



CIVL2201 Structural Mechanics

Assignment/Problem Questions/Tutorial Criteria

General

Regular attendance and participation in tutorials, and attempting some problems before the allocated session, are considered important for successful understanding and performance in this course.

Aims of the Problem Sets

The main aims of answering the problem set questions are:

1. To reinforce and complement the theory covered in lectures through practical examples.
2. To ensure students work continuously throughout the semester and receive feedback on their progress.
3. To enhance the important generic skill of setting out solutions/calculations for archival purposes.

Students will discover the importance of aim 3 as they progress through their professional careers, whether or not it is related to engineering. *Drawings and calculations are major forms of communications between engineers.*

A professional engineer performs written calculations for two reasons:

1. To calculate the answer to problems (obviously!),
2. To keep a permanent record of satisfactory design.

The importance of keeping accurate design calculations is increasing in the engineering profession. Disputes over fees, delays in construction, or minor and major failures, mean that engineers are often required to provide evidence of their calculations and decisions.

Nature of the Questions

At the beginning of every topic, a problem set will be distributed to each student. The questions are graded (1 – fundamentals, 2 – applied, and 3 – advanced). Students should be able to complete type 1 questions reasonably easily, while type 2 questions will require some thought. Advanced type 3 questions are difficult and potentially time consuming, and are specifically designed to challenge the advanced students in the course.

The exam questions will follow similar format to those in the tutorials.

Learner Preparation

Problem sets are given in advanced so that students can consider and attempt them before the tutorial session. It is expected that students will have completed at least two of the basic questions, and read all the questions before the tutorial time. The questions are designed to complement the lecture material, and many important observations can be made from answering the questions. For this reason, students should aim to complete most of the questions as they progress through the semester, rather than waiting till STUVAC.

Tutorial Session Bonus Mark Scheme

During 7 of the 13 tutorial sessions (the sessions that do not include a quiz or the lab session), there will be a short submission relating to work attempted during that tutorial. For students who make 5 suitable submissions, then their lowest out of the 5 quiz scores will be ignored, and the average of the other 4 scaled appropriately. A “suitable” submission means that the student has made a legitimate effort at attempting the question.

Assignments

Students will be given 2 assignments during semester, which will be of a similar nature to those in the problem sets. Students should still attempt as many questions as possible from the tutorial sheets, not merely those to be submitted in the assignments.

Assignments will not be marked in detail – they will be checked for the correct procedure and adequate presentation/setting out. A solution will be made available soon after submission on the Internet, and it is each student’s responsibility to check his/her submission with the solution. The lecturer will attempt to return the submissions within a week to ensure timely feedback to the students.

The aims of the submissions are:

- Ensure students work continuously during the semester by allocating assessment marks to the submission,
- Provide feedback to the students of their performance,
- Provide feedback to the lecturer on general areas of strength or weakness amongst students.

Assignments will be marked either A (excellent – 5/5), B (good – 4/5), C (acceptable – 3/5), or U (unacceptable – 0/5). There will be discussion in the first tutorial session about the criteria for acceptable and unacceptable submissions. Students who submit an unacceptable submission will be asked to see the lecturer briefly to discuss the submission, and will then have a brief opportunity to resubmit. Acceptable resubmissions will receive a mark of 2/5.

The submission date and time will be written on the relevant sheet, but there may be some changes which will be announced in tutorials or lectures.

Late Assignments

Working to deadlines and time management are two of the most important generic skills that one can develop at university. Marks may be deducted for assignments submitted after the deadline for submission. Requests for special consideration should be made on the appropriate form available from the student centre. ***Submission deadlines will be strictly enforced.***

Resubmitting Unacceptable Assignments

Students whose assignments are assessed as unacceptable (U), will have a brief opportunity to resubmit their assignments if they choose to do so. ***Resubmissions must be handed in by 10 am on the first Tuesday after the original assignments were returned to the students.*** Not being present at a tutorial session or lecture when assignments are returned is not a valid excuse for not resubmitting by the deadline. Note that students are not obliged to resubmit unacceptable assignments. Acceptable resubmissions will receive a mark of 2/5.

Criteria for Assessing Submissions

Assignments will be assessed in two main areas: presentation, and calculations.

Presentation

The marker will generally be asking him/herself the following questions when assessing an assignment. Each student should consider this as a checklist

Is the submission reasonably neat, organised and legible?

Is there an appropriate diagram of reasonable size?

Does the diagram show all relevant forces, moments, dimensions etc?

Is the answer set out in a clear and logical manner such that a fellow engineer could understand?

Is there a brief explanation of the key steps (even just a phrase) or are there just numbers?

Are any assumptions noted?

Have the questions specifically asked in the problem been answered, and are the answers clearly identifiable?

<i>Excellent (A)</i>	All the above criteria satisfied and exceeded.
<i>Good (B)</i>	All the above criteria satisfied.
<i>Acceptable (C)</i>	Most of the criteria above satisfied, appropriate figure included
<i>Unacceptable (U)</i>	Untidy and careless presentation; no, poor or inappropriate figure

Calculations

The marker will only quickly check the accuracy of results and will be looking more at the procedure

<i>Excellent (A)</i>	All calculations correct, correct and logical procedure.
<i>Good (B)</i>	Some small errors in calculations, but correct procedure.
<i>Acceptable (C)</i>	Some errors in calculations, some small procedural mistakes.
<i>Unacceptable (U)</i>	Careless mistakes, many errors, incorrect procedure followed.

A Final Note: Quality Assurance

Any submission should be rechecked carefully by the author, and preferably by a third party to check for any errors. A report with careless mistakes, spelling errors etc appears most unprofessional, and will be marked down as explained in the assessment schedule.

As you become professional engineers you will come to fully appreciate this final note. Start practicing it now.

The following checklist could be used as a guide before submitting an assignment.

- Is the submission reasonably neat, organised and legible?
- Is there an appropriate diagram of reasonable size?
- Does the diagram show all relevant forces, moments, dimensions etc?
- Is the answer set out in a clear and logical manner such that a fellow engineer could understand?
- Is there a brief explanation of the key steps (even just a phrase) or are there just numbers?
- Are any assumptions noted?
- Have the questions specifically asked in the problem been answered, and are the answers clearly identifiable?
- **Are the correct units used?**
- **Is the number of significant figures appropriate?**
- **Have I checked (or double checked?) my answers?**
- **Have I put my name and student number on the assignment?**

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