COURSE OUTLINE

"Diploma Thesis" (EDU 650)

(1) GENERAL

SCHOOL	SCHOOL OF SOCIAL & HUMANITIES (LIMASSOL UNIVERSITY) & SCHOOL OF HEALTH AND WELFARE SCIENCES (WEST ATTICA UNIVERSITY)
SECTION	DEPARTMENT OF EDUCATIONAL SCIENCES & DEPARTMENT OF BIOMEDICAL SCIENCES
LEVEL OF STUDIES	MA
COURSE CODE	EDU 650 **SEMESTER OF STUDY** Γ´
COURSE TITLE	**Diploma Thesis**

INDEPENDENT TEACHING ACTIVITIES *where credit is awarded for discrete parts of the course e.g. lectures, laboratory exercises, etc. If credit is awarded for the whole course, indicate the weekly teaching hours and the total number of credits*	WEEKLY TEACHING HOURS	CREDIT UNITS
LECTURES AND LABORATORY EXERCISES	3	10
Add rows if necessary. The teaching organisation and the teaching methods used are described in detail in (d).		

TYPE OF *general background, special background, specialization general knowledge, skills development*	
PREREQUISITE COURSES:	-
LANGUAGE OF TEACHING AND EXAMINATION:	GREEK
THE COURSE IS OFFERED TO STUDENTS	NO
ELECTRONIC COURSE PAGE (URL)	https://moodle.uol.ac.cy/login/index.php

(2) LEARNING OUTCOMES

Learning Outcomes

The learning outcomes of the course are described as the specific knowledge, skills and competences of an appropriate level that students will acquire after successful completion of the course.

Consult Annex A
- *Description of the Level of Learning Outcomes for each cycle of study according to the Qualifications Framework of the European Higher Education Area*
- *Descriptive Indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Annex B*
- *Learning Outcomes Writing Guide*

This course aims to familiarize students with the integrated completion of a Diploma Thesis related to the field of Education and specifically to Special Education and New Technologies. Specifically, through this course, students will be invited to complete all stages of a research project including the selection or design of methodological tools, data collection, analysis and interpretation of their data. Through the different research stages they will be asked to exercise critical thinking about whether the process they are following is valid, reliable and ethically sound. The Dissertation aims to enhance the students'

research skills and critical thinking, while contributing to their understanding of the research process in the field of Education and Special Education and New Technologies

Specifically, students after successful completion of the course will have acquired basic and sufficient knowledge about

- the formulation of well-defined and investigable research questions and hypotheses
- the development of literature search skills using valid and reliable sources.
- developing skills in synthesising the literature to support their research questions
- the cultivation of skills to develop a high-quality research protocol
- understanding the importance of the reliability and transparency of a research study.
- the development of data collection skills.
- developing analytical and critical thinking skills to interpret results and highlight knowledge gaps
- developing writing skills to present the results and findings of the research

General skills

Taking into account the general competences that the graduate should have acquired (as listed in the Diploma Supplement and listed below), which one(s) does the course aim at?

Search, analysis and synthesis of data and information, using the necessary technologies	*Project planning and management*
Adapting to new situations	*Respect for diversity and*
Decision-making	*Respect for the natural environment*
Autonomous work	*Demonstrate social, professional and ethical responsibility and sensitivity to gender issues*
Teamwork	*Exercise of criticism and self-criticism*
Working in an international environment	*Promoting free, creative and inductive thinking*
Working in an interdisciplinary environment	*......*
Generating new research ideas	*Other...*
	....

The course aims to:
- Search, analysis and synthesis of data and information, using the necessary technologies
- Adapting to new situations
- Autonomous work
- Teamwork
- Working in an interdisciplinary environment

(3) COURSE CONTENT

LECTURES - UNITS:

1. Formulation of Research Purpose, Questions and Issues.
During this week, students will be adequately prepared to formulate their own research questions and hypotheses for research studies. This process will also provide them with the ability to critically evaluate existing research in the field they are investigating and will allow them in the future to design research studies that answer substantive questions and contribute to the advancement of knowledge. It is worth noting that students will, from the beginning of this course, become familiar with the application and relevant forms required to apply to the National Bioethics Committee for ethical approval. This process is important as the application and related forms will be completed gradually throughout the course, with students adding relevant information as their study progresses.

