

School of pharmacy

Department

Course title: Toxicology of natural toxins

Credit (Theory or Practical): 1 Theory

Course Lecturers: Dr. Shariatpanahi- Dr. Aghsami- Dr. Safaei Nezhad -
Dr. Abdollahi, Dr Aghamiri

Responsible Lecturer: Dr. Abdollahi

Student responsibilities:

Presenting a scientific project according to the opinion of the relevant professor (80%), written or oral exam (20%)

Course Description:

This theoretical course explores the diversity, sources, and mechanisms of toxicity associated with naturally occurring poisons, with a focus on natural toxins found in food, plants, animals, and microorganisms. Students will gain foundational knowledge in identifying food contaminants, understanding poisoning by edible mushrooms, food supplements, ornamental plants, and recognizing allergic reactions and toxicities caused by microorganisms and packaging materials used in the food industry.

Course Objectives:

- Develop familiarity with major types and sources of natural poisons relevant to public health and food safety.
- Understand the causes and pathways of food contamination with toxic substances, including processing, packaging, and biological sources.
- Gain knowledge about poisoning and allergic reactions from various natural sources such as food, supplements, plants, mushrooms, animals, and microorganisms.

Student Learning Objectives:

Students will be able to identify major types of natural toxins, explain common sources and mechanisms of poisoning, and assess health risks associated with food, plants, animals, and microorganisms

Students are expected to:

- Describe the general aspects and classification of natural toxins.
- Explain food contamination mechanisms and identify the associated toxic substances.
- Identify major food contaminants and discuss their health implications.
- Assess the impact of packaging materials and impurities on food safety.
- Discuss the risks and toxicities associated with smoked foods, seafood, and microorganisms.
- Recognize and manage exposures to mycotoxins, edible mushrooms, food supplements, and ornamental plants.
- Understand natural poisons from animals such as scorpions, snakes, spiders, bees, and jellyfish, and related health effects.
- Evaluate food allergies as a toxicological concern.

Course Plan: Sunday 10-12

Lecturer	Subject	Time	Date	No.
Dr. Aghamiri	General aspects	10-12	1404/08/04	1
Dr. Aghamiri	The way and causes of food contamination with toxic substance	10-12	1404/08/11	2
Dr. Aghamiri	Food contamination	10-12	1404/08/18	3
Dr. Safaei Nezhad	Packaging materials in the food industry and food contamination with impurities	10-12	1404/08/25	4

Dr. Shariatpanahi	Smoked food and sea food contamination	10-12	1404/09/02	5
Dr. Shariatpanahi	Toxin caused by microorganisms	10-12	1404/09/09	6
Dr. Abdollahi	mycotoxins	10-12	1404/09/16	7
Dr. Safaei Nezhad	Poisoning with edible mushrooms	10-12	1404/09/23	8
Dr. Abdollahi	Poisoning with food supplements	10-12	1404/09/30	9
Dr. Aghsami	Poisoning with poisonous and ornamental plants	10-12	1404/10/07	10
Dr. Shariatpanahi	Food allergies	10-12	1404/10/14	11
Dr. Aghsami	Natural poisons of scorpions, snakes, spiders, ets	10-12	1404/10/21	12

References:

1. Casarett & Doull's Toxicology, The Basic Science of Poisons.
2. Haddad & Winchester's clinical management of poisoning and drug overdose.
3. General & applied toxicology.
4. A textbook of modern toxicology.

- All classes will be held in Besarati (Eastern 7) street, North Shahin Boulevard

The absence hours of a student should not exceed 4/17 in theoretical, 2/17 in practical and laboratorial. Otherwise, the score for that course or section will be considered as zero.

Note 1: allowed absences are accepted provided that students bring in documents for that and the related professor approves it. Acting against absences (either excused or not) will be the decision of the professor and agreement of the college.