will be carried out by written examination. The written exam will consist of both open and closed questions with multiple answers on the main topics of the course. The evaluation scale: 0-30 Weights and evaluation criteria:</p>

	<ul style="list-style-type: none"> • Acquired knowledge (up to 16/30); • Ability to apply the acquired knowledge and to make links between the topics covered (up to 9/30); • Ability to deal with the subject through the use of the specific language of the discipline (up to 5/30). <p>The assessment of learning will be carried out in the following ways:</p> <ol style="list-style-type: none"> 1. structured written test conducted at a distance (via Teams and Elly). The test consists of 15 questions to be chosen multiple on the contents of the course (volumes indicated + documents uploaded to Elly during the course). <p>There is no penalty for incorrect answers.</p> <ol style="list-style-type: none"> 2. Presentation of a Project Work (carried out individually), delivered to the teacher in word or pdf format in the appropriate deposit on the course page in Elly). Project work involves the elaboration of a research project in the educational-training field. The design context is freely chosen by the candidate, as long as it meets the criteria illustrated in the course, in the slides, and in the reference manuals. <p>For the evaluation of the papers, a predefined column will be used and made known in the course materials published online on the Elly platform.</p> <ul style="list-style-type: none"> • The final grade, communicated after the written test directly in Esse3, will correspond to the weighted arithmetic average of the assessments obtained in the written test and in the project work, both expressed out of thirty.
<p>Required readings</p>	<p>The notes taken during the lectures and the teaching material provided by the lecturer. Scientific papers provided by the lecturer.</p>
<p>Supplementary readings</p>	<p>Casarett & Doull's "Tossicologia: fondamenti dell'azione delle sostanze tossiche" Ed. EMSI, Roma. Goodman & Gilman's "The pharmacological basis of therapeutics"</p>