



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

HELLENIC REPUBLIC

ΕΘ.Α.Α.Ε.

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ΕΘΝΙΚΗ ΑΡΧΗ ΑΝΩΤΑΤΑΤΗΣ ΕΚΠΑΙΔΕΥΣΗΣ

HELLENIC AUTHORITY FOR HIGHER EDUCATION

University of West Attica

School of Health and Care Sciences

Department of Biomedical Sciences and Midwifery

Undergraduate Studies

“Applications of Biomedical Technology in Infertility - Male and Female Factor”

Course Outline

STRUCTURE AND FUNCTION OF REPRODUCTIVE SYSTEM



ATHENS 2023

COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Health and Care Sciences		
ACADEMIC UNIT	Biomedical Sciences and Midwifery		
LEVEL OF STUDIES	Undergraduate Studies		
COURSE CODE	MY 1.2	Study Semester	First
COURSE TITLE	Structure and Function of Reproductive System		
INDEPENDENT TEACHING ACTIVITIES <i>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</i>		WEEKLY TEACHING HOURS	CREDITS
Lectures		2	8
COURSE TYPE <i>General background, special background, specialized general knowledge, skills development</i>	Specialization		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBSITE (URL)	https://eclass.uniwa.gr/		

(2) LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>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.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>
<p>The purpose of the course is to teach the students, at a theoretical and practical level, methods that facilitate the understanding of the physiology and pathology of the male reproductive system.</p> <p>After successfully completing the course, students will:</p> <ul style="list-style-type: none"> • They are aware of the structure and function of the organs of the male reproductive system.

- They are able to know the structure and function of sperm.
- They will have demonstrated knowledge and understanding that underlies and reinforces the events during spermatogenesis that produce haploid sperm from diploid cells. Simultaneously, they will gain the background to understand the importance of testosterone in male reproductive function.
- They are able to use their knowledge and skills to detect abnormalities of the normal functioning of the male reproductive system.

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...
.....*

- Search, analysis and synthesis of data and information, using the necessary technologies
- Teamwork
- Work in an interdisciplinary environment
- Work in an international environment
- Generating new research ideas
- Decision making
- Promotion of free, creative and inductive thinking

(3) SYLLABUS

1. Hypothalamus-Pituitary-Gonads
2. Reproduction endocrinology
3. Anatomy of the male reproductive system
4. Anatomy of the female reproductive system
5. Pathophysiology of the male and female reproductive system
6. Spermatogenesis
7. Oogenesis
8. Inflammation and sperm fertilizing capacity
9. Oncology and fertility
10. Reproduction in an oncological patient
11. Gene mutations, cancer and fertility

12. Preservation of fertility in a woman with cancer
13. Preservation of fertility in a man with cancer

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face to face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	<ul style="list-style-type: none"> ➤ Learning processes support through electronic platforms: e class, Microsoft Teams, Skype Business ➤ Teaching by videos 	
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>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.</i> <i>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</i>	Activity	Semester Workload
	Lectures	50
	Lectures by audiovisual media	13
	Literature study and analysis	29
	Study presentation	29
	Writing of thesis	29
	Independended study	50
	Course total	200
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <i>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.</i> <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	<ol style="list-style-type: none"> 1. Written final exam (60%) including: <ul style="list-style-type: none"> • Multiple Choice Questions • Short Answer Questions, • Problem Solving 2. Presentation of Individual or Group Work (40%) 	

(5) ATTACHED BIBLIOGRAPHY

Suggested Bibliography:

1. Tiwana MS, Leslie SW. StatPearls [Internet]. StatPearls Publishing; Treasure Island (FL): Apr 24, 2020. Anatomy, Abdomen and Pelvis, Testicle.
2. Mawhinney M, Mariotti A. Physiology, pathology and pharmacology of the male reproductive system. *Periodontol.* 2000. 2013 Feb;61(1):232-51.
3. Al-Agha OM, Axiotis CA. An in-depth look at Leydig cell tumor of the testis. *Arch. Pathol. Lab. Med.* 2007 Feb;131(2):311-7.
4. Dimitriadis F, Tsiampali C, Chaliasos N, Tsounapi P, Takenaka A, Sofikitis N. The Sertoli cell as the orchestra conductor of spermatogenesis: spermatogenic cells

dance to the tune of testosterone. *Hormones (Athens)*. 2015 Oct-Dec;14(4):479-503.

5. Nassar GN, Raudales F, Leslie SW. StatPearls [Internet]. StatPearls Publishing; Treasure Island (FL): May 29, 2020. Physiology, Testosterone.
6. Heindel JJ, Treinen KA. Physiology of the male reproductive system: endocrine, paracrine and autocrine regulation. *Toxicol Pathol*. 1989;17(2):411-45.