

Module Descriptor

Title of Module: Research Methods
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Code:	SCQF Level: 11 (Scottish Credit and Qualifications Framework)	Credit Points: 20	ECTS:10 (European Credit Transfer Scheme)
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Chimaobi Alutu		

Summary of Module

This module discusses how to develop research, the various approaches that are used in carrying out research, and finally discusses how to present research results both in verbal and written forms.

Students will be shown different approaches to research including both qualitative and quantitative methods. Students will also learn about the types of tools and techniques that may be employed within these methods, including the use of literature review, focus groups, surveys, questionnaires, interviews, experiments, and case studies.

The use of different data analysis methods to describe and interpret both qualitative and quantitative data is explored.

Other issues covered in the module include planning, use of library resources, doing a literature review, critiquing published research, and legal and ethical constraints,

The assessment for the module requires the student to demonstrate their ability to propose, and plan the execution of, a piece of research suitable for academic work at MSc level.

This module will develop a range of graduate attributes, including numeracy skills, problem formulation, problem-solving skills, and the ability to present a clear argument.

Graduate attribute covered by this module include:

Universal

- Critical Thinker
- Ethically minded
- Research-minded

Work Ready

- Problem-Solver
- Effective Communicator
- Ambitious

Successful

- Autonomous
- Resilient
- Driven

Module Delivery Method

Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
✓	✓	✓	✓		
<p>Face-To-Face Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.</p> <p>Blended A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations</p> <p>Fully Online Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.</p> <p>HybridC Online with mandatory face-to-face learning on Campus</p> <p>HybridO Online with optional face-to-face learning on Campus</p> <p>Work-based Learning Learning activities where the main location for the learning experience is in the workplace.</p>					

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)

Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
✓			✓	✓	✓	✓

Term(s) for Module Delivery

(Provided viable student numbers permit).

Term 1	Term 2	Term 3
✓		✓

Learning Outcomes: (maximum of 5 statements)

On successful completion of this module the student will be able to:

- L1. critically explore and identify research areas in their subject discipline that are fertile, and formulate specific problems in these areas that are research-worthy
- L2. critically understand, and know how to apply, various types of research method in their subject discipline
- L3. understand the importance of ethics in research and how it is applied.
- L4. construct, communicate, and defend a research strategy that is appropriate to the level of an MSc 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. Critically evaluate characteristics of reliable research strategies, ethical issues in research, using data as support in an argument
Practice: Applied Knowledge and Understanding	SCQF Level 11. Use of online data collection facilities and application of auditing skills for solving research problems; practical exercise in self-criticism
Generic Cognitive skills	SCQF Level 11. Critical selection of strategies and tools
Communication, ICT and Numeracy Skills	SCQF Level 11. Use of appropriate computer software for written and oral presentations. Critical discussion of ICT tools in support of research objectives (e.g., data collection and analysis).
Autonomy, Accountability and Working with others	SCQF Level 11. 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:
Co-requisites	Other: Module Code:	Module Title:
	Code:	Module Title:

* Indicates that module descriptor is not published.

Learning and Teaching

The module is aligned with the updated curriculum framework of UWS

1. Student-centered: the material and case studies are based on different sectors to reflect the experience of the students from different degrees and contextualize their learning. Tutorial time and discussion forums (Classrooms, AULA, MS Teams) allow for multiway communication between students and lecturers.
2. Flexible and Hybrid: Teaching material is available on the online learning platform including slides, recording, practical exercises, and additional learning to complement each week's topic. Online lectures are available, and the recorded ones allow for students to watch or Re- watch what they may have missed. The module is designed for full time, part time and Distance learning students
3. Simple and Coherent: The learning content, which is communicated from the start is set in a linear way to ensure learning is progressing smoothly with designed check in milestones to assess progress (e.g., online quizzes and review sessions)
4. Authentic: Discussions and Assessment are based on students' experience centered around the learning material
5. Inclusive: All material is available in written, audio format with subtitles and transcripts where feasible
6. Sustainable: Material is updated annually and reflects what is happening in the sector and taking into consideration the student's feedback from formal and informal channels

The module comprises lectures and independent study. Guest lectures are used, wherever possible, to help extend students' contact with active researchers in the school and to provide specialist knowledge (e.g., statistical analysis, Ethics considerations/application). Further useful materials on research approaches, methodology, and 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	18
Tutorial/Synchronous Support Activity	18
Independent Study	164
	200 Hours

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

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

Moodie Module Site, containing lecture slides and module notes.

There are many excellent texts available about Research Methods. The list below indicates some of the texts that we have found particularly useful.

Bell, E., Bryman, A. and Harley, B., 2018. Business research methods. Oxford University Press. Greenfield, T.,

Greener, S., (2016), Research Methods for Postgraduates, John Wiley & Sons

Creswell, J.W. (2014) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, (4th edit.) Sage

Saunders M., Lewis P. and Thornhill A., 2012. Research Methods for Business Students, 6th Edition, Pearson.

Taylor, S.J., Bogdan, R. and Devault, M., 2015. Introduction to qualitative research methods: A guidebook and resource. John Wiley & Sons.

Dawson, K., (2016), 100 Activities for Teaching Research Methods, Sage

Hammersley, M. and Traianou, A. (2012). Ethics in qualitative research : controversies and contexts / Martyn Hammersley and Anna Traianou. Sage

Whitbeck, C. (2011). Ethics in engineering practice and research / Caroline Whitbeck. Cambridge: Cambridge University Press, 2011. 2nd ed.

(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)

Engagement Requirements

In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the library and on the relevant learning platform, and complete assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: [Academic engagement procedure](#)

Where a module has Professional, Statutory or Regulatory Body requirements these will be listed here: Online and on campus attendance as per teaching delivery Engagement online platform and classrooms

Supplemental Information

Programme Board	Engineering
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Assessment Results (Pass/Fail)

Subject Panel Civil Engineering and Quality Management

Moderator TBC

External Examiner TBC

Accreditation Details

This module is part of a degree programme accredited by APM: Association for Project Management

Version Number 1.12

Assessment: (also refer to Assessment Outcomes Grids below)

Written Research Proposal. Approximately 2000 words.

(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 Handbook.)

Assessment Outcome Grids (Footnote A.)

Component 1						
Assessment Type (Footnote 8.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Review/ Article/ Critique/ Paper	✓	✓	✓	✓	100	0

Combined Total For All Components	100%	0 hours
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Footnotes

- A. Referred to within Assessment Section above
- B. Identified in the Learning Outcome Section above

Note(s):

1. More than one assessment method can be used to assess individual learning outcomes.
2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note).
This will normally be variable across Schools, dependent on Programs &/or Professional requirements.

Equality and Diversity

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. More information on the University's EDI policies can be accessed at: <https://www.uws.ac.uk/about-uws/uws-commitments/equality-diversity-inclusion/>

UWS Equality and Diversity Policy

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the school)