COURSE LAYOUT

1. GENERAL

SCHOOL	FOOD, BIOTECHNOLOGY and RURAL DEVELOPMENT		
DEPARTMENT	BIOTECHNOLOGY		
STUDY LEVEL	*Undergraduate*		
COURSE CODE		**SEMESTER**	4th
COURSE TITLE	EVOLUTION		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**ECTS**
LECTURES and PRACTICAL EXERCISES	4	5

COURSE TYPE	Specialisation and Development of Professional Skills
PREREQUISITES	
LANGUAGE	Greek with English support in terminology
IS THE COURSE OFFERED forERASMUS STUDENTS?	YES (in English)
COURSE WEB PAGE	http://teleteaching.aua.gr

2. LEARNING OUTCOMES

Learning Outcomes

On completion of the course the student will:

- Have a knowledge of the history, the theories and the analytical methods of the evolution of the species theory.
- Have knowledge of the species evolution from the beginning of the planet Earth until now.
- Be able to comprehend the mechanisms of Evolution in phenotypic and molecular level and classify the species according to their phenotypic and molecular homology.
- To learn of methods and techniques that are used for the study of evolutionary mechanisms as well as the formation of evolutionary trees.
- Be able to distinguish basic and specific roles of various evolutionary processes at molecular level.
- To acquire knowledge on the primate and human evolution .
- Be able to apply, analyze, evaluate and decide on the applicability of methodology on species relationship at molecular or phenotypic level.
- To be able to collaborate with this fellow students to create written work and oral presentation on the application of the evolution theory on the living world, as well as the ability for online access and retrieval of information from electronic libraries and scientific journals.

General Competenses

- Search, analysis and synthesis of data and information with the use of necessary technologies
- Adaptation to new conditions
- Decision making
- Group and autonomous work
- Generation of new research ideas
- Planning and Managing projects
- Advance of free, fresh and logical thinking

3. COURSE CONTENT

1. Evolutionar theories. History of the Evolution theory. Definitions, Classifications.
2. Histoty of Evolution of Species.
3. Mechanisms of Evolution.
4. Evolution of Species.
5. Molecular Evolution.
6. Protein Evolution
7. Phylogenetics Analysis.
8. Human Evolution.
9. Cases and Arguments in Evolution
10. Chromosome comparisons

4. TEACHING and LEARNING METHODS - Evaluation

TEACHING METHOD	In suitably equipped teaching rooms
USE OF INFORMATICS and COMMUNICATION TECHNOLOGIES	The course is completely computerised in the form of Powerpoint, Web linking, etc. Computer programmes and appilications are taught and distributed to students, for the anlysis of financial information. The support of learning process and the necessary materials are facilitated by the electronic, web based e-class platform (http://biotech.aua.gr).
TEACHING ORGANISATION	
STUDENTS EVALUATION	**I)** Written final examination (50%) of different difficulty, based on the lectures offered, containing: - Questions of multiple choice. - Questions of theoretical knowledge. - Problems based on lecture material. **II)** Laboratory exercises/practicals (30%). A written report for every laboratory exercise is required by each student (see below). - Each lab exercise is examined orally (during its implementation) and by a written report based on the results obtained (to be handed in before the beginning of the next exercise). - The laboratory examination of each subject must be successful (average grade of oral and report). - The average of the exercise grades counts 30% in the overall score of the course. **III.** Group and small autonomous works (20%).

Activity	*Work Load*
Lectures (direct)	39 h (1.56 ECTS)
Laboratory work	12 h (0,48 ECTS)
Group and/or individual works	13 h (0.52 ECTS)
Autonomous study	61 h (2,44 ECTS)
Total contact hours and training	***125 h (5 ECTS)***

5. BIBILIOGRAPHY

-***Προτεινόμενη Βιβλιογραφία :***

1) Ροδάκης Γεώργιος, Εισαγωγή στην εξελικτική βιολογία, Κ. & Ν. ΛΙΤΣΑΣ Ο.Ε.,Έκδοση: 1η έκδ./2001 ISBN: 960-372-049-6
2) FUTYUMA DOUGLAS ΕΞΕΛΙΚΤΙΚΗ ΒΙΟΛΟΓΙΑΙΔΡΥΜΑ ΤΕΧΝΟΛΟΓΙΑΣ & ΕΡΕΥΝΑΣ-ΠΑΝΕΠΙΣΤΗΜΙΑΚΕΣ ΕΚΔΟΣΕΙΣ ΚΡΗΤΗΣ, Έκδοση: 1η/1995 ISBN: 960-7309-20-0

-Συναφή επιστημονικά περιοδικά:

Science
Nature
Journal of Molecular Evolution
BMC Biology