



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: Electrical and Electronic Practice A

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
ELE	1911	86341	1, 2009	ONC	0.00	Toowoomba

Academic group:	FOENS
Academic org:	FOES04
Student contribution band:	2
ASCED code:	031300

STAFFING

Examiner: Glenn Harris

Moderator: Hong Zhou

OTHER REQUISITES

Recommended prior or concurrent study: ELE1301 and ELE1502 and ELE1801

SYNOPSIS

The purpose of this practice course is to provide experimental support for the first level of all day or first and second level of all external programs in Electrical and Electronic Engineering, Computer Systems Engineering, and Instrumentation and Control Engineering. This course provides equipment familiarisation and safety information, together with experimental work in analog and digital electronics, waveform generation, combinational and sequential logic, DC circuits and machines, rectification, series resonance, power factor correction, transformers, AC motors and generators. The principle objectives are to allow the student to develop practical skills, and knowledge of devices, equipment and techniques, to reinforce the learning of theory and develop observation and interpretation skills, and to stimulate interest and develop self confidence.

OBJECTIVES

On completion of this course, students should be able to:

1. observe appropriate safety procedures (lab exercises);
2. describe the characteristics, operation and application of a broad range of electrical and electronic components, devices and equipment (lab exercises);
3. select and use appropriate test equipment and procedures (lab exercises);
4. assemble or connect circuits correctly and predict the consequences of incorrect connection (lab exercises);
5. use electronic devices and microprocessors in simple applications (lab exercises);
6. measure the characteristics and/or performance of a range of electrical and electronic circuits and devices (lab exercises);
7. analyse and interpret test results and measurements on electric and electronic circuits, in terms of their theory of operation (lab exercises);

8. predict the performance of simple electric and electronic devices from their characteristics (lab exercises).

TOPICS

	Description	Weighting (%)
1.	Equipment familiarisation	4.00
2.	Amplifier characteristics	4.00
3.	Logic Characteristics	4.00
4.	Waveform generation	4.00
5.	Combinational logic	4.00
6.	Sequential logic	8.00
7.	Microprocessors	16.00
8.	Rectification	8.00
9.	DC circuits, motors and generators	4.00
10.	Power factor and resonance	8.00
11.	AC machines	16.00
12.	Technical reporting	20.00

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).

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.

ELE1301 Computer engineering: external study guide and text, University of Southern Queensland, Toowoomba.

ELE1502 Electronic circuits: external study guide and text, University of Southern Queensland, Toowoomba.

ELE1801 Electrical technology: external study guide and text, University of Southern Queensland, Toowoomba.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Laboratory or Practical Classes	40.00
Private Study	10.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
LABORATORY EXERCISES	1.00	100.00	30 Oct 2009 (see note 1)

NOTES

1. Students will be advised of the due date when each assessment item is issued.

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
(i) It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work) 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. (ii) Students must attend and complete the requirements of the Workplace Health and Safety training program for this course before they are able to undertake any practical work in the electrical laboratories.
- 2 Requirements for students to complete each assessment item satisfactorily:
To satisfactorily complete an assessment item a student must achieve at least 50% of the marks or a grade of at least C-. Students do not have to satisfactorily complete each assessment item to be awarded a passing grade in this course. Refer to Statement 4 below for the requirements to receive a passing grade in this course.
- 3 Penalties for late submission of required work:
Not applicable.
- 4 Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade students must complete at least 80% of the practical and other activities at a satisfactory standard, as stated in 2 above.
- 5 Method used to combine assessment results to attain final grade:
As P is the only passing grade available for this course, all students who are qualified for a passing grade, under the requirements in 4 above, will be given a grade of P. Other students will be given either a Failing grade or an Incomplete grade.
- 6 Examination information:
There is no examination in this course.
- 7 Examination period when Deferred/Supplementary examinations will be held:
Not applicable.
- 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 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.
- 2 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 On-campus students will normally complete the practical work for this course at the same time as they undertake the courses listed as co-requisites.
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