EM200 "Statics"

Spring 2012
Tuesdays and Thursdays, 2:00 to 3:15 PM
Classroom: P-144
San Diego State University

Description

Force systems, equilibrium, structures, distributed forces, friction, virtual work, moments of inertia, vector algebra

Prerequisites

Credit for Physics 195 and credit or concurrent registration in Mathematics 151. Proof of completion of prerequisites: Copy of transcript and/or enrollment confirmation needed.

Instructor

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Please make sure to include the course name, EM200, in any email correspondence.

Office Hours

Tuesday and Thursday 9:30am-10:30am
Friday 2pm-4pm (only by appointment)

Textbook

R. C. Hibbeler, **Engineering Mechanics - Statics**, Pearson Prentice Hall, Pearson Education, Inc., Upper Saddle River, New Jersey 07458, ISBN13: 978-0-13-607790-9; ISBN10: 0-13-607790-0

Website

http://blackboard.sdsu.edu. The university blackboard web site will be used for disseminating course announcements and supplementary materials. All blackboard accounts use the same information as the SDSU Web Portal access.

Grading

- Plus/minus grades will be used (e.g., B+, C-)
- Unscheduled *quizzes* may be given in class. Quizzes will be closed book and closed notes.
- Homework problems will be assigned.
- There will be **six in class exams** (30 to 40 minutes long). All exams will be closed book, closed notes. **The lowest exam grade will be dropped and not considered in the determination of the final grade**.
- Exams and homework are graded on a scale of 100 points; quizzes are graded on a scale of 4 points.
- The quizzes are graded in a scale of 4 points. However, later they are converted in a scale of 100 points and considered as regular homeworks.

Homework

Homework problems will cover topics covered in the class and are an important practice for the quizzes and exams. The following rules apply:

- Homework **must** be turned it at the beginning of the lecture when it is collected. **Late homework will not be accepted or graded.**
- Homework must be done in 8 1/2 X 11 inch paper. White papers with no lines are preferable.
- Quality of the presentation of your work is essential.
- Sketches, formulas, etc. must be neat and legible. If this is not the case the homework problem will **not** be graded.
- All homework problems **must include free body diagrams**. The equations you use to solve the problem(s) must me *consistent* with the free body diagram(s).
- Begin each problem on a new page and arrange problems in ascending numerical order.
- Write your name, RED ID and due date on each page.
- You need to document in detail all your solution steps and principles or methods used to solve the problem. **This is even more important than the final numerical value**. This rule is also applied for quizzes and exams.

- Homework assignments are also intended to develop your written communication skills. Therefore, homework assignments will be judged on clarity and completeness of the presentation.
- The solution of an assigned problem must include the figure (if applicable) <u>and the original statement of the exercise</u>. This part must clearly be separated from your actual solution.
- A bonus will be given according to the following rules. <u>best work</u> = **+ 20% bonus**, <u>second best work</u> = **+ 15% bonus**, <u>third best work</u> = **+ 10% bonus** and <u>fourth best work</u> = **+ 5% bonus**. With the bonus it is possible to have more than 100 points (which are the usual maximum grade for homework/exams).

Exams

There will be **six exams** (Feb 2nd, Feb 23rd, March 15th, April 5th, April 19th, and May 8th). All exams are closed book and closed notes. The students are not allowed to bring <u>any</u> papers. **The lowest exam grade will be dropped and not considered in the determination of the final grade**. This rule will be applied even for the case in which the student has been absent (for any reason) during an exam. In that case the "missed" exam will be considered with grade 0 and, therefore, dropped. **Only one exam will be dropped**.
The <u>best, second best, third best, and fourth best exams</u> will always receive **20% bonus, 15% bonus, 10% bonus, and 5% bonus respectively**. With the bonus it is possible to have more than 100 points (which are the usual maximum grade for an exam).

Inquires About the Grades

Any concern or inquire must be brought up in writing only no later than 5 days after the quiz/homework/exam is returned. This has to be done only with a simple note on the actual paper containing your work.

