### Description: Electrical and Electronic Practice C

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<tr>
<th>Subject</th>
<th>Cat-Nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
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<td>1, 2003</td>
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**Academic Group:** FOENS  
**Academic Org:** FOES04  
**HECS Band:** 2  
**ASCED Code:** 031300

### STAFFING

Examiner: Mark Norman  
Moderator: Jim Ball

### PRE-REQUISITES

Co-requisite: ELE2601 and ELE2504 or ELE2503 and ELE2702

### OTHER-REQUISITES


### SYNOPSIS

The purpose of this practice course is to provide experimental support for the 2nd level of day programs, and the 4th level of all external programs in Electrical & Electronic Engineering. This practice course provides equipment familiarisation and safety information, experience with prototyping together with experimental work in Rotating Machines, Transformers and Power Systems, Electronic Circuit Testing, Component and Circuit Characteristics, Waveform Analysis and Transmission Lines. The principle objectives are to allow the student to develop practical skills; a knowledge of devices, equipment and techniques; reinforce the learning of theory; develop observation and interpretation skills; stimulate interest and develop self confidence.

### OBJECTIVES

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

- measure the transmission characteristics of cables and waveguides, and compare the results with theoretical predictions;
- analyse the frequency spectra of communication signal waveforms and compare the results with theoretical predictions;
- interpret and apply manufacturers' data for electronic devices;
• select and use appropriate test equipment and procedures from a wide range of possibilities;
• measure the characteristics and/or performance of a wide range of electrical and electronic circuits and devices;
• analyse and interpret test results and measurements on electric and electronic circuits, in terms of theoretical models, and by comparison with the results of simulations;
• predict the performance of electric and electronic circuits from device characteristics;
• design electronic circuits to perform simple functions.

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>1. Equipment familiarisation and safety information</td>
<td>8.00</td>
</tr>
<tr>
<td>2. Rotating machines</td>
<td>10.00</td>
</tr>
<tr>
<td>3. Transformers</td>
<td>10.00</td>
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<td>4. Power Systems</td>
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<tr>
<td>5. Electronic circuit testing</td>
<td>10.00</td>
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<tr>
<td>6. Component and circuit characteristics</td>
<td>10.00</td>
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<td>7. Electronic Amplifiers</td>
<td>10.00</td>
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<td>8. Waveform analysis</td>
<td>10.00</td>
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<td>9. Transmission lines</td>
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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.

ELE2601 Telecommunication Principles, ELE2503 Electronic Systems or ELE2504 Electronic Design and Analysis, and ELE2702 Electrical Measurement and Analysis (Bachelor of Engineering students excepted) External Study Packages, USQ Publication,
Floyd, T. L. 1996, Electronic Devices, 4th edition, Merrill,
Ramakrishnan, G. N. 1995, Electrical Plant and Energy Conversion Examples, USQ Publication,
Ramakrishnan, G. N. 1994, Electrical Technology Examples, USQ Publication,
STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>Laboratory or Practical Classes</td>
<td>40</td>
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<tr>
<td>Report Writing</td>
<td>10</td>
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ASSESSMENT DETAILS

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
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<tr>
<td>REPORTS</td>
<td>1.00</td>
<td>100.00</td>
<td>Y</td>
<td>04 Mar 2003</td>
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</table>

NOTES:

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

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 complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available (or at least a grade of C-) for each assessment item.

3 Penalties for late submission of required work:
   If students submit assignments after the due date without prior approval then a penalty of 10% 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:
   (i) 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.
   (ii) Students who do not qualify for a Passing grade may, at the discretion of the Examiner, be assigned additional work to demonstrate to the Examiner that they have achieved the required standard. It is expected that such students will have gained at least 45% of the total marks available for all summative assessment items.

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/SECARIAT/calendar/Part5/ or in the printed version of 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.