



The University of Southern Queensland

Course specification

Description: Physics Concepts

| Subject | Cat-nbr | Class | Term | Mode | Units | Campus |
|---------|---------|-------|---------|------|-------|-----------|
| PHY | 1104 | 40921 | 1, 2005 | EXT | 1.00 | Toowoomba |

| | |
|-----------------------------------|--------|
| Academic group: | FOSCI |
| Academic org: | FOS002 |
| Student contribution band: | 2 |
| ASCED code: | 010301 |

STAFFING

Examiner: Alfio Parisi
Moderator: Jeff Sabburg

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 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;
2. apply basic principles of physics to the solution of problems and exercises based on real-life applications.

TOPICS

| Description | Weighting (%) |
|--|---------------|
| 1. Problem Solving in Physics; Vectors; Kinematics; Forces; Work and Energy; Linear Momentum; Rotation Mechanics; Solids and Fluids. | 50.00 |

2. Simple Harmonic Motion and Waves; Wave Behaviour; Heat; Thermodynamics; Electric and Magnetic Fields; Basic Electric Circuits; Geometric Optics. 50.00

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).

Serway, RA & Faugh, JS 2003, *College Physics*, 6th edn, Thomson, Brooks Cole, Pacific Grove, USA.

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 2001, *Fundamentals of Physics*, 6th edn, Jacaranda Wiley, New York.

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

STUDENT WORKLOAD REQUIREMENTS

| ACTIVITY | HOURS |
|----------------|-------|
| Directed Study | 83.00 |
| Examinations | 3.00 |
| Private Study | 84.00 |

ASSESSMENT DETAILS

| Description | Marks out of | Wtg(%) | Due date |
|---------------------|--------------|--------|------------------------|
| CMA TEST 1 | 10.00 | 10.00 | 29 Apr 2005 |
| CMA TEST 2 | 10.00 | 10.00 | 07 Jun 2005 |
| 3HR RESTRICTED EXAM | 80.00 | 80.00 | END S1 (see note 1) |

NOTES

1. Examination dates will be available during the Semester. Please refer to the examination timetable when published.

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 Tests 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 then a penalty of 20% of the total marks available for the assignment will apply for each working day late.
- 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 available weighted marks for the summative assessment items.
- 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:
In a Restricted Examination, candidates are allowed access to specific materials during the 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. With the Examiner's approval, candidates may, take an appropriate non- electronic translation dictionary (but not technical dictionaries) into the examination. This will be subject to perusal and, if it is found to contain annotations or markings that could give the candidate an unfair advantage, it may be removed from the candidate's possession until the appropriate disciplinary action is completed.
- 7 Examination period when Deferred/Supplementary examinations will be held:
Any Deferred or Supplementary examinations for this course will be held during the examination period at the end of the semester of the next offering of this course.
- 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 Students who obtain an overall passing mark, but who do not perform satisfactorily in the examination, may, at the discretion of the examiner, be granted a supplementary examination. Students will be granted a deferred examination only if they perform satisfactorily in all other assessment items.
- 10 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.