

COURSE OUTLINE

1. GENERAL

SCHOOL	FOOD AND NUTRITIONAL SCIENCES		
ACADEMIC UNIT	FOOD SCIENCE & HUMAN NUTRITION		
LEVEL OF STUDIES	BACHELOR OF SCIENCE		
COURSE CODE	3550	Semester	6th
COURSE TITLE	FOOD HYGIENE		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
Lectures and Practical's		5	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Scientific Field		
PREREQUISITE COURSES:	Food Microbiology, Food Engineering, Food Chemistry, Food Technology		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES (English)		
COURSE WEBSITE (URL)	https://w1.aua.gr/etda/en/courses/food-hygiene/		

2. LEARNING OUTCOMES

Learning outcomes The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described. Consult Appendix A • Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area • Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B • Guidelines for writing Learning Outcomes
This course serves as the primary introductory course in Food Safety. It provides students with foundational knowledge of: ➤ biological, chemical, and physical food hazards; ➤ the main categories of foodborne diseases, including food intoxications and food infections, resulting from the consumption of contaminated foods; and ➤ fundamental hygiene requirements (HACCP prerequisite programs), as defined by guides to good hygiene practice and good manufacturing practice, which constitute the cornerstone of food safety management systems.

The course aims to familiarize students with contemporary approaches to food hygiene and safety, relevant food safety legislation, and the development of a “horizontal” and systems-based way of thinking. Emphasis is placed on the identification of potential hazards across different food matrices throughout the entire food chain, from primary production to final consumption. In addition, students are introduced to the evaluation of food safety and sanitation interventions designed to prevent the introduction of hazards into the supply chain or, alternatively, to eliminate or reduce them to acceptable levels (risk mitigation).

To ensure a comprehensive and systematic understanding of these concepts, the course is closely integrated with other modules within the curriculum, including Food Chemistry, Food Microbiology, Food Engineering, Food Technology, and Food Quality Control. Instruction relies heavily on case studies, focusing on epidemiological analyses of foodborne disease outbreaks, production failures, and real-world non-compliances encountered in the food industry.

The course also covers key concepts and principles of hygienic design for food processing equipment and facilities. Proper cleaning and disinfection practices, Good Manufacturing Practice (GMP) and Good Hygiene Practice (GHP), as well as the distinction between basic and operational prerequisite programs, are thoroughly discussed.

Course Objectives

The primary objectives of the course are to:

- equip students with a systematic and interdisciplinary approach to food safety through the application of the seven HACCP principles in the development of food safety management systems; and
- introduce students to the holistic concept of food safety through the principles and practice of risk assessment.

Learning Outcomes

Upon successful completion of the course, students will be able to:

- Conduct effective hygiene inspections in food processing and manufacturing facilities.
- Assess the need for the establishment or improvement of basic and operational hygiene infrastructure within food industry settings.
- Coordinate epidemiological investigations to identify sources of foodborne disease outbreaks.
- Design and evaluate appropriate food sanitation and intervention strategies aimed at preventing, eliminating, or reducing hazards to acceptable levels to protect consumer health.
- Apply HACCP principles and adapt them to the requirements of food safety certification schemes addressed in advanced courses within the program.
- Participate effectively in multidisciplinary teams engaged in food safety risk assessment.
- Recognize and apply the interdisciplinary nature of a holistic food safety approach through integration with related courses in the curriculum.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Teamwork

Working in an international environment

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Working in an interdisciplinary environment Production of new research ideas	Criticism and self-criticism Production of free, creative and inductive thinking Others...
General Skills ➤ Independent work ➤ Decision-making ➤ Teamwork ➤ Search, analysis, and synthesis of data and information, using appropriate technologies ➤ Promotion of free, creative, and inductive thinking ➤ Ability to work in an international environment	

3. SYLLABUS

➤ Introduction to Food Hygiene: concepts, basic definitions, and modern risk assessment indicators (new risk metrics) ➤ Food Hygiene Legislation: White Paper – Codex Alimentarius – Food Hygiene Regulations Package (e.g. Regulations 178/2002, 852–854/2004, 2073/2005) ➤ Food Hazards – Categories of foodborne illnesses (e.g. foodborne infections and foodborne intoxications) ➤ Characteristics of biological and chemical hazards – growth limits of pathogenic microorganisms – ecosystems in which various hazards occur ➤ Control of food hazards (hurdle technology theory – application of preventive control measures) ➤ Basic hygiene infrastructure in food industry facilities ➤ HACCP prerequisite programs – GMP – GHP – hygiene infrastructure in the food industry ➤ Analysis of operational and basic prerequisite programs ➤ Introduction to HACCP – description of HACCP principles ➤ Implementation of prerequisite programs within HACCP – integration with hygiene infrastructure in food industry facilities ➤ Introduction to risk analysis – basic concepts and definitions – description of statistical methodology

