

Syllabus

Code/Name	SEC 302.5 / Toxicology
Type	Elective
Credit/ECTS	5/5
Hour per Week	3 (3+0+0)
Level/Year	Undergraduate/3
Semester	Spring
Classroom	D306
Content	Students typically cover a range of topics including basic principles and definitions, mechanisms of toxicity at molecular and cellular levels, dose-response relationships, routes of exposure, target organ toxicity, risk assessment and management, environmental toxicology, testing methods, regulatory frameworks, and applications in public health and medicine.
Prerequisites	-
Textbooks	<ol style="list-style-type: none"> <i>Klaassen CD. Casarett and Doull's Toxicology. 5th Edition, McGraw-Hill (2001).</i> <i>T. A. Gossel and J. D. Bricker. Principles of clinical toxicology, 2nd Edn. Raven Press, New York, (1990).</i> <i>Ellenhorn MJ. Ellenhorn's Medical Toxicology, Diagnosis and Treatment of Human Poisoning. 2nd edition, Williams & Wilkins, Baltimore (1997)</i>
Objectives	<ul style="list-style-type: none"> To understand dose-response relationships, To learn the mechanism of toxicokinetic and toxicodynamic To be aware of potential effects of toxicants on health and the environment
Course Outcomes	<p>In this course you will be able to:</p> <p>C01 Know and explain the basic concepts of toxicology</p> <p>C02 Explain the absorption, distribution, metabolism, and excretion processes of toxic substances</p> <p>C03 Interpret target organ toxicity, the mechanisms of toxic effects of chemical toxicants on the structure and function of various organs, and their consequences.</p>

Weekly Schedule of Topics

W	Topic
1	Introduction To Contaminants and Toxicology
2	Fundamental Concepts of Toxicology
3	Toxic Effects, Factors and Interactions
4	Dose-Response Relationships
5	Dose-Response Concepts
6	Absorption of Toxicants
7	Absorption of Toxicants
8	Distribution of Toxicants
9	Biotransformation Toxicants
10	Biotransformation Toxicants
11	Elimination of Toxicants

12	Concept of Phase I and Phase II Reactions
13	Phase I Reaction Enzymes
14	Phase II Reaction Enzymes

Professional Contribution	Ability to identify toxicants and explain of dose-response relationship, toxicokinetic and toxicodynamic
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Contribution to Program Outcomes*

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C01	4	3	3	3	5	4	5	4	4	2	5
C02	5	4	3	4	5	4	4	2	3	2	2
C03	4	4	3	4	5	4	4	3	4	2	3

* Contribution Level | 0: None | 1: Very Low | 2: Low | 3: Medium | 4: High | 5: Very High

Special Conditions	Students work individually for the term project.								
Requirements	Basic knowledge of chemistry and biochemistry								
Course Policy	<ul style="list-style-type: none"> • Be in the class on time. • English should always be used to communicate with one another. • At least 70% attendance is required, otherwise a grade of DZ will be assigned. • You must prepare a project, otherwise you will not be graded for the project. 								
Cheating & Plagiarism	<ul style="list-style-type: none"> • Copying or letting someone copy your work on exams, assignments, or reports is cheating. • Cutting and pasting text, figures, and tables from web sources or any other electronic source is plagiarism. • The consequence of academic dishonesty is to receive a grade of FF for the course. 								
Evaluation	<table> <tr> <td>Midterm Exam</td> <td>30%</td> </tr> <tr> <td>Project</td> <td>20%</td> </tr> <tr> <td>Final Exam</td> <td>50%</td> </tr> <tr> <td>Total</td> <td>100%</td> </tr> </table>	Midterm Exam	30%	Project	20%	Final Exam	50%	Total	100%
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Total	100%								
Rubric	A rubric will be announced before projects. The rubric has 2 main parts for the grading: technical assessment and writing.								

Instructor			
Name/Surname	Şurhan GÖL	Email	surhan.gol@alanya.edu.tr
Room	131	Office Hours	Tuesday 14:30-15:15 and Wednesday 10:30-11:15/15:30-16:15

Prepared by Şurhan GÖL on June 2nd, 2024