332:415 — Introduction to Automatic Control — Exam II — Fall 1998

Text: R. Dorf, *Modern Control Systems*, Addison Wesley, 1998.

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Grading:
Exam I 35%
Exam II 35%
Final 30%

EXAM II: Thursday, December 3, 1998, 2:50–4:10, SEC 117. Closed book and notes.

The exam covers the following topics:

1) The Root Locus Method (Sections 7.1–7.4, 7.7–7.9, Table 7.7.
HW problems: E.7.1–E.7.6, E.7.11, E.7.19, P.7.31, and P.7.34.

2) Bode Diagrams (Sections 8.2–8.3, 8.10, + phase and gain margins and gain and phase crossover frequencies from Bode diagrams, pages 498–499 of Chapter 9).
HW problems: E.8.6, P8.5, P8.11, P8.17, Problem given in formula (8.59)-page 447, E9.1, E9.2.

3) Nyquist Stability Plots (Sections 9.1–9.4, 9.7, 9.12)
HW: E9.7, P9.2, P9.4, P9.5 + two problems assigned in class.

FINAL EXAM: MONDAY, DEC. 21, 98, HILL 114, 8–11am.

The final exam covers the following topics:

1) Routh-Hurwitz stability test.
2) Root locus method
3) System controllability and observability (Sections 11.2–11.3)
   HW: E11.3, E11.4, P11.15, P11.19, AP11.3
4) Pole placement and Internal model design (Sections 11.5, 11.8)
   HW: P11.11, P11.16, P11.23, AP11.2, AP11.11