**COURSE OUTLINE**

1. **GENERAL**

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| **SCHOOL** | School of Health Sciences |
| **ACADEMIC UNIT** | Faculty of Medicine |
| **LEVEL OF STUDIES** | Undergraduate |
| **COURSE CODE** | **ΙΑΕ708** | **SEMESTER** | **7th** |
| **COURSE TITLE** | Robotic Surgery- computer assisted surgical applications |
| **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 practical sessions | 2 | 2 |
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| *Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).* |  |  |
| **COURSE TYPE***general background, special background, specialised general knowledge, skills development* | Scientific area |
| **PREREQUISITE COURSES:** |  |
| **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=1862 |

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*
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| **Robotic Surgery and the computer assisted surgical applications present sophisticated forms of approach and implementation of surgical, diagnostic and therapeutic operations, which are based on the use of computers. They represent the most modern technological developments in almost the entire spectrum of the surgical specialties, characterized by certain advantages such as the excellent precision of surgical maneuvers, the minimal tissue injury and the faster recovery of the patients.****The course aims to familiarize students with the advanced technological applications in a wide range of surgical specialties, with a particular focus on the applications of robotic technology in the Surgical Sector.** |
| **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…**…….* |
| Autonomous workTeamwork |

1. **SYLLABUS**

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| The course encompasses:A. The following lectures 1. Robotic surgery: History-Basic Principles-Devices. Robotic surgery training - Robotic surgery in the clinical practice.
2. The use of robotic surgery in General Surgery, part I (Lower and Upper Gastrointestinal Surgery, Bariatric Surgery, Endocrine Surgery).
3. The use of robotic surgery in General Surgery, part II (Hepatobiliary and Pancreatic Surgery, Transplantation Surgery).
4. The applications of robotic surgery in Obstetrics and Gynecology.
5. The use of robotic surgery in Orthopedics/Spine Surgery.
6. Applications of robotic surgery in Thoracic Surgery.
7. Applications of robotic surgery in Urology (Robotic Surgery in the treatment of male infertility, Robotic radical prostatectomy, Robotic Renal Surgery, Robotic radical cystectomy).
8. The Role of Robotic Surgery in Neurosurgery.
9. Applications of Robotic Surgery in Plastic and Reconstructive Surgery / Microsurgery.

B. Practice on simulator |

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

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| **DELIVERY***Face-to-face, Distance learning, etc.* | Lectures |
| **USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY** *Use of ICT in teaching, laboratory education, communication with students* | Use of simulator |
| **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* |

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| ***Activity*** | ***Workload of each students group (two groups per semester)*** |
| Lectures | 16 |
| Workshop | 16 |
| Group project  | 25 |
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| Self-study | 24 |
| Total | ***81*** |

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| **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.* | I. Presentation of a group project (80%) II. Presence and performance during the course (20%) |

1. **ATTACHED BIBLIOGRAPHY**

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| *Teaching - study material:*Robotic-Assisted Minimally Invasive Surgery. A Comprehensive Textbook*Editors*: *Tsuda, Shawn, Kudsi, Omar Yusef (Eds.)*Essentials of Robotic Surgery*Editors*: *Kroh, Matthew, Chalikonda, Sricharan (Eds.)*Robotic Surgery*Editors: Farid Gharagozloo, Vipul R. Patel, Pier Cristoforo Giulianotti, Robert Poston, Rainer Gruessner, Mark Meye (Eds.)* |