I. Course Objectives

Upon successful completion of this course, you will be able to:

• formulate appropriate strategies for solving problems in engineering statics,
• combine principles of mathematics and mechanics to formulate relevant models,
• apply methods of mathematics to solve engineering problems of bodies in static equilibrium,
• show appropriate engineering interpretation of terms used in the physical models, and
• translate mathematics-based theory into engineering applications and recognize limitations of models of physical reality.

II. Instructor

Professor Joshua Hertz
Spencer Labs 329
302-831-2778
hertz@udel.edu
Office hours: 1:00 – 2:00 M & W; other times by appointment; “open door policy”

Teaching Assistant office hours are held in 109 Spencer Lab at times distributed throughout the week. Details and TA contact information are posted on Sakai.

III. Class Sessions

**Lecture:**
Sections -010, -080: Tuesdays and Thursdays 2:00 – 3:15 in Kirkbride Hall Room 204
Sections -011, -081: Tuesdays and Thursdays 3:30 – 4:45 in Kirkbride Hall Room 206

**Discussion:**
Sections -010, -080: Mondays 2:30 – 3:20 in Brown Lab Room 206
Sections -011, -081: Mondays 3:35 – 4:25 in Gore Hall Room 205

**Exams:**
Exam 1: Thursday, March 6, 5:00 pm – 7:00 pm in Wolf Hall Room 100
Exam 2: Thursday, April 17, 5:00 pm – 7:00 pm in Wolf Hall Room 100

IV. Communications

A class email list and website is set up using Sakai. Official announcements will be communicated using these tools. In-person and electronic communication with the instructors and TAs are strongly encouraged (email replies from Prof. Hertz are guaranteed within 72 hours, but not necessarily sooner).
V. Grades

Problem Sets (18%):
A problem set will be announced in class and posted on Sakai every week except for weeks with exams; there will be 11 in total. They will be assigned on Tuesdays and due one week later (the final one will be due at Monday’s discussion section).

- Homework is due at the beginning of class on the due date.
- Late homework assignments will not be accepted. Exceptions will only be made at the discretion of the instructor for serious illness or emergencies.
- Homework must follow the prescribed format (example posted on Sakai).
- The use of engineering or graph paper is required.
- Each homework problem must be started on a new sheet of paper and be written on only one side of the paper.
- The homework with the lowest grade at the end of the semester will be dropped.

Statics Challenges (10%):
There will be 4 Statics Challenges that generally involve you working in a group to inspect, design, manipulate, or create a physical object and report on its static mechanics. Specifics will be announced in class and on Sakai.

Class Participation (2%):
You are expected to come and participate at all class sessions.

Mid-term Exams (2 * 20%):
Two closed-book, closed-note exams will be given on the evenings of March 6 and April 17. Any model of calculator is permitted as long as it does not have wi-fi, bluetooth, or cellular connectivity.

Final Exam (30%):
A final exam will be given during the Final Exam week (time and location TBD). The same regulations apply as the mid-term exams.

VI. Course Materials

(The previous 2+ editions are nearly identical except for the problems)

i>clicker: Clickers will be used to promote learning in this class. Bring your clicker to every class every day to obtain full credit for the activities that use them. For more info about clickers, visit ats.udel.edu/clickers/faq.php. In keeping with UD’s Code of Conduct, attempts to use more than one clicker per class period is considered academic dishonesty (see section IX, below). Register your clicker using the link available in our Sakai site. One registration provides information to all your instructors in classes using i>clickers and Sakai. You can register multiple clickers if you’re concerned about picking up your roommate’s, or if you lose your clicker mid-semester.
VII. Course Outline

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<td>(1-10)</td>
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VIII. Honors Section

Those of you in the Honors sections (-080 and -081) will work on 5 projects during the semester. These will consist of exploring new methods to solve otherwise impossible Statics problems and connecting the lessons from the classroom to real world systems. These activities will be graded and will count for half of the homework grade. Specifics will be announced in class and on Sakai.

IX. Academic Honesty & Excused Absences

Other than during the exams, I strongly encourage discussions between classmates; however, all homework should be solved—and will be graded—individually. Assigned problems are the best possible practice for the exams, but they are deceptively easy to solve once you know the answer. **Before each exam, if you can solve the previously assigned homework problems with just you, your calculator, and a blank page, you will likely do very well…and vice-versa.** If you are struggling with course material, please see the instructors as soon as possible. Suspected cheating, including the use of multiple clickers, will be handled according to official UD policy ([http://www.udel.edu/stuguide/12-13/code.html](http://www.udel.edu/stuguide/12-13/code.html)).

It is your responsibility to communicate with the instructor regarding extended absences. Evidence of a compelling reason must be provided for any missed assignments or exams. For planned absences, such as an athletic event, the evidence must be given in advance.