COURSE OUTLINE "MOLECULAR BIOTECHNOLOGY AND NUTRITION"

1. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MOLECULAR BIOLOGY AND GENETICS		
STUDY LEVEL	ISCED LEVEL 6		
COURSE CODE	**MBG513**	**SEMESTER**	7th
COURSE TITLE	MOLECULAR BIOTECHNOLOGY AND NUTRITION		

TEACHING ACTIVITIES *In case credits are awarded to individual components of the course eg. Lectures, laboratory practicals, etc. If credit units are awarded for the whole course, indicate the weekly teaching hours and total credits*	**HOURS/WEEK**	**ECTS CREDITS**
	2	3

COURSE TYPE *General, Background, Scientific field course, Expertise Course, Skills Development etc*	SCIENTIFIC FIELD
PREREQUISITE COURSES:	NO
LANGUAGE OF TEACHING AND EXAMINATIONS:	GREEK
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO
COURSE WEBSITE (URL)	https://eclass.duth.gr/courses/ALEX01150/

1. LEARNING OUTCOMES

Learning outcomes

Describe the learning outcomes of the course, the specific knowledge, skills and competencies that students will acquire after successfully completing the course. Refer to Appendix A.

• Description of learning outcomes for the course according to the level of study - refer to the European Higher Education Area Qualifications Framework

• Descriptive Indicators of Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Annex B Curriculum Vitae Summary Guide

Upon successful completion of the course the student will:

- Learn and understand the basic principles of Molecular Biotechnology and Nutrition
- Develop critical thinking, understand Molecular Biotechnology and Nutrition research study design and evaluate results
- Be familiar with complex scientific terminology related to Molecular Biotechnology and Nutrition
- Develop presentation and writing skills for research papers

General Skills

Which of the general competencies that the student will have acquired on the completion of the studies (see also the Diploma Supplement and below) are relevant to this course?

Research, analysis and synthesize of data and information, using the necessary technologies
Adaptation to new situations
Decision making
Autonomous work
Team work
Work in an international environment
Work in an interdisciplinary environment
Production of new research ideas
Project design and management
Respect for diversity and multiculturalism
Respect for the natural environment
Development of social, professional and moral responsibility and gender sensitivity
Promotion of free, creative and inductive thinking

- Research, analysis and synthesize of data and information
- Creation of new research ideas
- Team work
- Promotion of free, creative and inductive thinking

2. COURSE CONTENT

- Introduction
- The role of the gut microbiota in energy metabolism and metabolic disease
- Nutrigenomics and Personalized Nutrition
- Molecular pharming
- Reviewing classical and molecular techniques regarding profiling of probiotic character of microorganisms
- Probiotics and prebiotics and their role in nutrition

- Essential oils and plant extracts with biological activity
- Nutraceuticals: Facts and future trends
- Genetically modified foods: Genetic modification techniques, application in food industry and social issues
- Effect of nutrition on human intestinal microbiome
- Paper presentation
- Paper presentation
- Paper presentation

3. TEACHING and LEARNING METHODS - EVALUATION

TYPE OF TRAINING *Face-to-face, Distance learning, etc..*	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, and in communication with the students*	Use of ICT in teaching Use of ICT in communication with the students
MODES OF DELIVERY *Describe the teaching methods in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, practicum, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *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*	**Teaching methods:** Lectures, study and analysis of bibliography, use of e-class, presentations

Activity	*Workload/semester*
Lectures	20
Seminars	20
Study and analysis of bibliography	20
Interactive teaching	10
Project	10
Essay writing	10
Course Total	**90**

STUDENT PERFORMANCE EVALUATION *Describe of the methods of evaluation language, methods of evaluation, types of exams, , problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Are evaluation criteria known to the students?*	**Student evaluation languages** Greek **Method (Formative or Concluding)** Summative **Student evaluation methods** Written Assignment (40%) Presentation in audience (40%) Midterm exam (20%) The evaluation criteria are known to the students

4. SUGGESTED BIBLIOGRAPHY

Προτεινόμενα Συγγράμματα

Εισαγωγή στη διατροφή του ανθρώπου

Έκδοση: 2/2013

Συγγραφείς: M. J. GIBNEY, H. H. VORSTER, F. J. KOK

ISBN: 978-960-583-027-4

Τύπος: Σύγγραμμα

Διαθέτης (Εκδότης): ΠΑΡΙΣΙΑΝΟΥ ΑΝΩΝΥΜΗ ΕΚΔΟΤΙΚΗ ΕΙΣΑΓΩΓΙΚΗ ΕΜΠΟΡΙΚΗ ΕΤΑΙΡΙΑ ΕΠΙΣΤΗΜΟΝΙΚΩΝ ΒΙΒΛΙΩΝ

Σύγχρονη Βιοτεχνολογία Τροφίμων

Έκδοση: 1η εκδ./2010

Συγγραφείς: Μπατρίνου Α.

ISBN: 9789604891085
Τύπος: Σύγγραμμα
Διαθέτης (Εκδότης): BROKEN HILL PUBLISHERS LTD

Διατροφή και Μεταβολισμός
Κωδικός Βιβλίου στον Εύδοξο: 13256336
Έκδοση: 1/2008
Συγγραφείς: Gropper S., Smith J., Groff J.
ISBN: 9789604892921

Μικροβιολογία Τροφίμων
Κωδικός Βιβλίου στον Εύδοξο: 94690299
Έκδοση: 1η/2020
Συγγραφείς: Matthews, K. R., Kniel, K. E., Montville, T. J.
ISBN: 978-618-202-004-3
Τύπος: Σύγγραμμα
Διαθέτης (Εκδότης): ΕΚΔΟΣΕΙΣ ΔΙΣΙΓΜΑ ΙΚΕ

Διατροφή, Μεσογειακή Δίαιτα και Ασθένειες
Κωδικός Βιβλίου στον Εύδοξο: 94643107
Έκδοση: 1η/2020
Συγγραφείς: Δημόπουλος, Κ. Α., Ντετσοπούλου, Β.
ISBN: 978-618-84893-4-9
Τύπος: Σύγγραμμα
Διαθέτης (Εκδότης): ΚΩΣΤΑΚΗΣ ΔΗΜ. ΑΘΑΝΑΣΙΟΣ

Σημειώσεις Μαθήματος
Οι σημειώσεις του μαθήματος είναι διαθέσιμες μέσω της πλατφόρμας e-class.