ME 345: Modeling and Simulation: Course Information

Spring 2015

Instructor: Frank Fisher
Office: Carnegie 200
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Class webpage: http://personal.stevens.edu/~ffisher/me345

Office hours: Office hours are available immediately after class, or by appointment.

Lecture: Sections D/E/F: Friday 1-2:40pm in EAS 222
Sections A/B/C: Friday 3-4:40 in EAS 222

Labs (EAS 308, Fielding Lab): A: Monday 2 - 3:40, B: Monday 10 - 11:40, C: Thursday 1 – 2:40
D: Tuesday 10 - 11:40, E: Tuesday 3 - 4:40, F: Thursday 3 – 4:40

Teaching Assistants: Zhen Wang (zhenwang2010@gmail.com)

Textbook: N/A. Students are REQUIRED to purchase a 3-ring binder to assemble the notes and handouts given during discussion and lab sessions.

References:

Evaluation/Grades:
• 3 case studies (17% each), approximately evenly distributed throughout the semester.¹
• Cumulative final quiz, 25% (will be discussed during the first lecture).
• Homework and class participation, 24%.²

Course policy: Attendance and participation in class discussions are required. Class policy will be discussed in detail during the first lecture meeting.

Lab policy: As discussed during the first lecture, the computer labs are designed to require students to THINK and EXPLORE as they progress through the tutorials. The lab assistant(s) are there to assist with thoughtful questions and issues; they are not there to hold your hand through the tutorial. Students abusing the assistance of the TAs will have points deducted from their lab grade; students assisting classmates with questions on the lab will be awarded extra credit for the lab. Lab assignments are due one (1) week after the lab period the assignment was given. Late labs (with reduced grade) will be accepted for one additional week after this period. Labs overdue by more than one week will not be accepted.

Course Description: This course uses Solidworks and related packages, ProEngineer, ANSYS, Matlab/Simulink, and other software to model discrete and continuous systems of interest in mechanical engineering. Students taking this class will be able to represent systems, processes, and products using appropriate modeling strategies, analyze and visualize the simulation results, and design systems based on these models and simulations. The focus of the class is on the development of general modeling and simulation techniques that are discipline and software independent.

¹ The Case Studies will be completed in groups of 5 students. You cannot work with the same student for more than one Case Study. Each member of the group is equally responsible for each problem in the Case Study.
² Unacceptable homework and/or class participation performance may result in a net loss of points for the course.