



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 D

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
ELE	3914	86344	1, 2009	ONC	0.00	Toowoomba

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

STAFFING

Examiner: Ron Sharma

Moderator: John Leis

OTHER REQUISITES

Recommended prior or concurrent study: ELE3506 and ELE3805 and ELE3803

RATIONALE

This course provides an opportunity for students to have practical experience with equipment and concepts associated with higher level electrical and electronic courses, while at the same time developing some other skills needed to perform satisfactorily in the workforce.

SYNOPSIS

This course provides experience with a range of advanced electrical and electronic equipment of the kind not likely to be available for analysis in industry. This equipment includes advanced electronic test equipment, electromagnetic compatibility measuring equipment, automatic electronic test equipment programmed with graphical programming software and programmable logic controllers, power electronic systems such as motor drives and rectifiers and a variety of electrical machines. Work during the course will be in small teams and students are expected to perform satisfactorily in this context.

OBJECTIVES

The course objectives define the student learning outcomes for a course. The assessment item(s) that may be used to assess student achievement of an objective are shown in parenthesis. On completion of this course, students should be able to:

1. use bench test equipment including both analog and digital oscilloscopes, spectrum analysers, signal sources and digital multimeters;
2. devise, implement and evaluate test procedures on electronic devices using a graphical programming language such as HP VEE or Labview, and automatic test equipment;
3. evaluate a broad range of design criteria for typical electrical or electronic products;

4. describe the operation of programmable logic controllers and write PLC programs;
5. operate and test aspects of power electronics circuits including rectifiers, dc to dc converters and adjustable-speed motor drives;
6. measure the characteristics of electrical machines;
7. co-operate in a team environment to achieve objectives in a given timeframe;
8. present a short seminar to a group of their peers;
9. prepare evaluative reports on work undertaken; and
10. engage in informed discussions about design criteria for electrical and electronic equipment, including sustainability.

TOPICS

	Description	Weighting (%)
1.	Electronic test equipment	16.00
2.	Automatic Test Equipment	16.00
3.	Programmable logic controllers	8.00
4.	Electrical machinery and power systems	16.00
5.	Power electronics circuits	16.00
6.	Specifying electrical/electronic products	16.00
7.	Working in teams	6.00
8.	Engineering Communication	6.00

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.

ELE3506 Electronic measurement: external study package, University of Southern Queensland, Toowoomba.

ELE3803 Electrical plant: external study package, University of Southern Queensland, Toowoomba.

ELE3805 Power electronics: external study package, University of Southern Queensland, Toowoomba.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Directed Study	5.00
Laboratory or Practical Classes	37.00
Report Writing	5.00
Seminars	3.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
TEAM WORK	100.00	10.00	12 Jun 2009
PRACTICAL WORK	600.00	60.00	12 Jun 2009
SEMINAR	100.00	10.00	12 Jun 2009
FORMAL REPORT	200.00	20.00	12 Jun 2009

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
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.
- 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:
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, students must complete at least 90% of the practical and other activities at a satisfactory standard, as stated in the course Assessment Scheme.
- 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 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's Assignment Extension Policy (Regulation 5.6.1), the examiner of a course 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 The Faculty will NOT accept submission of assignments by facsimile.
- 6 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.
- 7 In the event that a due date for an assignment falls on a local public holiday in their area, 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.
- 8 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.
- 9 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).
- 10 This is a communication benchmark course and a major component of the assessment of this course will be associated with the demonstration of communication skills.