Imperial College London

Module Specification (Curriculum Review)

Basic details

			Earliest cohort	Latest cohort
UID		Cohorts covered	2025-26	

Long title: Comprehensives

New code	PHYS60002	New short title	Comprehensives

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 briefing-style presentation to their peers.

534 characters

Available as a standalone module/ short course? N

Statutory details

	ECTS	CATS	Non-credit
Credit value	10	20	N

10

FHEQ level: Level 6

HECOS codes:

Allocation of study hours

	Hours	
Lectures	4	
Group teaching	20	*Incl. seminars, tutorials, problem classes.*
Lab/ practical	0	
Other scheduled	0	*Incl. project supervision, fieldwork, external visits.*
Independent study	226	*Incl. wider reading/ practice, follow-up work, completion of assessments, revisions.*
Placement	0	*Incl. work-based learning and study that occurs overseas.*
Total hours	250	
ECTS ratio	25.00	

Project/placement activity

Is placement activity allowed? No

Module delivery

Delivery mode	Taught/ Campus	Other	
Delivery term	Year-long	Other	

Ownership

Primary department: Physics

Additional teaching departments	None
Delivery campus	South Kensington

Collaborative delivery

Collaborative delivery?	N

External institution	N/A
External department	N/A
External campus	N/A

Associated staff

Role	CID	Given name	Surname
Module Leader		Chris	Phillips
Topic Leader		Julie	Euvrard

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. (5) Identify and implement key roles necessary in a group dynamic to achieve a task. (6) Interact as a team to enable decision-making and generate solutions.
Module content	This module will explore the connectivity between the core physics modules undertaken in years 1 & 2, and also how this knowledge can be applied to new situations to produce novel solutions. (Questions related to topics in core modules in Year 3 will be framed in a self-contained way so that they can be answered without the need for detailed knowledge from the modules.)
Learning and Teaching Approach	Academic tutorials: Tutorials occur weekly throughout terms 1 and 2 to support LO1-4.They typically comprise 4-5 students and one academic staff member. The tutorials are focussed primarily on tackling open-ended problems which involve applying physics principles and may make use of physics from core modules. Interactive Physics sessions: Additionally, students will work in small teams (4-6 students) on unfamiliar, open-ended, and context rich problems to develop skills including team working, time management, and critical thinking. Each team will give a brief presentation of their solution to their peers at the end of the session. These combined activities seek to support students in developing the necessary skills to achieve LO4-6. This is carried out in time-gated sessions to avoid excessive time investment by students.

Assessment Strategy	Assessment is based on: - One Comprehensive exam (90%) to assess LO1-4. - Team-based exercises and verbal presentation (10%) assessed as a team based on their problem-based team exercise. Breakdown: 3% on group presentation (LO2-4) assessed by seminar leads 3% on group interactions (LO4-6) assessed by seminar leads who interact with the teams 4% on reflective exercise (LO4-5) and attendance
Feedback	Formative feedback is provided through the tutorials. For the team-based exercise, written formative feedback is provided by an academic staff member ~~during~~ after the sessions and through reflective exercises.
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	
Module leader	Chris Phillips

Office use only

QA Lead	
Department staff	
Date of collection	
Date exported	
Date imported	

Notes/ comments

Template version 16/06/2017

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

Assessment details

		Pass mark
Grading method	Numeric	40%

Assessments

Assessment type	Assessment description	Weighting	Pass mark	Must pass?
Examination	One 2.5 hour exam	90%	40%	N
Coursework	Interactive Physics: team-based exercise	10%	40%	N
		100%		