



The University of Southern Queensland

## Course specification

The current and official versions of the course specifications are available on the web at <http://www.usq.edu.au/coursespecification/current>.  
Please consult the web for updates that may occur during the year.

### Description: Physics Concepts

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
PHY	1104	86564	1, 2009	EXT	1.00	Toowoomba

<b>Academic group:</b>	FOSCI
<b>Academic org:</b>	FOS002
<b>Student contribution band:</b>	6
<b>ASCED code:</b>	010301

### STAFFING

Examiner: Brad Carter  
Moderator: Alfio Parisi

### RATIONALE

A knowledge of the concepts of physics is fundamental to the understanding of the mechanisms used widely in modern science and technology. This course provides the necessary physics for future professionals, for example, scientists, climatologists, engineers, biomedical practitioners, wine scientists and teachers.

### SYNOPSIS

Physics is a fundamental science and is concerned with the basic principles of science and technology. This introductory course provides students with an understanding of basic physics principles. The use of physics concepts for problem solving and exercises, based on real-life applications, is provided.

### OBJECTIVES

On completion of this course students will be able to:

1. demonstrate a basic knowledge of physics principles (CMA Test, Practical Exercises, Exam);
2. apply basic principles of physics to the solution of problems and exercises based on real-life applications (CMA Test, Practical Exercises, Exam).

### TOPICS

Description	Weighting (%)
1. Problem Solving in Physics; Vectors; Kinematics; Forces; Work and Energy; Linear Momentum; Rotation Mechanics; Solids and Fluids.	60.00

2. Vibrations and Waves; Heat; Thermodynamics; Electric and Magnetic Fields and Basic Electric Circuits; Geometric Optics. 40.00

### **TEXT and MATERIALS required to be PURCHASED or ACCESSED**

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

Experiment kit for PHY1104 Physics Concepts

Carter, BD 2009, *Physics concepts introductory/study book*, USQ Publications, Toowoomba.

Wolfson, R 2007, *Essential university physics with mMastering physics*, Benjamin Cummings, (ISBN-10: 0805302964, ISBN-13: 9780805302967)

### **REFERENCE MATERIALS**

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Halliday, D, Resnick, R & Walker, J 2005, *Fundamentals of physics*, 7th edn, Jacaranda Wiley, Hoboken, NJ.

Serway, RA, Faughn, JS, Vuille, C & Bennett, CA 2006, *College physics*, Thomson Brooks/Cole, Belmont (CA), USA.

(7th enhanced edn, ISBN (10) - 0495 113697)

Tipler, PA & Mosca, G 2004, *Physics for scientists and engineers*, 5th edn, WH Freeman & Co, USA.

### **STUDENT WORKLOAD REQUIREMENTS**

ACTIVITY	HOURS
Directed Study	84.00
Examinations	2.00
Private Study	84.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
CMA TEST	40.00	30.00	29 May 2009
PRACTICAL EXERCISES	20.00	20.00	12 Jun 2009
2HR RESTRICTED EXAM	60.00	50.00	END S1 (see note 1)

### NOTES

1. Examination dates will be available during the Semester.

## IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:  
It is the students' responsibility to attend and participate appropriately in all activities (such as lectures and tutorials) scheduled for them, and to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.
- 2 Requirements for students to complete each assessment item satisfactorily:  
To complete the CMA Test satisfactorily, students must obtain at least 50% of the marks available for them. To complete the examination satisfactorily, students must obtain at least 50% of the marks available for the examination.
- 3 Penalties for late submission of required work:  
If students submit assignments after the due date without (prior) approval of the examiner then a penalty of 5% of the total marks gained by the student for the assignment may apply for each working day late up to ten working days at which time a mark of zero may be recorded.. No assignments will be accepted after model answers have been posted.
- 4 Requirements for student to be awarded a passing grade in the course:  
To be assured of receiving a passing grade a student must achieve at least 50% of the total weighted marks available for the course.
- 5 Method used to combine assessment results to attain final grade:  
The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for each of the summative assessment items in the course.
- 6 Examination information:  
Candidates are allowed access only to specific materials during a Restricted Examination. The only materials that candidates may use in the restricted examination for this course are: writing materials (non-electronic and free from material which could give the student an unfair advantage in the examination); calculators which cannot hold textual information (students must indicate on their examination paper the make and model of any calculator(s) they use during the examination).
- 7 Examination period when Deferred/Supplementary examinations will be held:  
Any Deferred or Supplementary examinations for this course will be held during the next examination period.
- 8 University Regulations:  
Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL

<http://www.usq.edu.au/corporateservices/calendar/part5.htm> or in the current USQ Handbook.

## **ASSESSMENT NOTES**

- 9 The due date for assignments is the date by which a student must despatch an assignment to the USQ. The onus is on the students to provide proof of the despatch date, if requested by the Examiner. Students must retain a copy of each item submitted for assessment. This must be produced within 48 hours if required by the Examiner.