Study Programme: Master academic studies of forensics

**Course Unit Title:** Food Toxicology

Course Unit Code: FH-12

Name of Lecturer(s): Associate Professor Sanja Belić Type and Level of Studies: Master Academic Degree

Course Status (compulsory/elective): Elective

Semester (winter/summer): Summer Language of instruction: English

Mode of course unit delivery (face-to-face/distance learning): Face-to-face

**Number of ECTS Allocated: 6** 

Prerequisites: None

## Course Aims:

Providing a wide and systematized knowledge in the field of food toxicology, which can be very important in solving certain forensic cases. The objective of the course is to provide student with a detailed knowledge concerning current principles and experimental methods of analysis of toxins in food.

# **Learning Outcomes:**

After successful competition of the course student will be able to independently act in the field of forensic regarding: application and interpretation of health regulations on food quality and safety; choose the appropriate methodology for assessing the quality and safety of food products; analyze the presence of contaminants in food (mycotoxins, antibiotics, hormones, heavy metals, pesticides, halogenated hydrocarbons, polycyclic aromatic hydrocarbons and others); independently interpret and present results of the before mentioned analyses; successfully communicate with professionals from the same or other scientific fields or disciplines.

# Syllabus:

### Theory

Introduction to Food Toxicology. Health Regulations on Food Quality and Safety. Contaminants in food - toxins originating from animals, plants and microorganisms and toxic industrial products (mycotoxins, antibiotics, hormones, heavy metals, pesticides, halogenated hydrocarbons, polycyclic aromatic hydrocarbons and others). Food additives (preservatives, emulsifiers, sweeteners, flavorings, paints and others). Determination of toxins in food (sampling, preparation of samples for the analysis of toxins in food, qualitative and quantitative analysis of toxins in food, results interpretation).

#### Practice

Analysis of food quality by selected methods (content determination of: water, ash, heavy metals, preservatives, mycotoxins, pesticides, allergens and others). Electronic database search of the cases from practice - processing, analysis and discussion on specific topics.

# Required Reading:

- 1. T. Shibamoto, L. Bjeldanes: Introduction to Food Toxicology, Elsevier, 2009.
- 2. S.S. Nielsen: Food analysis laboratory manual, Springer Science + Business + Media, 2010.

# **Additional Literature:**

1. S. Belić, lecture material

Lectures, laboratory exercises and consultations.

2. Electronic databases

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Weekly Contact Hours: 75	Lectures: 30	Practical work: 45		
Teaching Methods:				

## **Knowledge Assessment:**

Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	35
Practical work	20	oral exam	35