



Course Code FDSC-200	Course Title Food Microbiology and lab	ECTS Credits 6
Department Life and Health Sciences	Semester Fall	Prerequisites BIOL-102
Type of Course Required	Field Food Science, Nutrition	Language of Instruction English
Level of Course 1 st cycle	Year of Study 2 nd	Lecturer Kyros Demetriades
Mode of Delivery face-to-face	Work Placement N/A	Co-requisites None

Objectives of the Course:

This course will cover the essentials of Food Microbiology, and the importance of micro-organisms to food, either as processing aids or pathogens.

The main Objectives of the Course are to:

- Describe the nature of the micro-organisms, their classification, and identification
- Understand the basic growth requirements and how can these be used to control or inhibit their growth
- Learn methods of analysis and determination of micro-organisms in foods
- Describe the importance of micro-organisms for food processing, fermentations
- Describe the process of food spoilage due to microbial activity
- Understand the concept of food-borne diseases and food poisoning
- Learn how to control the microbial quality and safety of foods

Learning Outcomes:

After completion of the course students are expected to be able to:

1. Know the major micro-organisms related to foods
2. Understand the causes of food spoilage and apply the preventive measures to prohibit a food spoilage and food poisoning
3. Understand the role of beneficial micro-organisms in food processing, preservation and safety
4. Know of the possible mechanisms a food product can be contaminated by micro-organisms

5. Apply basic quality control procedures to improve the food safety
6. How to carry out different food microbiology analysis

Course Contents:

1. Introduction to Food Microbiology
2. Structure of Micro-organisms
3. Growth requirements of Micro-organisms
4. Factors affecting the growth of Micro-organisms
5. Food Spoilage
6. Food-borne diseases and food poisoning
7. Food fermentations (beer, bread)
8. Probiotics and Prebiotics
9. Controlling the microbial quality and safety of foods
10. Food Microbiology analysis
11. Introduction to HACCP

Learning Activities and Teaching Methods:

Lectures; Discussions; Lab Exercises

The format of the course will be 3h/w lectures and 1h/w tutorials with demonstrations, data analysis, case studies and lab.

Assessment Methods:

Lab Reports, Tests and Mid-term Exam; Final Exam

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
John Garbutt	Essentials of Food Microbiology	Hodder Arnold, An Hachette UK Company	1997	978-0-340-67701-8
Lynne McLandsborough	Food Microbiology Laboratory	CRC Press LLC	2005	0-8493-1267-1

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
James H. Jay Martin J. Loessner	Modern Food Microbiology, 7 th ed.	Springer	2005	0-387-23180-3

David A. Golden				
Martin R. Adams, Maurice O Moss	Food Microbiology, 3 rd ed.	RSC Publishing	2010	978-0-85404- 284-5
Hans P. Riemann Dean O. Cliver	Foodborne Infections and Intoxications, 3 rd ed.	Academic Press	2006	0-12-588365-X