Title of Module: Project Management and Research Methods			
Code: PHYS11009	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:	David Hutson		

Summary of Module

The Project Management and Research Methods module brings together the core competencies of individuals expecting to deliver projects with a high impact within their respective fields of employment.

Project management: Project managers require advanced leadership skills, awareness of contractual obligations, ability to conceptualise and communicate requirements at different levels of the management team, and support the needs of the direct contributors and the interests of project stakeholders.

Research methods: This part of the module aims to develop the necessary skills and knowledge for scientists/technologists to formulate a research problem in the form of a substantive proposal of work. They will develop an understanding of how to prepare and communicate a programme of work with an assessment of the resources needed and an understanding of the risks undertaken during the conceptual & feasibility phases of research prior to the development & readiness of a new process or technology.

- We have defined a set of Graduate Attributes that are the skills, personal qualities and understanding to be developed through your university experience that will prepare for life and work in the 21st century (https://www.uws.ac.uk/current-students/your-graduate-attributes/). The Graduate Attributes relevant to this module are listed below.

- Graduate Attributes - Academic: critical thinker; analytical; inquiring; knowledgeable; digitally literate; problem solver; autonomous; incisive; innovative

- Graduate Attributes - Personal: effective communicator; influential; motivated

- Graduate Attributes - Professional: collaborative; research-minded; enterprising; ambitious; driven

Module Delivery Method					
Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
	✓				

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.
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
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.

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	

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Learning Outcomes: (maximum of 5 statements)
On successful completion of this module the student will be able to: L1. L1. Identify and conceptualise projects in relation to the specifications of customer/ technology providers and accommodate the complexity and external interference they experience. L2. L2. Critically evaluate, identify and consider the practical use of approaches to research appropriate to their subject discipline L3. L3. Critically evaluate strategic measureable benefits for client organisations and thereby advise on the most appropriate strategies. L4. L4. Critically review and evaluate arguments, research approaches, evidence and conclusions in the academic and research literature of their subject discipline and produce a narrative critical literature review

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. SCQF Level 11. 1. Critical understanding of project management in in the global context and the underlying key theoretical positions, principles and concepts 2. Critical understanding of the inherent difficulty faced by project organisations, including project complexity and external interference 3. Knowledge about the key areas of research methods - including terminology and conventions 4. Extensive, detailed and critical knowledge and understanding of research design at the forefront of subject discipline 5. A critical awareness of research integrity and ethical issues in research studies.

Practice: Applied Knowledge and Understanding	SCQF Level 11. SCQF Level 11. 1. Understanding of core project management principles, methodologies and techniques as applied in different project-based industries 2. Execute the evaluation of appropriateness of strategies to deliver maximum value for clients 3. Use a range of skills and techniques – including data collection, evaluation of sources, data analysis, designing and applying research design strategies, problem solving 4. Demonstrate the ability to produce substantive proposals for research enquiry.
Generic Cognitive skills	SCQF Level 11. SCQF Level 11. 1. Apply critical analysis, evaluation and synthesis to issues which are at the forefront of, or informed by, developments at the forefront of project management. 2. Critically review, consolidate and extend knowledge, skills practices and thinking in project management 3. Understand complex project issues and make informed judgements in project management situations in the absence of complete or consistent data/information. 4. Apply critical analysis, evaluation and synthesis one's own and others' work informed by developments at the forefront of a subject/discipline. 5. Identify, conceptualise and define new and abstract research problems and issues by building solid arguments underpinned by relevant literature
Communication, ICT and Numeracy Skills	SCQF Level 11. SCQF Level 11 1. Communicate with peers, more senior colleagues and specialists. 2. Use a range of collaborative digital technologies to support and enhance project management efficiency and effectiveness, and provide recommendations in terms of refinements/improvements to existing software to increase effectiveness. 3. Undertake critical evaluations of project-related numerical and graphical data for the purpose of enhancing project management efficiency and effectiveness. 4. Communicate the need for research and research requirements through a research proposal to a range of audiences with different levels of knowledge/expertise. 5. Use online databases to identify suitable sources and appropriate software for developing and structuring literature review
Autonomy, Accountability and Working with others	SCQF Level 11. SCQF Level 11. 1. Exercise substantial autonomy and initiative in professional and equivalent activities 2. Take responsibility for a significant range of resources beyond minimum requirements 3. Demonstrate leadership and/or initiative and make an identifiable contribution to change and development (i.e. flipped classroom environment) 4. Take responsibility for own work – selection and development of research topic (i.e. independent researcher) 5. Deal with complex ethical and professional issues in the context of research

Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	**Module Title:**
	Other:	N/A
Co-requisites	**Module Code:**	**Module Title:**

* Indicates that module descriptor is not published.

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Learning and Teaching

It is a fundamental expectation at the Masters level that participants are independent learners. The module will thus be taught by a combination of lectures, online and class-based group-work tutorials, practicals, guided independent study and through a flipped classroom with pre-recorded lectures but will also involve specialist experts in a variety of aspects of project management.

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	12
Tutorial/Synchronous Support Activity	6
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:
Cleland D. I. and Ireland L. (2006), Project Management: Strategic Design and Implementation, 5th Ed., McGraw-Hill.

Reiss G., (2007), Project Management Demystified, 3rd Edn., Taylor & Francis.

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

Gray, D.E.(2006) Doing Research in the Real World, Sage

(**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**

Supplemental Information

Programme Board	Physical Sciences
Assessment Results (Pass/Fail)	No
Subject Panel	Physical Sciences
Moderator	Shigeng Song
External Examiner	D Faux
Accreditation Details	
Version Number	2.04

Assessment: (also refer to Assessment Outcomes Grids below)
Continuous assessment mark from written reports scheduled online and class tests–mid-trimester online tests, mid-term class tests and a final qualitative online test (50%) The continuous assessment mark will be the average of all test marks. Failure to attend a class test will result in a mark of 0 (zero).
Coursework assignment mark from a written report (2500 words) on a topic taken from project management or research methods. The report will need to demonstrate extensive, detailed and critical knowledge (50%). Failure to attend to submit coursework with the allotted time will result in a mark of 0 (zero).
Formative assessment: (1) peer-assessed teamwork and (2) end of class 5-minute quizzes with response cards and immediate feedback
(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 B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours	
Class test (written)	✓	✓	✓	✓	50	0	
Essay	✓	✓	✓	✓	50	0	

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

Component 3						
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Combined Total For All Components					100%	0 hours

Footnotes
A. Referred to within Assessment Section above
B. Identified in the Learning Outcome Section above
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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 Programmes &/or Professional requirements.

Equality and Diversity
The programme team have considered how the programme meets the requirements of potential students irrespective of age, disability, political belief, race, religion or belief, sex, sexual orientation, social background or any other protected characteristic. Students/participants with special needs (including additional learning needs) will be assessed/accommodated and any identified barriers to particular groups of students/participants discussed with the Enabling Support Unit (for further details, please refer to the UWS Equality, Diversity and Human Rights policy). Further guidance is available from CAPLeD, Student Services, School Disability Co-ordinators or the University's Equality and Diversity Co-ordinator. 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)