

Short Title:	Physics 2 APPROVED
Full Title:	Physics 2
Language of Instruction:	English

Module Code:	PHYS H1002
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Credits:	5
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Field of Study:	Physics
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Module Delivered in	5 programme(s)
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Reviewed By:	JOHN BEHAN
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Module Author:	KEVIN M NOLAN
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Module Description:	This module aims to provide a foundation in three key areas of Physics (optics, electricity, and modern physics). The module also aims to develop an appreciation for the scope of these areas of specialisation and an awareness of current developments in these fields. Upon successful completion of this module the student will also be able to apply their knowledge of physics to other scientific disciplines.
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Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Explain the operation of optical instruments such as microscopes using geometrical optics
LO2	Explain the progression of wavelength, frequency, energy per photon, and colour of light across the electromagnetic spectrum.
LO3	Calculate the wavelength of light using interferometric techniques.
LO4	Explain the operation of optical instruments which use interference of light waves
LO5	Explain the emission of electromagnetic radiation by excited atoms.
LO6	Describe the origin and characteristics of the three main types of atomic spectra
LO7	Analyse electrical circuits composed of Ohmic resistors and voltage sources.
LO8	Calculate electric and magnetic fields caused by charges and currents.
LO9	Describe the principle characteristics of different types of nuclear radiation.
LO10	Calculate radiation doses.
LO11	Explain the stability of different nuclei.

Module Content & Assessment

Course Work				
<i>Assessment Type</i>	<i>Assessment Description</i>	<i>Outcome addressed</i>	<i>% of total</i>	<i>Assessment Date</i>
Continuous Assessment	On-line quizzes	1,2,3,4,5,7,8,9,10,11	15.00	Every Second Week
Continuous Assessment	Midterm in-class written assessment.	1,2,3,4,5,6,7	15.00	Week 30

End of Module Formal Examination				
<i>Assessment Type</i>	<i>Assessment Description</i>	<i>Outcome addressed</i>	<i>% of total</i>	<i>Assessment Date</i>
Formal Exam	End-of-Semester Final Examination	1,2,3,4,5,7,8,9,10,11	70.00	End-of-Semester

TU Dublin – Tallaght Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	delivery of theory	3.00	Every Week	3.00
Tutorial	problem solving	1.00	Every Week	1.00
Independent Learning Time	background reading	3.00	Every Week	3.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

This module has no Part Time workload.

Module Resources

Recommended Book Resources

Keith Johnson,Simmons Hewett,Sue Holt,John Miller 2015, *Advanced Physics for You*, 2nd Ed., OUP Oxford UK [ISBN: 978-140852737]

Lyublinskaya et al., *College Physics for AP Courses*, 1 Ed., 34, OpenStax USA [ISBN: 9781947172173]

Doug Giancoli, 2008, *Physics for Scientists and Engineers with Modern Physics*, 4 Ed., Prentice Hall [ISBN: 0131495089]

Hugh D. Young, Roger A. Freedman, 2011, *University Physics with Modern Physics with MasteringPhysics®*, 13 Ed., Addison Wesley [ISBN: 0321675460]

John D. Cutnell & Kenneth W. Johnson; with contributions by Kent D. Fisher 2009, *Physics*, Wiley Hoboken, NJ [ISBN: 0470223553]

This module does not have any article/paper resources

This module does not have any other resources

Module Delivered in

Programme Code	Programme	Semester	Delivery
TA_SABIO_B	<u>Bachelor of Science (Honours) in Bioanalytical Science</u>	2	Mandatory
TA_SPHAR_B	<u>Bachelor of Science (Honours) in Pharmaceutical Science</u>	2	Mandatory
TA_SASCI_D	<u>Bachelor of Science in Bioanalysis or Chemical Analysis</u>	2	Mandatory
TA_SAPHR_D	<u>Bachelor of Science in Pharmaceutical Science</u>	2	Mandatory
TA_SBIOL_C	<u>Higher Certificate in Science in Applied Biology</u>	2	Mandatory