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Textbook: Modern Control Engineering, 4th Edition, K. Ogata, Prentice Hall, 2002, Chapters 1, 3, 5 – 9.

12:00-1:15 Tuesday and Thursday, Rm 118 Robinson B

1. Tuesday Aug. 26 Introduction 1

2. Thursday Aug. 28 Introduction and Block diagrams 1, 3

3. Tuesday Sept 2 First-order systems 5

4. Thursday Sept 4 Block diagrams 3

5. Tuesday Sept 9 Second-order systems 5

6. Thursday Sept 11 Second-order systems 5

7. Tuesday Sept 16 Second-order systems 5

8. Thursday Sept 18 Types of control actions (material not on Test 1) 5

9. Tuesday Sept. 23 Stability analysis with the Routh array 5

10. Thursday Sept. 25 Steady-state error 5

11. Tuesday Sept. 30 Steady-state error 5

12. Thursday Oct 2 Test 1, Chapters 1, 3, and 5

13. Tuesday Oct 7 Introduction to pole movement, the root locus 6

14. Thursday Oct 9 Root locus 6

15. Thursday Oct 16 Root locus 6

16. Tuesday Oct 21 Introduction to compensator design 7

17. Thursday Oct 23 Compensator design using root locus 7

18. Tuesday Oct 28 Compensator design using root locus7

19. Thursday Oct 30 Compensator design using root locus 7

20. Tuesday Nov 4 Polar plots and the Nyquist stability criterion 8

21. Thursday Nov 6 Review of Bode plots 8

22. Tuesday Nov11 Test 2 Chapters 6,7 and 8

23. Thursday Nov13 Relative stability, gain and phase margins 8

24. Tuesday Nov 18 Gain and phase margins 8

25. Thursday Nov 20 Compensator design using Bode plots, phase lag 9

26. Tuesday Nov 25 Compensator design using phase lag and lead 9

27. Tuesday Dec 2 Compensator design using Bode plots, phase lead 9

28. Thursday Dec 4 Compensator design using Bode plots, lag-lead 9

Tuesday Dec 16 10:30-1:15 Final Exam, comprehensive, Chaps. 7, 8, 9 emphasized

HOMEWORKS

Go to ece.gmu.edu, then click on people, faculty by name, then click on Guy Beale under faculty emiriti, then syllabi from previous semesters, then Spring '06, ECE421, finally Homework Assignments. Correct due dates for this semester are given below.

- **HW #1: Date Due:** Tuesday, Sept. 4
- **HW #2: Date Due:** Tuesday, Sept. 11
- **HW #3: Date Due:** Tuesday, Sept 18
- **HW #4: Date Due:** Tuesday, Sept 25
- **HW #5: Date Due:** Tuesday, Oct 2
- **HW #6: Date Due:** Tuesday, Oct 16
- **HW #7 Date Due:** Tuesday, Oct 23
- **HW #8: Date Due:** Tuesday, Oct 30
- **HW #9: Date Due:** Tuesday, Nov 06
- **HW #10 Date Due:** Tuesday, Nov 13
- **HW #11: Date Due:** Tuesday, Nov 20
- **HW #12: Date Due:** Thursday, Nov 29
- **HW #13: Date Due:** Thursday, Dec 06

Important Dates

Thursday Oct. 2 Test 1

Tuesday, Oct 16 Project 1

Thursday, Nov 11, Test 2

Tuesday Dec 16, Project 2

Tuesday Dec 16, Final Exam

Grading

Test 1	25%
Test 2	25%
Homework	10%
Project 1	5%
Project 2	5%
Exam	30%