



The University of Southern Queensland

Course specification

Description: Preparatory Physics

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
TPP	7160	50021	1, 2006	EXT	1.00	Toowoomba

Academic group:	LTSUN
Academic org:	LTSUNT
Student contribution band:	2
ASCED code:	010301

STAFFING

Examiner: Colin Carmichael

Moderator: Tas Bedford

RATIONALE

An understanding of the concepts and skills which incorporate the study of physics are often a prerequisite for the study of science or engineering at the tertiary level. This course will provide students who do not feel confident about their knowledge of physics with the basic concepts and skills necessary for further pursuit of science or engineering at the tertiary level.

SYNOPSIS

The course focuses on the underlying concepts of physics covering such areas as measurement, motion, matter, electricity and magnetism. The self-paced structure of the course allows students to work through the material at a pace suitable to their needs. The course is designed to incorporate theoretical and experimental components of physics with simple experiments at home and multimedia materials enhancing the course. The course attempts to increase student problem solving in the subject area.

OBJECTIVES

In the process of successful completion of this course, students should be able to:

1. effectively communicate their understanding of physics concepts required for tertiary study of science or engineering (all assessment items);
2. demonstrate an attitude of critical inquiry and as well as apply analytical and problem-solving skills to a range of theoretical and experimental problems (all assessment items);
3. demonstrate an understanding of the physics concepts in this course through a variety of applications in the real world (all assessment items);
4. The specific objectives for each module of the course are as follows. Students are required to demonstrate an understanding of: Module 1 (a) nature of physics (b) measurement in physics Module 2 (a) nature of motion and its measurement (b) forces and motion (c) different types of motion (d) energy and motion Module 3 (a) structure of the atom and states of matter (b) forces operating on matter, in particular pressure

(c) energies operating internally and externally on matter Module 4 (a) nature of charge and its relationship to electricity (b) forces and electric fields (c) nature of magnetism (d) relationship between electricity and magnetism (all assessment items).

TOPICS

Description	Weighting (%)
1. Measurement & Experimental Physics	10.00
2. Mechanics - Forces and motion in one and two dimensions	45.00
3. Atomic, Nuclear and Particle Physics	15.00
4. Electricity and Magnetism	30.00

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).

All study materials are supplied as part of the course. Students will need to acquire a non-programmable scientific calculator.

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.

A list of recommended reference materials available from the USQ Library and Physics websites are included in the Introductory Book. A Library Loan Request form can be found in the Introductory Book. External students are allowed loans for up to 3 weeks. Please check Library Services at the USQ website.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assessment	15.00
Directed Study	112.00
Private Study	38.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
ASSIGNMENT 1	20.00	6.00	24 Mar 2006
ASSIGNMENT 2	28.00	8.00	07 Apr 2006
ASSIGNMENT 3	28.00	8.00	28 Apr 2006
ASSIGNMENT 4	33.00	9.00	12 May 2006
ASSIGNMENT 5	33.00	9.00	02 Jun 2006
END SEMESTER 3 HR EXAM	60.00	60.00	END S1 (see note 1)

NOTES

1. Examination date will be available during the semester. Please refer to the examination timetable when published.

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
There are no attendance requirements for this course. However, it is the students' responsibility 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 each of the assignments satisfactorily, students must obtain at least 50% of the marks available for each assignment. 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:
Students are strongly encouraged to discuss any problems with the lecturer regarding their ability to submit assignments on time. If students submit assignments after the due date without prior approval then a penalty of 5% 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 attempt all of the summative assessment items, achieve at least 50 % in the examination and achieve an aggregated mark of at least 50 % in the total marks allocated for the assignments. Students who do not qualify for a Passing grade may, at the discretion of the Examiner, be awarded a Supplementary Examination and/or assigned additional work to demonstrate to the Examiner that they have achieved the required standard. It is expected that such students have gained at least 40 % of the total marks available for all 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 weighted aggregate of the marks obtained for each of the summative assessment items in the course.
- 6 Examination information:
Examinations in this course are restricted examinations. 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); 1 A4 page of hand written or typed notes (written on both sides); English translation dictionaries (but not technical dictionaries).

- 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

- 1 The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner.
- 2 Students must retain a copy of each item submitted for assessment. This must be produced within five days if required by the Examiner.
- 3 In accordance with University Regulations (5.6.1), the Examiner may grant an extension of the due date of an assignment in extenuating circumstances.
- 4 The Faculty will normally only accept assessments that have been written, typed or printed on paper-based media.
- 5 Students who do not have regular access to postal services or who are otherwise disadvantaged by these regulations may be given special consideration. They should contact the Examiner of the course to negotiate such special arrangements.
- 6 In the event that a due date for an assignment falls on a local public holiday in their areas, such as a Show holiday, the due date for the assignment will be the next day. Students are to note on the assignment cover the date of the public holiday for the Examiner's convenience.
- 7 Students who have undertaken all of the required assessments in a course but who have failed to meet some of the specified objectives of a course within the normally prescribed time may be awarded the temporary grade: IM (Incomplete - Make up). An IM grade will only be awarded when, in the opinion of the examiner, a student will be able to achieve the remaining objectives of the course after a period of non directed personal study.
- 8 Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time, may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded IDS (Incomplete - Deferred Examination); IDM (Incomplete Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).

OTHER REQUIREMENTS

- 1 Students should have a knowledge of Mathematics Tertiary Preparation Level B or equivalent.

- 2 The time it will take to complete this course will vary and depends on your previous study experience.
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