

Basic details

UID	<input type="text"/>	Cohorts covered	Earliest cohort 2021-22	Latest cohort <input type="text"/>
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Long title

New code New short title

Brief description of module
(approx. 600 chars.)

This module is designed to test students' problem-solving ability using the basic principles of physics as taught mainly in the Year 1 & Year 2 core courses, and applying them to unfamiliar situations. Students will also gain an understanding of the professional skills associated with problem-based learning through working in small teams, delegating workload and carrying out general research to find solutions. Students will have the opportunity to communicate their findings through a concise written report, and verbally in the form of a team presentation to their peers.

578 characters

Available as a standalone module/ short course?

Statutory details

	ECTS	CATS	Non-credit	HECOS codes
Credit value	15	30	N	<input type="text"/>
FHEQ level	Level 6			<input type="text"/>
				<input type="text"/>

Allocation of study hours

	Hours	
Lectures	4	
Group teaching	22	<i>Incl. seminars, tutorials, problem classes.</i>
Lab/ practical	0	
Other scheduled	0	<i>Incl. project supervision, fieldwork, external visits.</i>
Independent study	349	<i>Incl. wider reading/ practice, follow-up work, completion of assessments, revisions.</i>
Placement	0	<i>Incl. work-based learning and study that occurs overseas.</i>
Total hours	375	
ECTS ratio	25.00	

Project/placement activity

Is placement activity allowed?

Module delivery

Delivery mode	Taught/ Campus	Other	<input type="text"/>
Delivery term	Year-long	Other	<input type="text"/>

Ownership

Primary department

Additional teaching departments

Delivery campus

Collaborative delivery

Collaborative delivery?

External institution
 External department
 External campus

Associated staff

Role	CID	Given name	Surname
Module Leader	167663	Derek	Lee
Topic Leader		Mitesh	Patel

Learning and teaching

Module description

Learning outcomes	On completion of this module you will be able to: (1) Demonstrate strengthened knowledge of the basic principles of physics, (2) Apply basic physics principles to new situations, (3) Successfully connect different areas of physics, (4) Formulate a structured approach to problem-solving both individually and as part of a team.
Module content	This module will explore the connectivity between the core physics modules undertaken in years 1,2 & 3, and also how this knowledge can be applied to new situations to produce novel solutions.
Learning and Teaching Approach	Module-specific tutorials occur weekly throughout terms 1 and 2. They typically comprise 4-5 students and one academic staff member, and are focussed primarily on tackling open-ended problems which involve applying physics principles and may make use of physics from several previous core modules. Additionally, students will work in small teams to develop novel solutions to problems through delegating workload, carrying out adequate 'research', and communicating their findings orally in the form of a team presentation to their peers and staff. These will be supported by further weekly tutorials within the relevant groups. These combined activities seek to support students in developing the necessary skills to achieve the learning outcomes outlined above.

Assessment Strategy	Assessment is based on two 2.5 hour Comprehensive exams (80%), plus a team-based verbal presentation and Q&A (20%) based on their problem-based learning exercise. The exam question-style is of an open-ended kind similar to those students have been tackling during the tutorials.
Feedback	Formative feedback is provided through the tutorials. For the team-based exercise, formative feedback is provided at a number of key stages entitled 'feedback sessions' with an academic staff member, as well as through access to a pool of demonstrators. Summative feedback is provided for the verbal presentation.
Reading list	University Physics - Young & Freedman, Mathematical Methods in the Physical Science - Boas

Quality assurance

Date of first approval

Date of last revision

Date of this approval

Office use only

QA Lead

Department staff

Date of collection

Module leader

Date exported

Date imported

Notes/ comments

Programme structure

Associated modules

UID	Legacy code	Module title	Requisite type
		Vector Fields, Electricity and Magnetism	Prerequisite
		Mechanics and Relativity	Prerequisite
		Oscillations and Waves	Prerequisite
		Thermal Physics and Structure of Matter	Prerequisite
		Differential Equations and Electromagnetism	Prerequisite
		Quantum Physics	Prerequisite
		Nuclear and Particle Physics	Corequisite
		Solid State Physics	Corequisite

