



Course Code FDSC-250	Course Title Food Chemistry and Lab	ECTS Credits 6
Department Life and Health Sciences	Semester Spring	Prerequisites Chem 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 Zoi Konsoula
Mode of Delivery face-to-face	Work Placement N/A	Co-requisites None

Objectives of the Course:

This course will cover the basic chemical food categories, the interactions between them and their effect on the quality and shelf-life of foods. The main Objectives of the Course are to:

- Understand the basic food ingredient categories – fats & lipids, carbohydrates, proteins, water, additives
- Learn methods of analysis and determination of food components
- Understand possible interactions between ingredients
- Learn about the impact of processing techniques on their nutritional value and physical characteristics
- Understand changes during formulation, storage
- Understand the major chemical reactions that limit shelf life of foods

Learning Outcomes:

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

1. Know the major food components and their structures
2. Understand the functional properties of these components and the part they play in the food

3. Understand the methods a food product can be altered during storage and be able to advice on how to improve the shelf-life
4. Know of the possible mechanisms a food product can contaminated
5. Know the impact some these components play on the human health
6. How to carry out different food chemistry analysis

Course Contents:

1. Introduction to Food Chemistry
2. Water
3. Carbohydrates
4. Lipids
5. Proteins
6. Vitamins
7. Food Additives, E-numbers
8. Chemical Food Contaminants
9. Undesirable Reactions in Foods
10. Introduction to Food Sensory Analysis

Learning Activities and Teaching Methods:

Lectures; Discussions; Lab Exercises

The format will be lectures 3h/week and 2h/w hands on laboratory excercises.

Assessment Methods:

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

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
John M. de Man.	Principles of Food Chemistry 3 rd ed.		1999	ISBN: 083421234X
Dennis D. Miller	Food Chemistry: A laboratory Manual		1998	0471175439