Module Descriptor

Title	Project and Professional Skills		
Session	2025/26	**Status**	Published
Code	PHYS10003	**SCQF Level**	10
Credit Points	40	**ECTS (European Credit Transfer Scheme)**	20
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	David O'Donnell		

Summary of Module

The physics project is an opportunity for students to put their knowledge into practice and experience how physics is done in a research scenario. 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. 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.

Students will learn to keep a log book - 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.

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.

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	On-Campus[1] ☒	Hybrid[2] ☐	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☐ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☐	Term 2	☐	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☒	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
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.
L5	

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 10** 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 are able to identify or at least appreciate the key concepts to be investigated. In that specific focused area, they should 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	**SCQF 10** 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

[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

	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.
Generic Cognitive skills	**SCQF 10** Originate, present and evaluate information and ideas in a well documented form. Use a range of approaches to addressing problems and issues in physics.
Communication, ICT and Numeracy Skills	**SCQF 10** 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.
Autonomy, Accountability and Working with Others	**SCQF 9** 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.

Prerequisites	**Module Code**	**Module Title**
	PHYS09003	Electromagnetism
	PHYS09008	Quantum Mechanics
	PHYS09012	Mathematics for Physics 2
	PHYS09013	Atoms, Nuclei and Particles
	Other or equivalent	
Co-requisites	**Module Code**	**Module Title**

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** (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
Please select	

Please select	
Please select	
TOTAL	400

Indicative Resources
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. 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 log in 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 that 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. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, 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	**Engineering Physical Sciences**

Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **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	Mathematics and Physics
Moderator	S. Song
External Examiner	TBC
Accreditation Details	Institute of Physics (IoP)
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	3.0 Module descriptor amended to conform to the new template format.

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Dissertation (80%): Project Report (60%) and Presentation (20%)
Assessment 2
Coursework (20%): Laboratory Logbook (10%) and Student Performance Review (10%)
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**
Dissertation	☒	☒	☒	☒	☐	80	0

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Coursework	☒	☒	☒	☒	☐	20	0

Component 3

Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
	☐	☐	☐	☐	☐		
Combined total for all components						100%	0 hours

Change Control

What	When	Who
Moved to new template	26/03/2025	D. O'Donnell