Introduction to research design & proposal writing, learning outcomes and syllabus

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ADAPT, The global centre of excellence for digital content and media innovation
AIRC, The Applied Intelligence Research Center
D-Real, SFI center for research training in digitally-enhanced reality
CeADAR, EI Ireland's centre for applied Artificial Intelligence
ML-Labs, SFI center for research training in machine learning

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Module description and aims

- Students who successfully complete this module will be competent at selecting and applying appropriate research methods and techniques in the process of formulating a research proposal and conducting research at degree level.
- This module aims to equip the student with a knowledge of academic research processes to enable him/her to undertake an appropriate project.

- Identify relevant and feasible areas of research in own discipline for the purpose of individual investigation
- Select, develop and apply appropriate literature search strategies in relation to a chosen topic using relevant literature resources and ICT for purposes of literature review
- Collect and critically evaluate research material from the literature in order to identify the current state of knowledge and key issues in a research topic

- Present a critical and logical interpretation of the issues in the form of a written review of the literature relating to a chosen topic
- Demonstrate an awareness of the ethical issues that may impinge on research in general including data collection and utilisation
- Employ appropriate data analysis techniques for specific sets of data
- Critically evaluate research approaches and methods in the design and planning of a research programme

- Make an informed choice of appropriate research methods for specific research questions
- Formulate a simple research programme for a given research topic
- Select a topic from the course and/or from own experience which will provide suitable scope for research in an MSc dissertation project
- Prepare a detailed realistic research proposal supported by a preliminary review of the relevant literature
- Demonstrate good technical writing skills
- Critically analyse own approaches to research.

Syllabus (indicative)

- Selecting, defining and planning a research topic
- Introduction to research (and computer science)
- The scientific method
- Developing a research hypothesis
- Introduction to literature review, citations and plagiarism
- Research methods
- Dissemination of research and the peer-review process

Disclaimer

- The electronic notes are my guide for running the lecture.
- These are not intended to contain all the material covered in the module
- Others notes on the board/in class are the student's responsibility to gather

Module timetable and activities

- week [1-15]: classes + various activities
- week deadlines for submission of assignments are posted online

Guest speakers might be invited during the semester

Module assessment

Continuous assessment will comprise 100% of the marks for this module. The details of the mark are:

- 2 assignments: 40% (20% each)
- research proposal: 60%

The detailed marking scheme will be posted on the module diary online

Module diary:

`http://researchdesign.lucalongo.eu`

All the lecture notes, tutorials, material, activities and queries related to the module are posted here.

Check this page very often!