**COURSE OUTLINE**

1. **GENERAL**

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| **SCHOOL** | Health Sciences | | | | |
| **ACADEMIC UNIT** | Department of Biological Applications and Technology | | | | |
| **LEVEL of STUDIES** | Undergraduate Course | | | | |
| **COURSE CODE** | ΒΕΥ503 | **SEMESTER** | | 2nd | |
| **COURSE TITLE** | Microbiology | | | | |
| **INDEPENDENT TEACHING ACTIVITIES** *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits* | | | **WEEKLY TEACHING HOURS** | | **CREDITS** |
| Lectures and Laboratory Exercises | | | 6 | | 6 |
|  | | |  | |  |
|  | | |  | |  |
| *Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).* | | |  | |  |
| **COURSE TYPE**  *general background,  special background, specialised general knowledge, skills development* | Special Background | | | | |
| **PREREQUISITE COURSES:** | None | | | | |
| **LANGUAGE of INSTRUCTION and EXAMINATIONS:** | Greek | | | | |
| **IS THE COURSE OFFERED TO ERASMUS STUDENTS** | No | | | | |
| **COURSE WEBSITE (URL)** | http://ecourse.uoi.gr/enrol/index.php?id=411 | | | | |

1. **LEARNING OUTCOMES**

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| **Learning Outcomes** | |
| *The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.*  *Consult Appendix A*   * *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area* * *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B* * *Guidelines for writing Learning Outcomes* | |
| The course focuses on the understanding of the basic biology and functions of microorganisms.  Upon completion of the course the students will have basic knowledge of:   * microbial structure and metabolism. * nutrition and growth of microbial populations. * the role of microorganisms in biogeochemical nutrient cycling. * the role of microorganisms in human health. * the basic tools of Classical Microbiology, such as substrate preparation, detection and estimation of microbial populations, identification of microorganisms etc. | |
| **General Competences** | |
| *Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?* | |
| *Search for, analysis and synthesis of data and information, with the use of the necessary technology*  *Adapting to new situations*  *Decision-making*  *Working independently*  *Team work*  *Working in an international environment*  *Working in an interdisciplinary environment*  *Production of new research ideas* | *Project planning and management*  *Respect for difference and multiculturalism*  *Respect for the natural environment*  *Showing social, professional and ethical responsibility and sensitivity to gender issues*  *Criticism and self-criticism*  *Production of free, creative and inductive thinking*  *……*  *Others…*  *…….* |
| *Work independently*  *Team work*  *Working in an interdisciplinary environment*  *Production of new research ideas* | |

1. **SYLLABUS**

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| Basic aspects of Microbiology: History of Microbiology. Ecology, metabolism and microbial growth. Evolution and Systematics.The Prokaryotes: Cellular structure and function. Morphology. Taxonomy. Metabolism.The Eukaryotes: Cellular structure and function. Morphology and Metabolism of moulds, algae, protozoa, helminths. Taxonomy.The Archaea: Cellular structure and function. Morphology. Taxonomy. Metabolism.Viruses: Structure. Taxonomy. Infection Cycle.Microorganisms and the Environment: Biogeochemical cycles of carbon, nitrogen, sulfur, phosphorus etc.Microorganisms and Human: Human Microbiome. Microbial Diseases. Biotechnology. |

1. **TEACHING and LEARNING METHODS - EVALUATION**

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| **DELIVERY**  *Face-to-face, Distance learning, etc.* | *Face-to-face* |
| **USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY** *Use of ICT in teaching, laboratory education, communication with students* | Communication with students and further material through the use of the course website. |
| **TEACHING METHODS**  *The manner and methods of teaching are described in detail.*  *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, 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* | |  |  | | --- | --- | | ***Δραστηριότητα*** | ***Φόρτος Εργασίας Εξαμήνου*** | | *Lectures* | 39 | | *Lab work* | 18 | | *Tutorials* | 3 | |  |  | |  |  | |  |  | |  |  | |  |  | | Independent work | 100 | | Course total | ***160*** | |
| **STUDENT PERFORMANCE EVALUATION**  *Description of the evaluation procedure*  *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other*  *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.* | **Theory (80%)**  Written final exam including:  -Multiple choice questions  -Short-answer question  **Laboratory: (20%)**  Final exam includes  -Laboratory work  -Experimental data analysis |

1. **ATTACHED BIBLIOGRAPHY**

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| Brock Biology of Microorganisms Volume I and II, Crete University Press |