Course Title: Control System Design.

Course Number: EE4002 (Call Number: 1898) — Spring 2004.

Instructor: Dr. Guoxiang Gu, ECE 329, Tel#: 578-5534, Email: ggu@ee.lsu.edu.

Estimated ABET: Engineering Science: 1 credit; Engineering Design: 2 credits.

Course Description: Design of continuous-time feedback controllers in frequency domain, and stability analysis in the presence of modeling uncertainties. Sampling and reconstruction of signals; Analysis and design of sampled data systems; discrete-time systems and controllers.

Prerequisite: EE3530: Introduction to Control Systems.


Goals: Analysis and synthesis of feedback compensators, aided by computer design tools.

Topics: Performance analysis and Bode design methods; Robust stability against modeling errors; Introduction to discrete-time systems; Discretization, and Z-transform;

Computer Usage: Two projects requiring use of MATLAB/SIMULINK are required. Students must run MATLAB programs and write Project Report.

Homework: At least eight sets of homework (count for 20% of total score).

Midterm Tests: One midterm in the 7th week (20% of total score).

Final Exam: One final (count for 30%). See Registration booklet for schedule.

Projects: Two projects: Project 1: 8th week (count for 15% of total score); Project 2: 13th week (count for 15% of total score);

Course Policy: There is no makeup for homework or project or test, or final. Any grading mistake has to be discussed with the instructor within one week.

Grading Policy: 85% ~ 100%: A; 73% ~ 85%: B; 61% ~ 73%: C; 50% ~ 61%: D; Below 50%: F.

Note: The above breaking points may change within 3%.