Description: Mechanical Practice 2

Subject     Cat-nbr    Class     Term     Mode     Units     Campus
MEC         2902       66435     2, 2007   EXT       0.00       Toowoomba

Academic group: FOENS
Academic org: FOES02
Student contribution band: 2
ASCED code: 030701

STAFFING
Examiner: Chris Snook
Moderator: Bob Fulcher

RATIONALE
The successful practice of the profession of Mechanical Engineering requires an ability to analyse engineering systems and an ability to synthesise new designs. Much of the students work in other courses develops these analytical skills. In addition, the engineer must be able to assess a complex situation, identify the critical elements and develop a workable, cost effective solution. All of this requires considerable self-confidence, and the ability to work with and lead teams. In this course the synthesis of new ideas is developed whilst the student participates in a team-based design and build activity.

SYNOPSIS
This course falls naturally into three parts: Part One consists of a design activity where a small team of students develop a design concept for a device capable of satisfying a broadly specified task. Part Two comprises the procurement of appropriate resources and the construction of the device in accord with the design specification developed in Part One. Part Three covers the testing of the device and encourages the student to reflect on the activities and outcomes of the work conducted in Part One and Part Two above.

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

1. develop design concepts in accordance with a generic requirement;
2. apply, as appropriate to the design, the operation and construction features of a range of common mechanical devices;
3. co-operate in a teamwork environment;
4. identify and explain critical elements in practical situations and propose solutions;
5. conduct a simple product development from initial specification to prototype stage;
6. observe safety procedures in a workshop environment;
7. appraise the performance of a simple mechanical device constructed by the student as part of a team.

**TOPICS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part One - Design Specification</td>
<td>20.00</td>
</tr>
<tr>
<td>Part Two - Design Activity</td>
<td>70.00</td>
</tr>
<tr>
<td>Part Three - Reflection and Evaluation</td>
<td>10.00</td>
</tr>
</tbody>
</table>

**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).

Nil.

**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.


**STUDENT WORKLOAD REQUIREMENTS**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory or Practical Classes</td>
<td>45.00</td>
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<tr>
<td>Report Writing</td>
<td>5.00</td>
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</table>

**ASSESSMENT DETAILS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks out of</th>
<th>Wtg(%)</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY REPORT</td>
<td>200.00</td>
<td>20.00</td>
<td>24 Jul 2007 (see note 1)</td>
</tr>
<tr>
<td>GROUP REPORT</td>
<td>600.00</td>
<td>60.00</td>
<td>24 Jul 2007 (see note 2)</td>
</tr>
<tr>
<td>ASSIGNMENT</td>
<td>200.00</td>
<td>20.00</td>
<td>24 Jul 2007 (see note 3)</td>
</tr>
</tbody>
</table>

**NOTES**

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

2 Requirements for students to complete each assessment item satisfactorily:
   To complete the practical component satisfactorily, students must submit, by the due date,
   a practical report which meets the requirements of the assessment scheme. To complete
   the practical component satisfactorily, the students in each team must produce a working
   device that complies with the task specification and achieve a valid performance score.

3 Penalties for late submission of required work:
   Practical reports submitted after the due date will not be assessed.

4 Requirements for student to be awarded a passing grade in the course:
   To be assured of receiving a passing grade students must complete 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 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 despatched
   to USQ within 24 hours 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 one of the temporary grade: IM (Incomplete - Make up). A temporary 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).