MODULE DESCRIPTOR

Module Title

Computing Science Research

Reference	CMM302	Version	2
Created	February 2024	SCQF Level	SCQF 11
Approved	April 2019	SCQF Points	15
Amended	April 2024	ECTS Points	7.5

Aims of Module

This module aims to excite and enthuse students in the field of computer science with the state-of-the-art and current research trends conveyed through a mix of seminars, research outputs, and discussions. To use a combination of peer review methods and to participate in the critical evaluation of current research and advanced scholarship in Computer Science To cover the structure of research papers and project reports, reviewing research papers and their presentation.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Criticise current and emerging trends in computing and how they affect the development and use of technologies.
2	Produce a literature review on a topic of specialist interest, involving critical appraisal of relevant research methods, and collaboration with others in reviewing peer research.
3	Take responsibility for conducting a programme of independent research using appropriate software tools, and professional skills, to create solutions to a given problem.
4	Evaluate the effect of current technologies on the behaviour of users, consumers, companies, and reflect on the need for responsible research in the computer science industry.

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Indicative Module Content

CS trends: The series of departmental seminars will be used to deliver an overview of the state-of-the-art in research topics focused on Intelligent data driven research and applications. These will cover topics from AI; deep learning; predictive maintenance; intelligent operations management; intelligent freight logistics and supply chain optimisation; wearables and sensing applications; smart healthcare systems; smart tourism. Introduction to research methods: Research methods used in Computer Science (CS). Formulate sound hypothesis and offer support for it through empirical evidence. Experimental design and reproducible research. Evaluation of research outcomes and impact. Use of secondary sources: Literature searches; information sources (online and offline) and gathering. Reading and understanding research papers. Use selected CS databases; use systems for bibliography construction. Critique: Conduct peer reviewing in a professional manner and communicate results; conduct a comparative critical analysis of scholarship in the field. Academic writing: Distinguish between different types of academic writing strategies; write an effective and feasible research proposal; use electronic systems of bibliographic citation. Dissemination: Technical writing, referencing, bibliographies. Practical skills in formatting, building contents and indices. Presentation skills, written and oral. Avoid plagiarism of secondary sources by using a variety of writing strategies.

Module Delivery

The course content is delivered by a combination of seminars; lectures and is based on extensive use of case studies; and by interactive lab sessions.

Indicative Student Workload	Full Time	Part Time
Contact Hours	45	N/A
Non-Contact Hours	105	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4
Description:	Written coursework report and presentation.				

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MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 100% weighting of a single coursework. An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student must achieve an A in the coursework
B	The student must achieve a B in the coursework
C	The student must achieve a C in the coursework
D	The student must achieve a D in the coursework
E	The student must achieve an E in the coursework
F	The student must achieve an F in the coursework
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1	BELL, J., 2010. Doing Your research Project. Open University Press.
2	Justin Zobel: Writing for Computer Science. Springer, 2004.
3	Christian W. Dawson: Projects in Computing and Information Systems (A Student?s Guide). Addison Wesley, 2005.
4	GASH, S., 2000. Effective Literature Searching for Research. Gower.
5	BOTT, F., 2014. Professional Issues in Information Technology, 2nd Ed., BCS
6	BOWDEN, J., 2011. Writing a report: How to prepare, write and present really effective reports. How To Books Ltd.
7	COHEN, L., MANION, L. AND MORRISON, K., 2011. Research Methods in Education. Routlegde.
8	Other bibliography will be based on current literature on new trends in computing, as per the topics described in indicative module content.