

Module specification

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Module Code	COM754
Module Title	Research Methods for Digital Technologies
Level	7
Credit value	20
Faculty	FACE
HECoS Code	100962
Cost Code	GACP
Pre-requisite module	N/A

Programmes in which module to be offered

Programme title	Core/Optional/Standalone
MSc Computer Science	Core
MSc Computer Science with Advanced Practice	Core
MSc Cyber Security	Core
MSc Cyber Security with Advanced Practice	Core
MSc Big Data and Data Analytics	Core
MSc Big Data and Data Analytics with Advanced Practice	Core
MSc Artificial Intelligence	Core
MSc Computing for Business	Core

Breakdown of module hours

Learning and teaching hours	10 hrs
Placement tutor support hours	0 hrs
Supervised learning hours e.g. practical classes, workshops	11 hrs
Project supervision hours	0 hrs
Active learning and teaching hours total	21 hrs
Placement hours	0 hrs
Guided independent study hours	179 hrs
Module duration (Total hours)	200 hrs

Module aims

The module will provide the necessary underpinning skills to ensure that competent work and standards are achieved and maintained throughout the student's chosen programme of study. This will encompass the development of professional level information handling and analysis skills, as well as ensuring students become proficient at planning and managing their own research projects.

Module Learning Outcomes

At the end of this module, students will be able to:

1	Synthesise complex information from a variety of sources.
2	Critically evaluate research methodologies in the context of research for digital technology.
3	Plan and execute a small research project.
4	Compile, analyse and disseminate data in relation to a small research project.

Assessment

Indicative Assessment Tasks:

This section outlines the type of assessment task the student will be expected to complete as part of the module. More details will be made available in the relevant academic year module handbook.

Assessment number	Learning Outcomes to be met	Type of assessment	Duration/Word Count	Weighting (%)	Alternative assessment, if applicable
1	1,2,3,4	Coursework	5000 Words or Equivalent	100%	

Derogations

None

Learning and Teaching Strategies

The early stages of the module will be delivered through a mixture of lectures and tutorials as students are guided through the formal processes relating to research practice. Sessions will be supported with a range of digital content and activities designed to encourage directed study.

The latter stages of the module will transition to more tutorial-based sessions with informal support as the research projects approach their completion.



Throughout the module, students will have the opportunity to disseminate and discuss information through student-led seminars and peer group discussions. Guest speakers may be utilised where appropriate to strengthen the diversity and scope of the module content. Students will have access to lecture materials and ancillary resources via the University's VLE platform.

Welsh Elements

This module is designed to support Welsh-speaking students in line with the Welsh Language Standards. While the primary delivery will be in English, students will have the opportunity to submit assessments, including coursework and projects, in Welsh if preferred. Relevant module materials, such as reading lists, key texts, and guidance, will be available bilingually upon request, ensuring accessibility for all students. Additionally, where possible, guest speakers, case studies, or examples may include references to the Welsh business context, especially in areas such as data use in local industries and Welsh public sector organisations.

The department encourages students to develop bilingual digital skills by incorporating Welsh-language datasets, tools, and resources where appropriate, offering an inclusive learning environment. We also support the development of bilingual visualisation techniques, enabling students to create digital outputs that reflect the Welsh language, should they wish to do so.

Indicative Syllabus Outline

- Postgraduate-level study and study skills
- Self-reflection and critical thinking
- Professional presentation of information
- Overview of the research domain
- Evaluating information sources
- Referencing and avoiding plagiarism
- Qualitative and quantitative research methods
- Statistical analysis
- Hypothesis testing
- Critical analytical thinking
- Research and professional ethics

Indicative Bibliography

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads:

- Oates, B. J., Griffiths, M., McLean, R. (2022), *Researching Information Systems and Computing*, Second Edition, California: Sage Publication Ltd.



- Wallace & Wray, (2021) Critical Reading and Writing for Postgraduates, Sage Publications Ltd

Other indicative reading:

- Carlo Lauro, N., Amaturio, E., Grassia, M. G., Aragona, B., Marino, M. (2017), Data Science and Social Research: Epistemology, Methods, Technology and Applications, Berlin: Springer.
- Lankoski, P., Bjork, S. (2015) Game Research Methods: An Overview, North Carolina: Lulu Press.
- Lazar, J. (2017), Research Methods in Human-Computer Interaction, Second Edition, Massachusetts: Morgan Kaufmann
- Paarsch, H. K. (2016), A Gentle Introduction to Effective Computing in Quantitative Research: What Every Research Assistant Should Know, Massachusetts: MIT Press.
- Squire, K. (2010), Real-Time Research: Improvisation Game Scholarship, North Carolina: Lulu Publishing.

Administrative Information

For office use only	
Initial approval date	10/05/2023
With effect from date	Sept 26
Date and details of revision	08/11/2023 Addition of programme titles during Computing revalidation March 26 Addition of MSc Artificial Intelligence and MSc Computing for Business programme titles
Version number	3

