**COURSE OUTLINE**

1. **GENERAL**

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| **SCHOOL** | School of Health Sciences |
| **ACADEMIC UNIT** | Faculty of Medicine |
| **LEVEL OF STUDIES** | Undergraduate |
| **COURSE CODE** | **IAY614** | **SEMESTER** | **6th** |
| **COURSE TITLE** | SYSTEMS PATHOLOGY |
| **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 | 5 | 6 |
| LABORATORY EXERCISES | 12 |  |
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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** | YES on demand (in English) |
| **COURSE WEBSITE (URL)** | <https://ecourse.uoi.gr/course/view.php?id=1809> |

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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| Pathology is the medical specialty that constitutes the bridge between basic biomedical sciences and clinical medicine. The area of study includes the diagnosis of diseases, the understanding of disease pathogenesis and the prediction of biological behavior and response to treatment. The Pathologist, in order to achieve these goals, examines both macroscopically and microscopically, as well as with molecular methods cells, tissues and organs, from patients with a wide range of diseases: degenerative, inflammatory, and neoplastic. The methods used are microscopy (usually light microscope, fluorescent microscope and rarely electron microscope), histochemical stains, immunohistochemical stains, *in situ* hybridization, molecular analysis of DNA, RNA and proteins, as well as immunofluorescence. The body of Pathology consists of General and Systems Pathology. Systems Pathology discusses the pathologic entities per system and organ, with emphasis in epedemiology, pathogenesis, clinicolaboratory findings, macroscopic and microscopic image. The aim is the aquisition by the students of knowledge related to the macroscopic and microscopic changes in congenital, inflammatory and neoplastic diseases and their correlation with imaging and clinical findings. At the end of the educational process the students:* Understand the pathogenetic mechanisms of disease
* Correlate changes from the molecular level to the macroscopic and microscopic image
* Understand the value of clinicopathologic correlations for the final diagnosis
* Understand the fundamental role of the Pathology Laboratory in the therapeutic approach of the patient (in diagnosis, but also for the evaluation of prognostic and predictive markers)
* Understand and use properly medical terms
* Demonstrate scientific/medical behavior
* Acquire ability for search and internalization of evidence-based knowledge
* Acquire cognitive skills essential for the practice of medicine, such as detailed observation and analysis, as well as ability for clinicοpathologic correlations
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| **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…**…….* |
| * Understanding the complex clinicopathologic parameters in disease
* Inquiring and evaluating all relevant information, with the use of advanced technology and form a diagnostic hypothesis
* Decision making
* Ability for active participation as a member of the diagnostic team
* Ability for team work, but also ability for autonomous work
* Understanding of the pathogenetic mechanisms and ability to recognize scientific fields with research opportunities
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1. **SYLLABUS**

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| * **Gastrointestinal Tract:** Diseases of Oral Cavity, Lips, Salivary Glands, Esophagus, Stomach, Small Intestine, Appendix, Large Intestine, Anus, Gallbladder, Bile Ducts, Pancreas, Liver
* **Urinary System**: Diseases of Kidneys, Diseases of the Urinary Bladder
* **Female Genital System**: Diseases of the Vulva, Vagina, Cervix, Uterus, Ovaries
* **Male Genital System** : Diseases of the Testis, Epididymis and Spermatic Cord, Scrotum, Penis, Prostate Gland
* **Diseases of the Thyroid Gland**
* **Diseases of the Skin**
* **Musculoskeletal System**: Diseases of Bones, Diseases Joints, Neoplasms of Soft Tissues
* **Nervous System**: Diseases of the Central Nervous System, Diseases of the Peripheral Nervous System
* **Immune System-Lymphoid Tissue**: Lymphadenitis/Lymphadenopathy, Neoplastic Diseases of Lymphoid Tissues
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1. **TEACHING and LEARNING METHODS - EVALUATION**

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| **DELIVERY***Face-to-face, Distance learning, etc.* | Face-to-face teaching during lectures and meetings with students.In the laboratory, where students are trained in groups (about 30/group) in the use of light microscope and recognition of specific pathological entities, including neoplasms. Students are also trained in recognition of macroscopic changes , with examination of patient specimens, in the Pathology Laboratory located in the University Hospital.  In parallel, the relevant entities are discussed theoretically, with emphasis in diagnostic approach. In addition, optionally, students who show specific interest can follow the everyday pathology work in the University Hospital Pathology laboratory, from the handling of the specimen to the final Pathology diagnosis |
| **USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY** *Use of ICT in teaching, laboratory education, communication with students* | Power point presentations.Use of computers and optical microscopes for laboratory exercises.Support of the learning process through the electronic platform e-course. |
| **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 | 65 |
| Laboratory exercises with the use of histological slides and optical microscope | 30 |
| Educational activities with the use of macroscopic specimens in the University Hospital Pathology Laboratory  | 10 |
| Independent study | 45 |
| **TOTAL****(25 hours per unit)** | ***150 per student*** |

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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.* | Language of evaluation: GreekΙ. Written examination at the end of the semester with open-ended questions (90% of final grade) ΙΙ. Oral examinations in the Laboratory material (10% of final grade) which includes:- Evaluation of knowledge on macroscopic manifestation of diseases, with discussion on powerpoint of relevant characteristic images- Evaluation of knowledge on microscopic manifestation of disease with the use of histologic glass slides and an optical microscope  |

1. **ATTACHED BIBLIOGRAPHY**

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| *Teaching - study material:* |

Originally written in Greek language or translated in Greek

* Power point presentations during lectures are available to students
* Γενική και Ειδική Παθολογική Ανατομική (Μέλη ΔΕΠ Εργαστηρίου Παθολογικής Ανατομικής). Εκδοτικός οίκος ΘΕΟΔΩΡΙΔΗ. ISBN 978-960-8026-02-5. κωδικός 12309301
* Robbins and Contran Άτλας Παθολογικής Ανατομικής (Edwart C.Klatt). Εκδοτικός οίκος ΠΑΡΙΣΙΑΝΟΥ Α.Ε. ISBN 9789605832360 κωδικός 68395617.
* Muir's Παθολογική Ανατομική (Herrington Simon) BROKEN HILL PUBLISHERS L TD ISBN: 9789925563166 κωδικός 77107202
* Εικονογραφημένη Παθολογική Ανατομική (Robin Reid, Fiona Roberts, Elaine Macduff). Επιστημονικές Εκδόσεις ΠΑΡΙΣΙΑΝΟΥ Α.Ε. ISBN 978-960-394-965-7. κωδικός 50660076