



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 B

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
ELE	2912	86342	1, 2009	ONC	0.00	Toowoomba

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

STAFFING

Examiner: Mark Phythian
Moderator: Alexander Kist

OTHER REQUISITES

Recommended prior or concurrent study: ELE2303 and (ELE2103 or ELE2101)

SYNOPSIS

The purpose of this practice course is to provide experimental support for level two of all internal programs and level three of all external programs in Electrical and Electronic, Computer Systems, Instrumentation and Control Engineering, and Software Engineering. Engineering practice skills, such as the ability to perform practical and project work, innovation, problem identification and solution and engineering judgement will be developed as the students progress through their program. The development of communication skills is also encouraged in the engineering practice courses. This practice course will also reinforce the learning of theory and develop observation and interpretation skills and to stimulate interest and develop self confidence. The course provides equipment familiarisation with control including the examination of first and second order systems as well as microprocessor programming and peripherals and PCB design.

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. design an electronic printed circuit board for a specific application using industry standard software;
2. design assembly language programs to configure microprocessor hardware to perform particular tasks;
3. create software to solve a specified problem, while working as part of a team;
4. deduce transfer functions for control system components from measurements;
5. predict open and closed loop control system transfer functions, and transient behaviour, from the characteristics of the system components;

6. analyse the measured performance of a feedback control system in terms of its theoretical model;
7. evaluate the suitability of PID and ON/OFF controllers for various tasks.

TOPICS

	Description	Weighting (%)
1.	Control systems	35.00
2.	Microprocessors	35.00
3.	PCB design	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).

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.

ELE2103 Linear systems and control: external study package, University of Southern Queensland, Toowoomba.

ELE2101 Control and instrumentation: external study package, University of Southern Queensland, Toowoomba.

ELE2501 Electronic workshop and production: external study package, University of Southern Queensland, Toowoomba.

ELE2303 Embedded systems design: external study package, University of Southern Queensland, Toowoomba.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Laboratory or Practical Classes	45.00
Report Writing	5.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
REPORTS AND ATTENDANCE RECORD	1.00	100.00	30 Oct 2009

IMPORTANT ASSESSMENT INFORMATION

- 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.
- 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.
- 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.
- 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 the course Assessment Scheme.
- 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.
- Examination information:**
There is no examination in this course.
- Examination period when Deferred/Supplementary examinations will be held:**
Not applicable.
- 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

- 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.
- 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).