



The Global Challenge of Food Safety

PROFESSORS: PIER SANDRO COCCONCELLI
TERM: SUMMER
AREA OF STUDY AGRIBUSINESS & FOOD SCIENCE
COURSE CODE
DATES: 11 – 22 JULY

Description

The course aims to provide students with the tools and knowledge to understand and manage food safety strategies in a global context. To achieve this goal, in the first part the course will provide the basics of risk analysis, its articulation into risk assessment, risk management and risk communication, and biological, chemical and physical risk, together with newly identified and emerging risks. The second part will address the interaction between food safety and food manufacturing, focusing of the mitigation measures to be implemented in the food companies. In particular the general schemes for food safety and quality management (e.g. the food safety management system, the GHP and GMP, the pre-requisite program, the HACCP, the food safety plan and HARPC) will be presented. The third section of the course will focus on specific case studies and identify risk mitigation strategies.

Upon successful completion of the course, students will

- be familiar, both from a theoretical and applicative perspective, with the food safety strategies and EU and international level
- be able to carry out a critical analysis of the safety management processes in the food chain and identify risk mitigation strategies in food manufacture for biological and chemical risks
- understand the basis of the food safety and quality management systems

Course contents

The course is divided in four sections:

- Food safety: the risk analysis framework. Major microbiological and chemical risks. Emerging and newly identified food risks.
- Food Industry Process Management: strategic planning, processes and plant design and management.
- Food safety and quality management system: (i) the Codex Alimentarius approach, the food safety culture.; (ii) the EU food safety management system (FSMS) and its components (GHP and GMP, pre-requisite program, HACCP plan); the USA approach (food safety plan and HARPC)
- Case study analyses: recent foodborne outbreak will be analyzed in detail to identify the causes and design strategies to reduce the risks.

Prerequisites

The course is open to students with a food science, food technology, nutrition and biology background. A good working knowledge of English is essential.

Method of teaching

The course will combine lectures, analysis of case studies, and debates. Students will have to research some case studies during the course, according to the instructor's guidelines provided at the beginning of the course. Finally, students, working in small groups, will have to research and orally present (15-20 minutes) issues and/or case studies provided by the instructor and according to his instructions.



UNIVERSITÀ
CATTOLICA
del Sacro Cuore

Course requirements

- a. Students are expected to actively take part in debate;
- b. Before each class, students are expected to have read the compulsory readings (and are strongly advised to read the recommended readings);
- c. Students are expected to research some case studies according to the instructor's guidelines;
- d. Students are required to research and orally present one of the topics provided by the instructor;
- e. Students will have to take a final exam.

Credits

6 ECTS

Grading

Class participation	20%
Case studies	25%
Presentation	25%
Final written exam	30%

Course readings and materials

All course readings and materials will be available on the course Blackboard page, in the Materials section, or can be accessed through the links provided.

Rules of conduct

Attendance: Attendance is mandatory and no absence/s will be excused. Please consider that Field Trips are considered equal to regular classes and indeed you are expected to attend the visits. Unexcused absences will not be accepted. An excused absence will only be granted if you are seriously ill and can support your claim with a local doctor's certificate dated the day you missed class (therefore you must go to the doctor that same day) that has to be delivered to the Professor or to UCSC International Office. Any other absence will not be excused and will result in not being admitted to the final exam, which corresponds to a 0 (zero) in the final exam.

Exam Date: The exam date cannot be re-scheduled. Should the dates of the final exams be moved for force major reasons, UCSC International Office and the Professor will promptly inform you in class and/or via email on the new date agreed. Unexcused absences to the exams will result in a failing grade in the course. In cases of unforeseeable circumstances such as illness or injury on the day of the exams, you must submit a medical certificate and communicate your absence to the Professor and UCSC International Office via email prior to the exam. If the student does not justify his/her absence through sufficient documentation and with adequate notice before the final test, you will receive an automatic Failed. Absences for other unforeseeable circumstances will not be accepted and will result in a failing grade.

Bio of the instructor: Pier Sandro Cocconcelli is Professor of Food Microbiology and Emerging Food Risks at the Università Cattolica del Sacro Cuore and he is Pro-Rector for internationalization of the same university. He is director of TROFIC (the Transdisciplinary Research on Food Issues Center) of the Università Cattolica, a center focusing on transdisciplinary research on food merging competences from different disciplines: Food Science and Technology, Agriculture, Food Risk Analysis, Nutrition, Consumer Perception, Food Law,



UNIVERSITÀ
CATTOLICA
del Sacro Cuore

Communication and Food Economics, and President of CHEI, Centre for Higher Education Internationalization of the Università Cattolica

He is the Secretary general of the Strategic Alliance of Catholic Universities, a global network of research universities and President of CHEI, Centre for Higher Education Internationalization of the Università Cattolica. Since 2003, he is scientific expert of the European Authority of Food Safety (EFSA) as Panel and Working Group member focusing on the microbiological risk assessment and on the assessment of genetically modified microorganisms. He has chaired the Standing Working Group on Microorganisms of FEEDAP, the Standing Working Group of Genetically Modified Microorganisms and currently chairs the WG on Synthetic Biology Microorganisms of the EFSA Scientific Committee. He is member of the CEP Panel (Food Contact Materials, Enzymes and Processing Aids). He is also member of the BIOHAZ Panel Working Group on Qualified Presumption of Safety of Microorganisms.

His research activities focus on food, agricultural and environmental microbiology, food safety, bacterial genomics, risk analysis of food pathogenic bacteria, bacterial bioremediation in the agri-food system. He is the author of more than 600 publications that relate to microbiology and food risk assessment and author of book chapters on microbiology.