

Course Outline

1. GENERAL

SCHOOL	School of Social Sciences and Humanities		
DEPARTMENT	Department of Primary Education		
LEVEL OF STUDIES	7 th		
COURSE CODE	AY2	SEMESTER	1 st
COURSE TITLE	EDUCATIONAL RESEARCH METHODOLOGY- QUANTITATIVE METHODS-STATISTICS		
INDEPENDENT TEACHING ACTIVITIES <i>In case credits are separately awarded to components of the course e.g. Lectures, Laboratory Exercises, etc. If the credits are uniformly awarded for the whole course, Indicate the weekly teaching hours and the total of credits</i>		WEEKLY TEACHING HOURS	CREDITS 7.5
<i>Add rows if needed. The teaching organization and the teaching methods applied are thoroughly described in 4.</i>			
COURSE TYPE <i>General Background, Special Background, Specialization</i>	GENERAL		
PREREQUISITE COURSES:	NO		
LANGUAGE OF INSTRUCTION AND EXAMINATIONS:	GREEK-ENGLISH		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBSITE (URL)	http://edumal.eled.uowm.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 studies 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*

The course is the main introductory course in Educational Research Methodology and specifically in the quantitative approaches of Educational Research and Statistics. Students acquire knowledge and are able to understand issues of Educational Research Methodology and Statistics, utilizing and enhancing their knowledge from their basic studies, combining concepts and views that arise through modern developments in the field of applications in educational statistics, educational research and the social sciences. At the same time, they acquire the bases and opportunities for originality in the development and implementation of ideas, through research activity required in the course, while they simultaneously get acquainted with modern developments in research methods, statistics, research data processing and their utilization in Education. Specifically, students learn basic elements about the research process, learn to identify the research object and questions with clarity, to select the appropriate research data. In addition, they are able to identify appropriate statistical processing methods; explain the research results; interpret the conditions under which these can be generalized as well as to formulate conclusions arisen from statistics with clarity. They also acquire knowledge concerning the structure of a scientific work and literature search. They are able to combine the knowledge from the course by developing and supporting research arguments and problem solving within their field of knowledge as well as to formulate judgments that include reflection on issues related to educational and social research. In addition, they are able to utilize research results in order to reach scientific conclusions and develop scientific theories by combining research with theory. They acquire the ability to collect and process research data from the educational field, through the knowledge they acquire about sample methods and methods related to data collection and data statistical processing. In addition, students can present research results and utilize these results in order to formulate judgements involving reflection on social issues and moral responsibilities in the field of educational research.

They are able to synthesize and clearly present the information resulting from research processes, as well as to construct new research ideas, to formulate problems and propose solutions, reorganizing and rebuilding research hypotheses when this is needed.

They have developed this knowledge acquisition skills that they need to pursue further studies with high autonomy degree, since they know basic concepts of research and are able to develop appropriate methods for collecting and processing research data; basic elements for synthesizing a holistic scientific identity. In addition, they can express their opinion on methods of collecting, processing and presenting scientific information; they are able to evaluate the results and conclusions of a survey; compare results from various researches; define research hypotheses and support research conclusions, while combining already existing scientific knowledge with the results of their research.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Appendix and appear below), which of the following does the course aim at?

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

Exhibiting social, professional and moral responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

- 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 interdisciplinary environment
- Production of new research ideas
- Project planning and management of data
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

Basic concepts of research and statistics. Basic concepts in the stages of a research. Research methods. Qualitative and quantitative methods. Questionnaires and tests. Sample methods. Data presentation and interpretation, drawing conclusions. Ways of presenting research results. Applications in educational research. Measurement scales. Types of variables. Description of qualitative variables. Frequency and relative frequency tables. Cross tabulation. Bar charts. Circular diagrams. Description of quantitative variables. Numerical descriptive measures. Histograms. Statistical inference. Hypothesis testing. Chi-square test of independence. Normal distribution. Mean of a population. Check for the mean values of two populations (independent samples). Check for the mean value of two populations (dependent samples). Variation analysis with one and two factors. Repeated measures. Parametric and non-parametric techniques. Correlation of two variables. Applications in Educational Research.

