SYLLABUS

1. Course title:

FOOD TOXICOLOGY

2. Code:

(max. 20 characters)

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

Recommended previous courses in: organic chemistry, biochemistry, instrumental methods, microbiology

7. Class restrictions:

does not have

8. Duration / semester:

1 7

9. Weekly contact hours:

9.1. Lectures: 3

9.2. Seminars: 0

9.3. Laboratory/Practice classes: 2

10. Faculty:

Faculty of Technology

11. Department/study program:

Food Technology/Food Quality and Safety

12. Lecturer:

dr.sc. Midhat Jašić

13. Lecturer's e-mail:

jasic_midhat@yahoo.com

14. Web site:

www.hranomdozdravlja.com

15. Course aims:

The main goal is the acquisition of knowledge about the content of toxic substances in food, their appearance, characteristics and effects on human health.
Specific objectives:
1. Adoption of the necessary knowledge on the methods of assessment of the possible presence of toxic substances in food during production, processing, packaging, distribution and preparation of food.
2. Developing the ability to use professional terminology in the field of toxicology in addressing specific requirements in food production.
3. Development of awareness of the importance of toxic substances that may be present in food and their effects on human health.

16. Learning outcomes:

Basic knowledge about the types, levels and the formation of toxic substances in food and the limits of toxicity. The student acquires the skills necessary for qualitative and quantitative evaluation and calculation of basic toxicology and pharmacokinetic parameters. In addition, students will be able to identify, define and classify toxins in food that may arise during processing in the food industry. They will acquire knowledge of conventional toxicity tests on experimental animals and teach biological, physical and chemical methods for determination of toxicants.

17. Course content:

Introduction and history of toxicology food. The concept of toxicology. Lethal dose and concentration. Relations dose / response. Acute and chronic toxicity. Metabolism of toxic substances. Absorption. Distribution. Depositing. Biotransformation and elimination of toxic substances. Types of toxicity from food by chemical composition, effects and mechanisms of action. Teratogenesis, mutagenesis and carcinogenesis. Food ingredients that cause hepatotoxicity, nephrotoxicity, neurotoxicity, etc.. Persistent organic pollutants. Toxicology of pesticides and additives. The migrating group from the packaging. Detergents. GMOs. Organic food biochemistry. The toxins in plants and fungi. Molds and mycotoxins. Sea toxins in food. Bacterial toxicogenesis. Prions and viruses. Toxicants produced during food preparation. Products effects of high temperatures. Fermentation. Lipid oxidation products. Products brining. Other products that arise during the preparation of food. The risk assessment.

18. Learning methods:

1. Lectures. Each methodological unit is developed according to the principle: theme, objectives, teaching strategies (lectures, discussions, discussion groups), educational issues, the sources of information-literature.
2. Laboratory exercises. Based on the acquisition of skills in the analysis of certain toxic substances that may be present in food.
3. Consultations. The teacher is available for consultation 2 hours per week during the lectures at the Faculty.

19. Assessment methods:

During the course assures permanent monitoring of the degree of the knowledge of students, as well as the monitoring of their activities. Students' work is monitored and evaluated continuously during the semester following the overall work and knowledge of students in all forms of teaching. Examination is done in writing and orally.
Written exams. Written exam is in the form of test combined with tasks and written responses. A student in the course of the lecture approach laying Tests I and II, and after the completion of every fifteen lectures.
Final exam. The final exam consists of an oral answer and defense seminars like the individual project. On the final exam there are two issues according to pre published list of questions. Student chooses a randomized questions. Seminar is done by pre-prescribed procedure of defense seminars.
Rating. Students who have met on the first and second test + final exam, the teacher will obtain a rating in the index after the completion of all obligations in the case (the signature of the teachers in the index). The requirement for a signature are performed duties attendance at schools in accordance with the rules of the University.
Reformatory exam. Additional examination approach the students who did not meet the test (I + II + final exam), and have done all obligations to the case (with the signature of the teachers in the index). The first is a written exam, if the student is not the same already successfully passed during the continuous assessment. Passed part of the written exam is recognized in subsequent examination periods during the same school year.
Notification. Communication on the results exam tasks is using the usual message boards. The test results can be sent via e-mail or verbally announce the students in a certain time for consultations.
Keeping of results the examination. Results of written examinations are kept before 1 of November following school year.

20. Assessment components:

The final grade is based on of results the continued activity, test, laboratory practice and the final exam. During attendance counts coming and activity of students in class with a maximum of 10 points. Tests during the course, after every 15 hours of lectures. Both maximum of 40 points. The passage of a minimum achievement of 22 points in both tests. Work in the laboratory a maximum of 20 points. The final exam is mandatory and carries 30 points.

21. Required reading list:

1. Jašić M., Begić L: Biochemistry of food, PrintCom d.o.o., Tuzla, 2008.
2. Klapec T.: Basics of of toxicology and food toxicology, Internal script, PTF Osijek, 2002.
3. Hodgson E.: A textbook of modern toxicology, 4 edition, John Wiley and Son.

22. Web sources:

www.hranomdozdravlja.com
Dabrovski W.M., Sikorski Z.E.: Toxins in food, CRC Press, Wash

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session:

(max. 10 char.)