<u>Any email containing questions regarding the grades of your homework, quiz, exam, will be disregarded</u>.

Reported Final Grades

A = 90 or higher

B = 80 or higher (but less than 90)

C = 70 or higher (but less than 80)

D = 60 or higher (but less than 70)

The instructor reserves the right to raise or lower the lower limit of each grade range such that division between letter grades occurs at large gaps in the grade spectrum.

Minor adjustments to avoid grades being decided by a fraction of a point may be adopted.

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How the Final Grade is Calculated

- The grades obtained for the different exams are compared and _the worst exam is discarded_
- The remaining exams are used to calculate the Exam Average Grade (EAG).
- The Exam Average Grade is augmented as follows.
    a) The grades earned for the homeworks (and quizzes) are averaged and the Homework Average Grade (HAG) is calculated.
    b) If HAG is equal to 90 (or higher) then the letter EAG is increased (B- becomes B; B+ becomes A-; C becomes C+ etc.)
    c) If HAG is equal to 80 (or higher but less than 90) then the letter EAG is **not** modified
    d) If HAG is equal to 70 (or higher but less than 80) then the letter EAG is a decreased (B- becomes C+; B+ becomes B; C becomes C- etc.)
    e) If HAG is equal to 60 (or higher but less than 70) then the letter EAG is decreased (B- becomes C; B+ becomes B-; C becomes D+ etc.)
    f) If HAG is less than 60 then the letter EAG is decreased (B- becomes C-; B+ becomes C+; C becomes D etc.)

- Minor adjustments for borderline grades are possible to take into account the class participation (see below).

Example # 1. Suppose that a student earns the following grades:

1. Exam # 1: 77
2. Exam # 2: 88
3. Exam # 3: 90
4. Exam # 4: 65
5. Exam # 5: 81
6. Exam # 6: 72

The worst exam is Exam # 4 which is discarded. EAG is determined:
EAG = (77 + 88 + 90 + 81 + 72)/5 = 81.6 which corresponds to B.
Suppose that HAG is 87 (see b) above). EAG is not modified and the grade is B

Example # 2. Suppose that a student earns EAG as in Example # 1:
EAG = 81.6 which corresponds to B.
Suppose that HAG is 65 (see e) above). EAG is decreased and the grade is C+

Example # 3. Suppose that a student earns EAG = 84 which corresponds to B+.
Suppose that HAG is 74 (see d) above). EAG is decreased and the grade is B

Example # 4. Suppose that a student earns EAG = 84 which corresponds to B+.
Suppose that HAG is 91 (see b) above). EAG is increased and the grade is A-

Student Behavior

Students are expected to come to class on time, turn off their cell phones before the start of class and not bring food to class. The use of laptop is allowed in the classrooms for the <u>only</u> purpose of taking notes. *Any other laptop use (e.g. cheking emails or searching the web) must be postponed until the class ends to avoid distractions for the other students*. Disregard for these rules or other disruptive behavior can lead to the following sanctions: expulsion, disciplinary sanctions, and <u>grade penalty</u>.

Participation (classes)

Please do not come late to class sessions as it detracts from the learning experience of everyone involved. Active participation in class lectures and coming prepared to lectures will maximize your learning in the class room and minimize the time you will have to invest outside the class room in studying for this course.
<u>Class participation will be used in deciding borderline grades.</u>

Accommodations for Students with Disabilities

Students with disabilities who need support services are encouraged to notify the instructor as soon as possible. This can be done confidentially via email or by phone (see instructor contact information).

Academic honesty

All students admitted to SDSU have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a student at SDSU and to be honest in all work submitted and exams taken in this class and all others

Plagiarism

Plagiarism consists of passing off as yours the work that belongs to someone else. As such, you will be committing plagiarism if you present someone else's work as your own, even with the other person's consent.

Miscellaneous

Only University approved excuses for absences will be accepted.
<u>Each student will be responsible for knowledge of all scheduling and announcements made in class, via blackboard and email</u>

<u>Collaboration on homework is not allowed unless specifically allowed by the instructor when the homework is assigned</u>.

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