



Module Descriptor

Title	Research Design & Mehtods		
Session	2025/26	Status	Published
Code	COMP11017	SCQF Level	11
Credit Points	10	ECTS (European Credit Transfer Scheme)	5
School	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	On-Campus¹ <input checked="" type="checkbox"/>	Hybrid² <input type="checkbox"/>	Online³ <input type="checkbox"/>	Work -Based Learning⁴ <input type="checkbox"/>
Campuses for Module Delivery	<input type="checkbox"/> Ayr <input type="checkbox"/> Dumfries	<input checked="" type="checkbox"/> Lanarkshire <input checked="" type="checkbox"/> London <input checked="" type="checkbox"/> Paisley	<input type="checkbox"/> Online / Distance Learning <input type="checkbox"/> Other (specify)	
Terms for Module Delivery	Term 1 <input checked="" type="checkbox"/>	Term 2 <input checked="" type="checkbox"/>	Term 3 <input type="checkbox"/>	
Long-thin Delivery over more than one Term	Term 1 – Term 2 <input type="checkbox"/>	Term 2 – Term 3 <input type="checkbox"/>	Term 3 – Term 1 <input type="checkbox"/>	

Learning Outcomes	
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
L4	N/A
L5	N/A

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 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 11 Data collection, data analysis, designing and applying research design strategies, undertaking critique, problem solving
Generic Cognitive skills	SCQF 11 Developing strategies for research, critiquing one's own and others' work, reflective practice, building arguments from others' work;

¹ Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

² The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

³ Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

⁴ Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

	designing a comprehensive and joined-up blue-print for research activities
Communication, ICT and Numeracy Skills	SCQF 11 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 11 Responsibility for selection of research topic, ownership of research process including integrity of source usage (e.g. literature, ethical practice)

Prerequisites	Module Code	Module Title
	Other	
Co-requisites	Module Code	Module Title

Learning and Teaching	
<p>In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.</p> <p>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.</p>	
Learning Activities	Student Learning Hours
During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	(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
Please select	
Please select	
Please select	
TOTAL	100

Indicative Resources
<p>The following materials form essential underpinning for the module content and ultimately for the learning outcomes:</p> <p>Creswell, J.W.(2018) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, (5th edit.) Sage</p> <p>Kara, H (2018) Research Ethics in the Real World, Policy Press</p>

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:

The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies.

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](#).

Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. Specialist assistive equipment, support provision and adjustment to assessment practice in accordance with the University's policies and regulations.

(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	Computing
Overall Assessment Results	<input type="checkbox"/> Pass / Fail <input checked="" type="checkbox"/> Graded
Module Eligible for Compensation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

	If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.
School Assessment Board	Business & Applied Computing
Moderator	Graeme McRobbie
External Examiner	R Menzies
Accreditation Details	BCS
Module Appears in CPD catalogue	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Changes / Version Number	2.17

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Verbal Presentation (worth 20%) Written Project Specification (worth 80%)
Assessment 2
Assessment 3
(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.)

Component 1							
Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
Verbal Presentation/ Written specification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100	0

Component 2							
Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Component 3							
Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Combined total for all components						100%	hours

Change Control

What	When	Who
Attendance Update & EDI Update	20/01/2025	A Adamson
weighting of 2 sub-components of Component 1 added; Contact hours corrected. Accreditation added, CPD - N	11/02/2025	D West