

University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Project and Professional Skills			
Code: PHYS10003	SCQF Level: 10 (Scottish Credit and Qualifications Framework)	Credit Points: 40	ECTS: 20 (European Credit Transfer Scheme)
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	David O'Donnell		
Summary of Module			
<p>This is a core Level-10 module for students on Physics and Physics with Nuclear Technology.</p> <p>The physics project is an opportunity for students to put their knowledge into practice and experience how physics is done in a research setting. Students will conduct their independent research project with staff supervision. Some taught material on computing within the context of physics applications and more general PDP will be provided.</p> <p>In the first part of the Honours project, the outcome for the student is a thorough understanding of their project area and a clear plan on what is to be achieved in the second part. Projects are hosted within research groups and make use of research-level equipment and software.</p> <p>Students will learn to keep a logbook - it is essential for all research work that detailed dated records are maintained. Students will learn to analyse data critically. The data must be analysed and conclusions drawn from this analysis. It is important that the relationship between the data and the conclusions is clear.</p> <p>In terms of the Physics programme, this is where the student learns by experience and with guidance to confidently employ their physics knowledge and problem-solving techniques.</p> <p>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.</p> <ul style="list-style-type: none"> • 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	Hybrid 0	Work-Based Learning
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Add name

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1		Term 2		Term 3	
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>

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	Develop a plan for an extended practical and/or computational investigation
L2	Demonstrate understanding of the context of the investigation
L3	Carry out an extended practical and/or computational investigation, applying appropriate experimental or computational techniques.
L4	Communicate the plan and the context to professional colleagues
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)	<p>SCQF Level 10</p> <p>The project covers all of the areas mentioned for K&U in SCQF level 10, the student reviews the background to the work to be undertaken using advanced textbooks, published literature, and interaction with supervisor and other research staff. Ideally, they</p>

	are able to identify or at least appreciate the key concepts to be investigated. In that specific focused area, they should be aware of work at the forefront of the discipline and have some understanding of how their own project work fits into the picture.	
Practice: Applied Knowledge and Understanding	<p>SCQF Level 10</p> <p>Using mathematical skills, techniques, practices and methods of physics to carry out an extended piece of work. The project is an excellent way for students to apply the knowledge and understanding they have learned in classes and in earlier Physics labs. Based on SCQF level 10, they will use the principal skills of Physics, together with a few more specialist advance skills. They will execute a project of research in which they have to plan an investigation and identify outcomes, and this is likely to involve professional interaction with other researchers or sometimes external collaborators.</p>	
Generic Cognitive skills	<p>SCQF Level 10</p> <p>Originate, present and evaluate information and ideas in a well-documented form. Use a range of approaches to addressing problems and issues in physics.</p>	
Communication, ICT and Numeracy Skills	<p>SCQF Level 10</p> <p>The student will use a range of advanced skills in physics. For example: to convey ideas in well-structured and coherent form; to use a range of forms of communication effectively in both familiar and new contexts; to use advanced techniques to obtain and process a variety of information and data; use a range of numerical and graphical skills in combination; use numerical and graphical data.</p>	
Autonomy, Accountability and Working with others	<p>SCQF Level 10</p> <p>Exercise initiative and independence in carrying out planned activities. Take account of own and others' roles and responsibilities in carrying out and evaluating tasks. Work with others in support of current professional practice under guidance.</p>	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	<p>Module Code: PHYS09003 PHYS09007 PHYS09008 PHYS09011</p>	<p>Module Title: Electromagnetism Thermodynamics & Statistical Physics Quantum Mechanics Atoms & Nuclei</p>
	Other:	or equivalent
Co-requisites	Module Code:	Module Title:

*Indicates that module descriptor is not published.

Learning and Teaching	
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.	
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	12
Independent Study	376
	400 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: Materials will be provided or indicated by the Project Supervisor.	
(**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.	
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	Engineering and Physical Sciences
Assessment Results (Pass/Fail)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
School Assessment Board	Physical Sciences
Moderator	Shigeng Song
External Examiner	H Boston
Accreditation Details	Institute of Physics
Changes/Version Number	7.0 Module descriptor amended to conform to the new template format and to reflect outcomes from ILR 2023.

Assessment: (also refer to Assessment Outcomes Grids below)
<p>There is no exam. In the first component of assessment the communication skills of the student will be enhanced and assessed through structured activities including workshops on scientific writing and presentation skills to provide the student with the tools necessary in order to communicate effectively with their peers.</p> <p>In term 2, the first component of summative assessment will take the form of a written report (60 %). This will gauge the quality of the student's work overall. The student will also have to present the results of their project to their peers in the form of an oral presentation (20 %).</p> <p>For the second component of assessment the soft skills and abilities of the student as a scientific researcher will be evaluated.</p> <p>At the end of the project the student will submit their laboratory logbook (10%) and their overall performance during the project will be evaluated by the supervisor (10%). This will enable the supervisor to provide a mode of assessment from which the student can obtain feedback on their performance during the project.</p>
Assessment 1 – Project report
Assessment 2 – Project presentation
Assessment 3 – Submission of logbook
Assessment 4 – Student's conduct
<p>(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.</p> <p>(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.)</p>

Assessment Outcome Grids (See Guidance Note)

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
Dissertation/Project report/Thesis	✓	✓	✓	✓	60	0
Presentation	✓	✓	✓	✓	20	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
Laboratory/Clinical/ Field notebook	✓	✓	✓	✓	10	0
Performance/Studio work/Placement WBL/WRL assessment	✓	✓	✓	✓	10	0
Combined Total for All Components					100	0