4. TEACHING AND LEARNING METHODS – EVALUATION

<p style="text-align: center;">DELIVERY <i>Face-to-face, Distance learning etc.</i></p>	<p style="text-align: center;">1. FACE-TO-FACE 2. DISTANCE LEARNING</p>
<p>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>Communication in teaching: Yes. Use of computers, websites, projector. Slides presentation with the basic elements of syllabus, use of presentation programs, use of websites for examples and applications relevant to syllabus.</p> <p>Use of teaching supplements based on ICT: On line applications and notes.</p> <p>Use of ICT in laboratory education: Yes. Use of computers, websites, projector. Slides presentation with the basic elements of syllabus, use of presentation programs, use of websites for examples and applications relevant to syllabus. Students focus on statistical processes with the use of computer.</p> <p>Use of ICT in students' evaluation: Through the electronic platform, eclass.</p> <p>Use of ICT in communication with students: Through the electronic platform, eclass.</p>

TEACHING ORCHESTRATION <i>The manner and methods of teaching are described in detail.</i>	Activity	Semester Workload
<i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of literature, tutorials, practicum, clinical practice, art workshop, interactive teaching, educational visits, project elaboration, essay writing, artistic creativity, etc.</i>	Lectures	13
	Laboratories	13
	Project elaboration	90
	Essay writing	94
	TOTAL	210
<i>The student's study hours for each learning activity are given as well as the hours of nondirected study according to ECTS standards.</i>		
STUDENTS' EVALUATION <i>Description of the evaluation procedure.</i> <i>Evaluation language of evaluation, evaluation methods, formative or conclusive, multiple choice questionnaires, short-answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of a patient, art interpretation, other(s).</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. Final examinations at the end of the semester 2. Development in performance 3. Homework 4. Oral presentation 5. Use of literature 6. Laboratory or practical activities 7. Students' observation during laboratory or practical activities 8. Systematic feedback received from students during the semester 9. Safeguarding transparency in student's performance evaluation <p>Students are informed at the semester beginning regarding their evaluation methods and after the examinations, they are able to see their paper and discuss with me about their performance.</p>	

5. RECOMMENDED LITERATURE

-Recommended literature:

Katsis, A. Sideridis, G. & Emvalotis, A. (2011). *Statistical methods in Social Sciences*. Athens: Topos (in Greek).

Tsantas, N., Moysiadis, C., Mpagiatis, N. & Chatzipantelis, T. (1999). *Data analysis with the help of statistical packs*. Thessaloniki: Ziti (in Greek).

Gialamas, V. (2005). *Statistical Techniques and Applications in Education Sciences*. Athens: Pataki (in Greek).

Katsillis, I. (1997). *Descriptive Statistics based on social sciences and education*. Athens: Gutenberg (in Greek).

Diamond, I. & Jefferies, J. (2006). *Beginning Statistics. An introduction for social scientists*. Athens: Papasotiriou (in Greek).

Van Blerkom, M. (2009). *Measurement and Statistics for Teachers*. New York: Routledge

Morrison, K., Manion, L. & Cohen, L. (2008). *Educational Research Methodology*. Athens: Metechmio (in Greek).

Robson, C. *Real world research: A means for social scientists and professional researchers* (Ed. Michalopoulou, K. – translation Vasiliki P. Ntalakou, Katerina Vasilikou – Series Editor D. G. Tsaousis – 1st edition – Athens: Gutenberg – Giorgos & Kostas Dardanos, 2007 – p. 694 – 25x18 cm (Library of Social Sciences and Social Politics).

Verma, G. (2005). *Educational Research*. Athens: Gutenberg (in Greek).

Babbie, E. (2011). *Introduction to Social Research*. Athens: Kritiki (in Greek).

Creswell, W. J. (2011). *Research in Education. Planning, Application and Evaluation of Quantitative and Qualitative Research*. Athens: Ion (in Greek).

Gay, R. L., Mills, G. E., Airasian, P. W. (2011). *Educational Research: Competencies for Analysis and Applications*, Pearson.

-Relevant Scientific Journals

International Journal of Education

International Journal of Educational Research

Educational Research Review

American Journal of Educational Research

European Educational Research Journal

Journal of Statistics Education

Statistics Education Research Journal

Journal of Educational and Behavioral Statistics

International Journal of Educational Research

International Journal of Research & Method in Education

Journal of Humanities, Social Sciences and Education (JHSSE)

International Journal of Learning

Journal of Technology and Teacher Education

Journal of Education, Psychology and Social Science

Journal of Education and Learning