ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

Ε Θ . Α . Α . Ε .

ΕΘΝΙΚΗ ΑΡΧΗ ΑΝΩΤΑΤΑΤΗΣ ΕΚΠΑΙΔΕΥΣΗΣ

HELLENIC REPUBLIC

Η .Α .Η . Ε .

HELLENIC AUTHORITY FOR HIGHER EDUCATION

University of West Attica

School of Health and Care Sciences

Department of Biomedical Sciences and Midwifery

Postgraduate Studies

Applications of Biomedical Technology in Infertility - Male and Female Factor

Course Outline

Research Methodology - Biostatistics

ATHENS 2023

COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Health and Care Sciences		
ACADEMIC UNIT	Biomedical Sciences and Midwifery		
LEVEL OF STUDIES	Postgraduate Studies		
COURSE CODE	MY1.3	SEMESTER	First
COURSE TITLE	Research Methodology - Biostatistics		

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 TEACHIN GHOURS	CREDITS
Lectures, laboratory training	2	8
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*	general background
PREREQUISITE COURSES:	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek, English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.uniwa.gr/

(2) LEARNING OUTCOMES

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*

The purpose of the course is to acquaint the students with the basic principles of planning clinical and epidemiological studies, as well as with the basic principles of writing, submitting to international prestigious journals and conferences as well as presenting a scientific paper. The fruitful combination of theory and practice is a basic aim of the course.

After the end of the course, students will be able to:

• understand the methodology of analysis in matters of medical research and clinical practice.

• gather and interpret relevant evidence (usually within the cognitive domain) to form an appropriate framework for conducting research and making judgments that involve reflection on relevant social, scientific or ethical issues.

• participate in all phases of a research protocol, from the conceptual phase, the analytical phase with the application of modern laboratory diagnostic techniques and the writing and dissemination of the research results.

• write scientific articles and communicate them to both specialist and non-specialist audiences.

• have developed those knowledge acquisition skills, which they need to continue in further postgraduate studies with a high degree of autonomy.

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
- *Team work*
- *Working in an international environment*
- *Working in an interdisciplinary environment*
- *Production of new research ideas*
- *Production of free, creative and inductive thinking*

(3) SYLLABUS

1. Introduction to the Methodology of Scientific Research in the Health Sciences. The institutional and ethical dimensions when conducting a research.
2. Differentiation of types of research and Ethics of research
3. Research process overview
4. Research Design - Research Tools
5. Principles of data analysis, variables, design and use of questionnaires, hypotheses.
6. Population sampling. Sub-sampling in the laboratory and its importance. Categories of population sampling, sample selection.
7. Epidemiological Research: Prevalence studies, Retrospective studies and Prospective studies.
8. Epidemiological Research: Risk factors, Confounding factors, Synergy
9. Clinical Trials: Design & Analysis.
10. Indicators, rates, ratios, relative risk, relative ratio.
11. Questionnaires: Design - Validity - Reliability
12. Surveys: Post-Analysis
13. Databases in the field of Health Sciences (PubMed, Scopus, SCI)
14. Evaluation of a research project (impact factor, references) - Writing and presentation of a research paper

(4) TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td colspan="2">Face to face, laboratory training</td></tr>
<tr><td>USE OF INFORMATION ANDCOMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td colspan="2">Learning process support through the electronic platform e-class, Microsoft Teams, Skype Business</td></tr>
<tr><td>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</td><td>Activity</td><td>Semester workload</td></tr>
<tr><td></td><td>Lectures</td><td>54</td></tr>
<tr><td></td><td>Interactive Teaching</td><td>14</td></tr>
<tr><td></td><td>Study and Analysis of the Literature</td><td>29</td></tr>
<tr><td></td><td>Presentation of Study</td><td>28</td></tr>
<tr><td></td><td>Writing thesis</td><td>28</td></tr>
<tr><td></td><td>Independent Study</td><td>47</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td>Course total</td><td>200</td></tr>
<tr><td>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.</td><td colspan="2">1. Written final exam (60%) which includes:
• Multiple choice questions
• Short Answer Questions
• Problem solving

2. Presentation of Individual or Group Work (40%)</td></tr>
</table>

(5) ATTACHED BIBLIOGRAPHY

Suggested bibliography:

1. Δαρβίρη Χριστίνα: Μεθοδολογία έρευνας στον χώρο της Υγείας. Εκδόσεις Πασχαλίδης, 2009.
2. Ιωαννίδης Ι: Αρχές Αποδεικτικής Ιατρικής, εκδόσεις Λίτσας. (2002).
3. Λυκερίδου Αικατερίνη- Αβραμιώτη και συν: Μεθοδολογία έρευνας στην υγεία- μελέτη της υγείας και των υπηρεσιών υγείας ΕκδόσειςBroken Hill, 2014.
4. Παναγιωτάκος Δ.: Μεθοδολογία της Έρευνας και της Ανάλυσης Δεδομένων, για τις Επιστήμες της Υγείας, Εκδόσεις ΔΙΟΝΙΚΟΣ ε.π.ε., Αθήνα. (2011).
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6. Σταυρινός Β., Παναγιωτάκος ΔΒ.: ΒΙΟΣΤΑΤΙΣΤΙΚΗ, εκδόσεις Gutenberg, (2006). Β. Ξενόγλωσση
7. Laake & Benestad & Olsen Research methodology in the medical and biomedical sciences . Elsevier 2007.
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9. Supino *et al* (editors) Principals of research methodology A guide for clinical investigators. 2012
10. Wilhelm Ansorge *et al.,* Molecular Diagnostics. Elsevier 2009, (second edition)
11. Keith, H. & Sharp, J,A. (1998). Η επιστημονική μελέτη - Οδηγός σχεδιασμού και διαχείρισης

Locharoenrat, K. (2017). Research Methodologies for Beginners. CRC Press.