2. Literature Review Synthesis.
This week's focus equips students with the skills to conduct a thorough literature review. Students will learn to effectively search academic databases using Boolean operators and filters to locate relevant sources. Strategies for locating key articles, such as reviewing reference lists and utilizing controlled vocabulary will be explored. In addition, open access tools, such as Mendeley and Zotero, will be introduced to streamline source organization, collaboration, and APA reference formatting. Through these skills and resources, students will be prepared to assemble the necessary literature to identify a research gap and build a strong foundation for their research project

3. Development of a Research Protocol.

By the end of this week, students will have an in-depth understanding of the critical role of research protocol in guiding a research study. They will be able to identify the key elements of a well-structured protocol, including research purpose, objectives, hypotheses, methodologies, data collection methods, and ethical criteria. In addition, students will be familiar with the importance of peer review and platforms such as registered reports to ensure the integrity of the research protocol before data collection begins. Ultimately, this knowledge will enable students to develop high quality research protocols that promote transparency, reliability and ethical behavior throughout their research endeavors

4. Bioethical Evaluation.
By the end of this week, students will have a better understanding and appreciation of the importance and process of securing bioethics committee approval for research involving human participants. They will understand the role that bioethics committees play in ensuring the rights, welfare and autonomy of research participants. Students will also be familiar with the key ethical principles - beneficence, non-abuse, fairness and autonomy - that underpin bioethics committees, ensuring that research is conducted ethically and, ultimately, the validity and reliability of research results. In addition, students will gain valuable insights into the National Bioethics Committee's review process, including the different categories of research studies and associated fees. This knowledge will allow to effectively navigate the bioethics approval process for their own future research efforts.

5. Preparation for data collection - Part A'.
During this week, students will be properly prepared to collect appropriate data, gathering reliable information for their research. They will master participant recruitment, pilot studies, and basic data collection practices. This includes following protocols, estimating duration and maintaining confidentiality. Students will also learn to minimize bias, utilize technology and ensure data accuracy. These skills will enable to assemble the foundation for strong research results.

6. Preparation for data collection - Part B'.
This week is a continuation of the Thematic Unit - Week 5
Students who have received ethical approval for their studies will be authorised to start data collection. If unforeseen issues arise during this stage, they are encouraged to discuss them with their fellow students or tutor for guidance and problem-solving strategies. Students still awaiting ethical approval will be advised to use this time productively. They are encouraged to improve their research drafts by incorporating the feedback they receive from their instructors on their literature review. In addition, they can focus on developing the Methods module by describing the specific procedures they will use to collect their data. This proactive approach ensures that they are prepared to hit the ground running once they given ethical approval.

7. Data Management, Control and Preparation.
Section A applies to students who used quantitative research and Section B applies to students who used a quantitative research design
Module A' (Quantitative Research)
During data collection and after the completion of this process, it is necessary to perform a preliminary data check using the statistical tool that will be used for data analysis. The available statistical tools that could be used are SPSS, MATLAB, R-studio (free), Jamovi (free) and Jasp (free). Students should be familiar with the functions and capabilities of the statistical tool to be used before this stage. By following the data pre-processing steps and adhering to the principles of Open Access, students/researchers can ensure the quality, transparency and reproducibility of their statistical analyses.
Section B (Qualitative Research)
Qualitative data analysis involves a deeper exploration of issues, experiences and perspectives. The first step involves a thorough review of data collected from students, such as interview notes, focus group notes or observation records. This initial phase allows students to familiarize themselves with the data and become familiar with the raw data to gain a comprehensive understanding of the content. By systematically preparing and organizing their qualitative data, students build a solid foundation for rigorous analysis. Clear documentation ensures transparency and allows future researchers to

understand their data processing procedures. This focus on quality and traceability sets the stage for creating rich and meaningful information from their qualitative research

8. Data Analysis and Interpretation: quantitative and qualitative approaches.
During this week, students will be adequately prepared to align analyses with research questions and data types, adhering to best practices for code sharing and documentation, presenting results clearly. In this way, they can ensure the integrity and transparency of their findings. In addition, the content of this week provides the necessary foundation for navigating this critical stage of research, while ongoing guidance from supervisors further enhances the validity and credibility of the research effort. Through thorough attention to detail and commitment to the principles of open science, researchers can strengthen the advancement of knowledge in their field of study.

9. Discussion and conclusions.
The "Discussion and Conclusion" section is crucial for a research study, as it demonstrates the researchers' ability to interpret and understand their findings. This section should also address the practical relevance of the research findings and highlight the relationship of the results to the research questions and hypotheses. Having completed this week, students will be well prepared to present the "Discussion and Conclusion" section as the culmination of their research, offering a clear interpretation of the findings, their relevance to the field, and potential real-world applications.

10. Report research limitations and recommendations for future research.
Identifying and communicating research limitations is an integral aspect of the research process. In the section "Limitations of research", discussion of omissions, limitations and weaknesses of the study is imperative. Articulating these aspects contributes to a full understanding of the limitations of the study and the potential impact of these limitations on the validity and generalizability of the .

