Meeting times: 11:00-11:50 daily in SAM 206
Instructor: François Lepeintre
Office Hours: SAM 212: M, T, Th 12:00-12:50 pm
Phone: (206) 587-5438

Prerequisites: Physics 201 and Math 151, both with 2.0 or better.

Course Objectives: I hope that after taking this class you will have a better idea of what it means to apply the principles of statics to practical engineering problems. The goal is to help you develop your engineering sense (and have fun doing so!). At the end of the class, you should know how to analyze common engineering structures (frames, machines, trusses, beams). This means understanding the important physics concepts such as force, torque and couple and how these quantities can be related and used to analyze a structure. It also means knowing how to use mathematics in the context of engineering (yes this is a calculus based course).

Course Content: Vectors
Components of Force and Free Body Diagrams
Moments and Couples
Equilibrium of Rigid Bodies / Trusses, Frames and Machines
Centroids and Center of Gravity
Friction
Internal Forces / Axial, Shear, Bending Moments
Moment of Inertia

We should cover thoroughly chapters 1 through 6, and some of the contents of chapters 7 through 10.

Grading:

Homework: 15%
Bridge project + presentation: 15%
Quizzes (10 one-hour quizzes, the lowest score is dropped): 70%

Exams:

There will be about 10 one hour exams (one a week). The lowest score will be dropped.

Homework:

A set of problems from the text will be assigned on a weekly basis. These assignments are chosen to highlight the important concepts and problem solving techniques found in the chapter.

Homework will be group assignments. You can form groups of 2 or 3 students.

Your homework must be turned in on time. I won't accept any late homework.

Bridge project:

A key part of the Engineering profession is to apply what you learn in school to a practical situations. In this class, you will be asked to design, build, and analyze a bridge (details).

Special Assistance:

If you need course adaptations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please see me during my office hours as soon as possible. I am happy to help you in any way I possibly can.

My contract to you!

If you come to class, do your homework and genuinely try to learn the concepts, I promise you to do my best to make your time as valuable as I can!

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