University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Research Design & Methods			
Code: COMP11017	**SCQF Level: 11 (Scottish Credit and Qualifications Framework)**	**Credit Points: 10**	**ECTS: 5 (European Credit Transfer Scheme)**
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Daune West		

Summary of Module

This module discusses the nature of research from the early stages of specifying and designing an appropriate research study through to the selection of different approaches that can be undertaken by a researcher in order to operationalise the research process.
During the module students are introduced to the different approaches to undertaking and validating research (e.g. quantitative and qualitative research), and alternative methods of implementing these research approaches (e.g. experimentation, action research)
The module also covers issues such as: planning, designing, resourcing, sampling, data handling, validation and analysis of data sources, use of library resources, presenting research work in verbal and written formats, literature research, critiquing published research, reflection on research process and output, legal and ethical requirements and constraints.
The assessment for the module places emphasis upon the student being able to demonstrate their ability to identify, define, assess and plan the execution of a piece of research suitable for a MSc level project.
Undertaking this module will provide the student with the opportunity to develop the following UWS graduate attributes: Universal: analytical, critical thinker, inquiring; Work-ready: knowledgeable, problem-solver, effective communicator, motivated, enterprising; Successful: autonomous, innovative, creative, resilient, transformational.

- General Principles of Research
- Specifying a Project; Project Planning; Resources
- Literature Reviews
- Quantitative research and methods - example of scientific method, experimentation
- Qualitative research and methods - example of Action Research
- The Art of Critique
- Research Ethics, plagiarism,

Module Delivery Method

Face-To-Face	Blended	Fully Online	HybridC	Hybrid 0	Work-Based Learning
☒	☒	☐	☐	☐	☐
See Guidance Note for details.					

Campus(es) for Module Delivery						
The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit) (tick as appropriate)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
☒	☐	☐	☒	☒	☐	Add name

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1	☒	Term 2	☒	Term 3	☐

Learning Outcomes: (maximum of 5 statements) **These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.** At the end of this module the student will be able to:	
L1	Critically evaluate, identify and consider the practical use of approaches to research appropriate to their subject discipline
L2	review and evaluate critically arguments, research approaches, evidence and conclusions in the academic and research literature of their subject discipline
L3	propose, construct, plan and defend a suitable research proposal for a MSc level postgraduate research project

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	SCQF Level **11** Developing a reliable research strategy; establishing an appropriate theoretical underpinning; undertaking ethical research; collecting and using data to answer a stated research question/support an argument.

Practice: Applied Knowledge and Understanding	SCQF Level **11** Data collection, data analysis, designing and applying research design strategies, undertaking critique, problem solving	
Generic Cognitive skills	SCQF Level **11** Developing strategies for research, critiquing one's own and others' work, reflective practice, building arguments from others' work; designing a comprehensive and joined-up blue-print for research activities	
Communication, ICT and Numeracy Skills	SCQF Level Choose an item. Use of appropriate computer software for written and oral presentation. Discussion of appropriate use of ICT in support of research objectives (e.g. data collection and analysis).	
Autonomy, Accountability and Working with others	SCQF Level Choose an item. Responsibility for selection of research topic, ownership of research process including integrity of source usage (e.g. literature, ethical practice)	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	**Module Title:**
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

*Indicates that module descriptor is not published.

Learning and Teaching	
The module comprises lectures, tutorials exercises worked in class on an individual and/or group basis. Guest lectures are used, wherever possible, to help extend students' contact with active researchers in the School and to provide specialist knowledge. Further useful materials on research approaches, methodology, practical guidelines for undertaking research are provided on Aula in addition to class examples and exercises.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	10
Tutorial/Synchronous Support Activity	8

Independent Study	82
	100 Hours Total

****Indicative Resources: (eg. Core text, journals, internet access)**

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Creswell, J.W.(2018) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, (5th edit.) Sage

Kara, H (2018) Research Ethics in the Real World, Policy Press

Mbanaso, U.M., Abrahams, L and Okafor, K.C. (2023) Research Techniques for Computer Science, Information Systems and Cybersecurity, Springer Cham

Oates, B., Griffiths, M. and McLean, R. (2022) Researching Information Systems and Computing, Sage

Wisker, G. (2018) The Undergraduate Research Handbook, Sage

Wisker, G. (2nd edit.) (2008) The Postgraduate Research Handbook, Palgrave

Please ensure the list is kept short and current. Essential resources should be included, broader resources should be kept for module handbooks / Aula VLE.

Resources should be listed in Right Harvard referencing style or agreed professional body deviation and in alphabetical order.

(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements

In line with the Student Attendance and Engagement Procedure: Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

For the purposes of this module, academic engagement equates to the following:

Attendance at all timetabled classes, undertaking tutorial exercises, submitting all assessment on time.

Equality and Diversity

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.

Please ensure any specific requirements are detailed in this section. Module Co-ordinators should consider the accessibility of their module for groups with protected characteristics..
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	
Assessment Results (Pass/Fail)	Yes ☐No ☒
School Assessment Board	Computing
Moderator	Graeme McRobbie
External Examiner	C. Luo
Accreditation Details	Contact School for current details
Changes/Version Number	2.15

Assessment: (also refer to Assessment Outcomes Grids below)
There is a single assessment for this module which is split into two separate parts: Verbal Presentation (5 minute) and defence of proposed research project through the use of suitable presentation software. Week ~6 worth 20% Written MSc level Research Project Specification. ~2250 words. Week 12 worth 80% Students need to attain an overall mark of 50% to pass the module.
Assessment 1 – Verbal Presentation; Written specification
(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Assessment Outcome Grids (See Guidance Note)

Component 1							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Verbal Presentation	✓	✓	✓			100	0

Component 2							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Written specification							

Component 3							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Combined Total for All Components						**100%**	**XX hours**