COURSE OUTLINE

1. GENERAL

SCHOOL	School of Food and Nutritional Sciences		
ACADEMIC UNIT	Department of Food Science and Human Nutrition		
LEVEL OF STUDIES	Bachelor		
COURSE CODE	**3431**	**SEMESTER**	**6th**
COURSE TITLE	Nutrition Research Methods		
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**
		3	3
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*	specialised general knowledge		
PREREQUISITE COURSES:	Statistics		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (Offered to Erasmus students in English)		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	http://openclass.teilar.gr/courses/DDE114/		

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*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

Here is the translation into English, maintaining the formal academic tone appropriate for a course syllabus or description.

Course Description

This course serves as the fundamental introductory course on the basic principles governing research methodology in nutritional research.

The course curriculum aims to:

Introduce students to the fundamental concepts of scientific research and nutritional epidemiology.

Connect these concepts with the formulation of a research hypothesis and research protocol.

Investigate causal relationships between dietary exposure factors and specific outcomes.

Furthermore, the course covers introductory concepts regarding methodologies for systematic literature reviews, the critical appraisal of epidemiological studies, and dietary intake assessment methods. This ensures that the student is able not only to locate research studies in international and domestic literature but also to recognize their study design, advantages, and limitations.

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	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Teamwork	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*Others…*
Production of new research ideas	

Upon successful completion of the course, the student will be able to:

Understand the basic and critical characteristics of scientific research, and its use in evaluating the role of nutrition in human health.

Possess knowledge of the tools and techniques for assessing the hierarchy of evidence provided by different types of studies, considering their advantages and limitations.

Distinguish and recognize the types of studies and the main indicators of association and occurrence (frequency).

Use methodologies for evaluating available tools for measuring diet in studies, and for conducting literature reviews to create a research protocol.

General Competencies

- Search for, analysis, and synthesis of data and information, with the use of the necessary means.
- Decision making.
- Autonomous work.
- Teamwork.
- Promotion of free, creative, and inductive thinking.

3. SYLLABUS

Theory (Lecture Topics)

1. Introduction to Research Methods in Nutrition
   - Course overview and introduction to scientific research.
   - The importance of research methodology in nutrition science.
   - Research ethics and integrity in nutrition studies.
2. Fundamental Principles of Research Design
   - Types of research questions and hypotheses.
   - Variables, measurements, and scales in nutrition research.
   - Sampling methods and sample size calculation.

- Formulation of research questions and hypotheses for nutrition studies.

3. Statistical Principles in Nutrition Research
- Descriptive statistics and data visualization.
- Inferential statistics and hypothesis testing.
- Calculations of statistical power and effect size.

4. Risk Assessment in Nutrition – Methodology & Practical Application

5. Observational Study Design
- Cross-sectional studies in nutrition research.
- Case-control studies: advantages and limitations.
- Cohort studies in nutritional epidemiology.

6. Critical Appraisal of Published Observational Studies & Principles of Systematic Literature Review

7. Nutritional Assessment (emphasis on questionnaire types)

8. Nutritional Assessment (emphasis on biomarkers)

9. Confounding Factors in Research

10. Design of Experimental Research

11 & 12. Project Presentations

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>In class teaching</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Use of ICT in teaching and communication with students</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><table><tr><th>Activity</th><th>Semester workload</th></tr><tr><td>Lectures</td><td>36</td></tr><tr><td>Study hours & Bibliography</td><td>30</td></tr><tr><td>Written group project</td><td>9</td></tr><tr><td>Total hours</td><td>75</td></tr><tr><td>Course total</td><td></td></tr></table></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>1. Written Final Examination (80% of total grade) which includes:
• Multiple choice & matching questions.
• Problem solving – calculations.
2. Individual Assignment 20% (Mandatory)
(Presentation of the methodology development for</td></tr>
</table>

	a specific research topic to be assigned).

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

- Related academic journals:

1. Lovegrove JA; Hodson L; Sharma S; Lanham-New SA. (2015). Willey Online Library; Print ISBN: 9781118554678. John Willey & Sons, Ltd
2. Walter Willett, Nutritional Epidemiology, 3rd Edition, Oxford University Press, 2012. Margetts and Nelson, Design Concepts in Nutritional Epidemiology, 2nd Edition, Oxford University Press, 1997