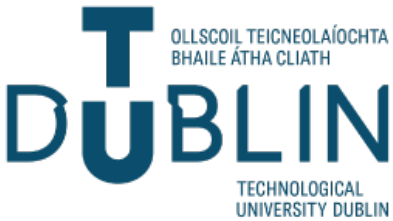
Research design & proposal writing

Dr. Luca Longo

School of Computer Science, Technological University Dublin

AIRC, The Applied Intelligence Research Center (DIT)

ADAPT centre, The global centre of excellence for digital content and media innovation (TCD, DIT, DCU, UCD)



✉ **luca.longo@dit.ie**

http://www.lucalongo.eu/

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.

Learning outcomes - 1 of 3

- 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

Learning outcomes - 2 of 3

- 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

Learning outcomes - 3 of 3

- 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 [1-12]: classes + various activities
- week 13 submission of proposal

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)
- dissertation 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!