Imperial College London

Module Specification (Curriculum Review)

Basic details

			Earliest cohort	Latest cohort
UID		Cohorts covered	2024-25	

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.

535 characters

Available as a standalone module/ short course? N

Statutory details

	ECTS	CATS	Non-credit
Credit value	15	30	N

HECOS codes:

FHEQ level: Level 6

Allocation of study hours

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

Project/placement activity

Is placement activity allowed? No

Module delivery

Delivery mode: Taught/ Campus

Delivery term: Year-long

Other:

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		Martin	McCall
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,
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 (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 the learning outcomes outlined above.

Assessment Strategy	Assessment is based on the 2 x 2.5 hour Comprehensive exams (80%), plus team-based exercises and verbal presentation (20%) based on their problem-based learning exercise.
Feedback	Formative feedback is provided through the tutorials. For the team-based exercise, written formative feedback is provided by an academic staff member 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	Martin McCall

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
		Nuclear and Particle Physics	Corequisite
		Solid State Physics	Corequisite

Assessment details

		Pass mark
Grading method	Numeric	40%

Assessments

Assessment type	Assessment description	Weighting	Pass mark	Must pass?
Examination	Two 2.5 hour exams	80%	40%	N
Coursework	Team-based exercise	20%	40%	N
		100%		