Course Info & Contacts:

Credits: 4
Level: Undergraduate, 300
Prerequisite: 25-742 Signals & Systems
Instructor: Houshang Karimi
   Email: houshang.karimi@sharif.edu
   URL: http://ee.sharif.edu/~houshang.karimi/
Office hours & location: Sat. and Mon. 11-12, Room 613, 6th floor, EE Dept. (new building)
Assistants:
   Lab TA: TBA
   Tutorial TA: Sepehr Seifi, sepehr1899@gmail.com
Hours & Locations:
   Lecture: Sun. & Tue., 10:30 – 12:00, EE building, Room 1
   Lab: Mon., 13:30 – 16:30, Room 408, 3rd Floor, EE Dept. (old building)

Course Description:

This course provides an introduction to the analysis & design of feedback control systems. The main focus is given to the continuous-time single-input single-output (SISO) LTI systems. The analysis and design are mainly based on the frequency domain tools. The topics to be covered are:

1. Introduction to Control Systems
2. Mathematical Modeling of Dynamical Systems
3. Time Response Analysis of Control Systems
4. Reduction of Multiple Subsystems
5. Stability of LTI Systems
6. The Root Locus Method
7. Frequency Response of Control Systems
8. Nyquist Stability Criterion and Closed-Loop Frequency Response
9. Design of Feedback Control Systems in Frequency Domain
10. Introduction to Modern Control (if time allows)


References:


Grading System:

Assignments: 10% (written assignments, computer simulations, etc)
Lab: 20% (participation, reports, etc)
Midterm Exam: 25% (End of November)
Quizzes: 10% (every other week)
Final Exam: 40% (As scheduled)