11. Final Revision and Formatting of the Thesis and Preparation of the Reports.
By the end of this week, students will acquire the necessary knowledge and skills to methodically prepare a research paper for final submission. This includes a comprehensive understanding of the key modules of a research paper, from cover page and abstract to discussion, limitations and references. In addition, students will gain proficiency in following APA formatting guidelines, ensuring consistency in style, presentation, and citation throughout the paper. In addition, the week will equip students with strategies for meticulous proofreading, including everything from proper grammar and punctuation to accurate citations and page numbering. Ultimately, students will develop the confidence to create a polished and professional research paper, ready for final revision and submission

12. Preparation of Thesis Presentation.
This week is dedicated to guiding students in the final revision and polishing of their research papers before submission. The focus will be on ensuring that their paper complies with formatting guidelines, is free of errors and plagiarism, and presents their findings in a clear and effective manner. Students will be encouraged to bring any questions they have during this meeting or any challenges they have encountered along the way

(4) TEACHING and LEARNING METHODS - EVALUATION

METHOD OF DELIVERY *Face-to-face, Distance learning, etc.*	Distance
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in Teaching, Laboratory Training, Communication with students*	ICT and their use in education are the subject of the course and are therefore used extensively in Teaching, Laboratory Training, Communication with students.

ORGANISATION OF TEACHING *The way and methods of teaching are described in detail.* *Lectures, Seminars, Laboratory Exercise, Field Exercise, Study & Analysis of Literature, Tutoring, Practical (Placement), Clinical Exercise, Artistic Workshop, Interactive teaching, Educational visits, Study visits, Project work, Writing work / assignments, Artistic creation, etc.* *The student's hours of study for each learning activity and the hours of unguided study according to ECTS principles are indicated.*		
	Activity	*Semester workload*
	Lectures - Supervision	*50*
	Research Protocol	60
	Study & Literature Analysis	90
	Data Collection and Study	100
	Analysis of results	*120*
	Audit and Bibliography	*45*
	Job Writing	*25*
	Presentation	*10*
	Total	**500**

STUDENT ASSESSMENT *Description of the evaluation process* *Language of Evaluation, Evaluation Methods, Formative or Inferential, Multiple Choice Test, Multiple Choice Test, Short Answer Questions, Test Development Questions, Problem Solving, Written Work, Report, Oral Examination, Oral Examination, Public Presentation, Laboratory Work, Clinical Examination of a Patient, Artistic Interpretation, Other* *Explicitly identified assessment criteria are stated and if and where they are accessible to students.*	<u>Composition & Identifying Knowledge Gaps: creating a First Draft for the Literature Review (20% in total):</u> In this activity (Week 3), students will begin to explore existing published and peer-reviewed research related to their chosen topic. Students will analyse and summarise key findings from relevant academic sources, and identify areas where further research is needed or findings are inconclusive. This initial draft of the literature review serves as the basis for the research project. <u>Final Thesis (70%)</u> By the end of this course students are expected to design a comprehensive research project that will be a key component of their final grade. Their research project will be assessed on the clarity of their research question, the effectiveness of their chosen methodology, the completeness of their analysis and the quality of their written description. The final evaluation will also take into account effective graphs, tables and other visual material summarising their findings. <u>Oral Presentation of the Thesis (10%)</u> This course requires students to deliver an oral presentation summarizing the findings of the graduate research study. The presentation is an opportunity to demonstrate their research skills, analytical skills, and communication effectiveness.

(5) RECOMMENDED-BIBLIOGRAPHY

- Suggested Bibliography:

Bos, J. (2020). *research ethics for students in the social sciences* (p. 287) Springer Nature.

Coe, R., Waring, M., Hedges, L. V., & Ashley, L. D. (Eds.).(2021). *research methods and methodologies in education*. sage

Masic, I., & Jankovic, M. S. (2020). why Registering Your Research Study Involving Human Subjects Before Its Onset *International Journal of Biomedicine and Healthcare*, *8*(2), 64-67.

Patten, M. L. (2016). understanding research methods: an overview of the essentials. routledge.

Paul, J., & Criado, A. R. (2020). The art of writing literature review: what do we know and what do we need to know *International business review*, *29*(4), 101717.

- Related scientific journals:

International Journal of Information and Learning Technology (IJILT) - Emerald Publishing.

Journal of Computer Assisted Learning (JCAL) - Wiley.

Journal of Research in Innovative Teaching & Learning (JRIT) - Emerald Publishing.

Computers & Education - Elsevier.

Computers & Education Open (CAEO) - Elsevier.

Computers & Education: artificial intelligence - Elsevier.

The Journal of Neuroscience

Psychological Science in the Public Interest
Journal of Cognitive Psychology
International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE)
Journal of Educational Psychology
Psychology: Journal of the Hellenic Psychological Society