

LINEAR CONTROL SYSTEMS**Instructor:** Prof. Karim G. Oweiss**Office:** Rm. 2216 EB.; Tel.: (517) 432-8137; email: koweiss@egr.msu.edu**Class Schedule :** M W F 09:10 AM – 10:00 AM (2205 EB)**Office Hours:** M W 10:30 AM – 12:00 PM (2216 EB)**Textbook :** Linear System Theory, Wilson J. Rugh , 2nd Ed., Prentice Hall, 1996**Suggested Reading:** Linear System Theory & Design, Chi-Tsong Chen, 3rd Ed., Oxford, University Press**Class Webpage:** <http://www.egr.msu.edu/~koweiss/courses/fall02/ece826.htm>**Outline**

Topic	Reading Assignment	No. of lectures	
1. State Models	Chapter 2	3	Exam 1 Coverage
2. State Equation Solution	Chapter 3,4,5	6	
3. Internal Stability	Chapter 6,7	3	
4. Controllability and Observability	Chapter 9,13	7	Exam 2 Coverage
5. Minimal Realizations	Chapter 10,11	4	
6. Input-Output Stability	Chapter 12	2	
7. State Feedback	Chapter 14	3	Exam 3 Coverage
8. State Observation & Output Feedback	Chapter 15	5	
9. Discrete Time Systems		3	
10. Linear Quadratic Optimal Control		2	

Grading

- Three **equally** weighted exams worth **30%** each, **weekly** homework assignments worth **10%**
- Exams are in regular class hours, open books and notes.

Exam dates

Exam #	Topics covered	Date
1	1, 2, 3	Friday, September 27
2	4, 5, 6	Monday, November 4
3	7, 8, 9, 10	Friday, December 6

- Homework assignments will be posted on the class web every **Friday** and will be due a week later.
- A solution will be posted **at noon** on the due date. No homework will be accepted after the solution has been posted.
- There is **no class** on the following dates: Friday, October 4 and Friday, October 25.