UNIVERSITY of NICOSIA

Course Syllabus

Course Code	Course Title	ECTS Credits
BIOL-703	Advanced Biological Science Research Topics	10
Prerequisites	**Department**	**Semester**
-	Life Sciences	Fall/Spring
Type of Course	**Field**	**Language of Instruction**
Compulsory	Biology	English
Level of Course	**Lecturer(s)**	**Year of Study**
3rd Cycle	Dr Myrtani Pieri	1st
Mode of Delivery	**Work Placement**	**Corequisites**
Face to face	-	-

Course Objectives:

The main objectives of the course are to:
Introduce students to the process of preparation of an independent high-quality research study (either part of the main PhD project as a pilot study or a different topic): research design, proposal submission, data collection, data analysis, final report/systematic review.

Consequently, students will be able to learn how to:

1. Formulate a unique scientific research question
2. Answer / test / (experimentally) examine the research question
3. Process the results from such a study using adequate empirical methods
4. Publish the results in a scientific report
5. Develop skills in using data and literature searches (e.g. Methods for searching original literature; Use of scientific libraries/databases, etc)
6. Develop sufficient levels of fluency in scientific writing and presentation (e.g. Precise and adequate ways of expression; Use of support means to write a report)
7. Conduct a systematic review article
8. Understand tools and ethics in AI in the Biological Sciences

Learning Outcomes:

After completion of the course students are expected to be able to:

1. Identify the key research procedures required for a valid-organized research

2. Apply a profound understanding of data collection techniques relevant to the evaluated topic through scenario-based activities.
3. Know qualitative or quantitative data analysis techniques
4. Define processes of evaluation and measurement of their research design
5. Discuss strategies for determining the research purposed and procedures for assessing the potential application of it
6. Execute experiment/Data collection
7. Use the appropriate statistical analysis
8. Writing a research paper/systematic review

Course Content:

1. Critical and concise review of the research literature pertaining to a particular research question
2. Rationale for the proposed research question
3. Methodology for exploring the research question
4. Problems such as resources, equipment, possible ethical issues
5. Feasibility of the project and expected costs will be discussed
6. Statistical analysis and interpretation of results
7. Present the results (orally and/or using poster communication)
8. Production/preparation of a research report for publication

Learning Activities and Teaching Methods:

Tutorials, research meeting and/or lab tutorials/demonstrations

Assessment Methods:

Literature review, research proposal, practical examination, final research report or systematic review

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Telling a Research Story: Writing a Literature Review revised/expanded English in Today's Research World	Christine B. Feak and John M. Swales			978-0-472-03336-2

Designing Science Presentations: A Visual Guide to Figures, Papers, Slides, Posters, and More 1st Edition	Matt Carter			0123859697

Other bibliography: An assortment of pertinent original research articles tailored to each scientific specialization