MEEG 311
FINAL EXAM - IFORMATION
Prof. Poulakakis

Exam Time/Place:
Time: Thursday, December 13 at 8:00am-10:00am
Room: 100 Wolf Hall

Extra Office Hours (instructor):
Time: Wednesday, December 12 at 10:30am-12:00pm
Room: SPL205

Extra Office Hours (TA):
Time: Wednesday, December 12 at 3:00-5:00pm
Room: SPL131

Topics:
The exam is cumulative; however, a large part of it will focus on control (particularly Chapters 5, 6, 7; read also Section 8-3). The following topics are important:

1. Standard first and second order systems / effect of pole and zero locations
2. BIBO stability and Routh criterion
3. Time domain specifications (overshoot, settling time, rising time)
4. Steady-state error to a reference *and* to a disturbance input; system type
5. P, PI, PD and PID control actions and properties
6. Root locus: Open-loop and closed-loop transfer functions; rules for sketching the root locus (see handout); conditional stability (critical gain values)
7. Root locus: sketching and critical gain values
8. Frequency response: basic ideas and filtering properties
9. Bode plots: Rules for sketching the asymptotes for both the magnitude and phase plots
10. Stability and Bode plots: Gain margins and phase margins (you can find more information in the book, pp. 464-468 and in particular Fig. 7-67; neglect anything that has to do with the Nyquist diagram)
11. P and PD control design in the frequency domain

Exam Rules:

1. Closed book / open notes
2. Bring your own paper to use as a scratch paper.
3. Calculators are allowed, but no cell phones, music devices, laptops etc.
4. If you arrive late you do not get extra time.

Exam Format:
The exam will contain three problems. You can write your solution at the space provided and you can use extra paper (bring you own) if you need to.

You are required to know and follow the College of Engineering Honor Code.