MODULE LAYOUT

1. GENERAL

SCHOOL	FOOD and NUTRITIONAL SCIENCES		
DEPARTMENT	FOOD SCIENCE and HUMAN NUTRITION		
STUDY LEVEL	Undergraduate		
MODULE CODE	3320	**SEMESTER**	3
MODULE TITLE	BIOCHEMISTRY		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**ECTS**
Lectures, Practical Courses and Tutorial Courses	5	5

COURSE TYPE	Science Background Course
PREREQUISITES	Organic Chemistry
LANGUAGE	Greek
IS THE COURSE OFFERED for ERASMUS STUDENTS?	YES (in English)
ΗΛΕΚΤΡΟΝΙΚΗ ΣΕΛΙΔΑ ΜΑΘΗΜΑΤΟΣ (URL)	https://oeclass.aua.gr/eclass/courses/ETDA127/

2. LEARNING OUTCOMES

Learning outcomes

The course is a **basic introductory course** on concepts of biochemistry. **The course aims at** studying and understanding the structure and the biological role of the main biological molecules, in particular, proteins, lipids and carbohydrates, as well as of their biosynthesis and catabolism. The aim is also at studying and understanding the main oxidative pathways in biological systems. Finally, the course aims at training students in basic methodological and experimental approaches in the field of Biochemistry.

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

- Understand the role and function of key biological molecules and their metabolism
- Integrate the knowledge in designing new methodological and experimental approaches in the field of Biochemistry
- Integrate the knowledge in the study and understanding of other related sciences
- Study independently and critically
- Present their knowledge, in specific and non-specific audiences, with completeness and clarity

General skills

- Developing new research ideas
- Work in a multidisciplinary environment
- Independent Work
- Teamwork
- Work in an international environment

3. MODULE CONTENT

PROTEINS

1. Structure and biological role of proteins
2. Enzymes

LIPIDS

1. Structure and biological role of lipids
2. Lipid catabolism
3. Lipid biosynthesis

CARBOHYDRATES

1. Structure and biological role of carbohydrates
2. Carbohydrates catabolism
3. Carbohydrate biosynthesis

BIOLOGICAL OXIDATIONS

1. Krebs Cycle
2. Glyoxylate cycle
3. Respiratory chain
4. Oxidative phosphorylation

4. TEACHING and LEARNING METHODS - Evaluation

TEACHING METHOD	In Class or via Internet if needed
USE OF INFORMATICS and COMMUNICATION TECHNOLOGIES	1. E-material (CD) 2. Internet
TEACHING ORGANISATION	

Activity	***Working load***
Lectures	80
Practical Courses and Tutorial Courses	45
Team Project	
Field Trip /	
Independent Study	
Total (25 h of working load per one ECTS)	**125**

STUDENTS EVALUATION	I. Written exams (100 %), including: • Questions & Answer • Essays • Comparative Evaluation of Topics from Theory and Practical Courses

5. BIBLIOGRAPHY

1) M.J. Berg, L.J. Tymoczko, G.J. Gatto & L. Stryer (2021) BIOCHEMISTRY