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>															
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Lecture rooms Specific software applications														
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i>	<table> <tr> <th>Activity</th><th>Semester workload</th></tr> <tr> <td>Lectures</td><td>26</td></tr> <tr> <td>Practical's</td><td>26</td></tr> <tr> <td>Project</td><td>20</td></tr> <tr> <td>Visit</td><td>10</td></tr> <tr> <td>Independet study</td><td>43</td></tr> <tr> <td>Course total</td><td>125</td></tr> </table>	Activity	Semester workload	Lectures	26	Practical's	26	Project	20	Visit	10	Independet study	43	Course total	125
Activity	Semester workload														
Lectures	26														
Practical's	26														
Project	20														
Visit	10														
Independet study	43														
Course total	125														

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS	
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple-choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other Specifically defined evaluation criteria are given, and if and where they are accessible to students.	Written Examination, Oral Presentation, tests, written assignments. Written reports for laboratory or outdoor exercise, Self-assessment electronically. 1. Each lab exercise is examined orally and by a written test. The laboratory examination of each subject must be successful. The average of the exercise grades counts 25% in the overall score of the course. 2. At the end of each lecture, students are asked to answer several questions related to the lecture electronically. At the end of their courses, they must present orally by a power point presentation one scientific paper counting 15%. They also must present data given to them which are statistically analysed and related to multiple environmental parameters (it counts 25%). 3. A computerized exam (in the blackboard) based on multiple choice counts 35% of the final written exam. 4. Consequently, for the final grade count the performance in the laboratory exercises (25%), the presentations (40%) and the written exam at the end (35%).

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography: - Related academic journals: ➤ Σκανδάμης, Π.Ν. 2023. Υγιεινή και Ασφάλεια Τροφίμων: Αρχές και Σύγχρονα Εργαλεία. Εκδόσεις EMBPYO, Αθήνα. ➤ Μπεζιρτζόγλου Ευγενία. 2021. Υγιεινή Βιομηχανιών Τροφίμων & Φαρμάκων. Εκδόσεις δίσιγμα. ➤ Skandamis, P.N., Nychas, G.-J. E. and Sofos, J.N. 2013. Meat decontamination, In: “Handbook of Meat Processing” (Eds. F. Toldra), Chapter 3, Willey-Blackwell. ➤ Gil, M.I., Selma, M.V., López-Gálvez, F., Allende, A. 2009. Fresh-cut product sanitation and wash water disinfection: problems and solutions. <i>International Journal of Food Microbiology</i>, 134, 37-45. ➤ De Roever, C. 1998. Microbiological safety evaluations and recommendations on fresh produce. <i>Food Control</i>, 9, 321-347. ➤ EFSA 2013. The European Union Summary Report on Trends and Sources of Zoonoses, Zoonotic Agents and Food-borne Outbreaks in 2011, SCIENTIFIC REPORT OF EFSA AND ECDC: <i>EFSA Journal</i> 2013;11(4):3129. ➤ Scallan, E., Hoekstra, R.M., Angulo, F.J., Tauxe, R.V., Widdowson, M-A. Roy, S.L., Jones, J.L. and Griffin, P.M. 2011. Foodborne Illness acquired in the United States — major pathogens. <i>Emerg. Inf. Dis.</i> 17, 7. ➤ Scallan, E., Griffin, P.M., Angulo, F.J., Tauxe, R.V., Hoekstra, R.M. 2011. Foodborne Illness Acquired in the United States—Unspecifi ed Agents <i>Emerg. Inf. Dis.</i> 17, 16.

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- Georgakopoulos, P., Foteinopoulou, E., Athanasopoulos, P., Drosinos, E.H. and Skandamis, P.N. 2007. Recoveries of four representative organophosphorus pesticides from 18 plant products belonging to different botanical categories: implications for matrix effects. *Food Add. Contam.* 24: 360-368
- Hayes, W. J., & Lays, E. R. 1991. Classes of pesticides, pp. 1049–1053. In: W. J. Hayes, & E. R. Lays (eds), *Handbook of pesticide toxicology: Volume 2*, Academic Press Inc., San Diego, California.
- Lu, F. C. 1995. A review of the acceptable daily intake of pesticides assessed by WHO. *Regulatory Toxicology and Pharmacology*, 21, 352–364.
- Steyn, P., 1995. Mycotoxins, general view, chemistry and structure. *Toxicology Letters* 82/83, 843-851.