Subject Area: CONTROL, Signals and Systems

Topics Covered

- Elementary Continuous- and Discrete- Time Signals and Systems
- Linear Time-Invariant Systems (LTI)
- Differential and Difference LTI Systems
- Laplace-, Fourier- and z- Transform
- Filtering
- Mathematical Modeling of Dynamic Systems
- Impulse and Step Responses
- Convolution
- 1st, 2nd, 3rd Order Systems
- State Models of LTI Systems
- Open-Loop, Closed-Loop Systems
- Application of Transform Techniques to LTI Feedback Control Systems
- Transient-Response Analysis
- Root-Locus Analysis
- Control Systems Design by the Root-Locus Method
- Frequency-Response Analysis
- Control Systems Design by Frequency Response
- Classical PID Control
- PID Controller Design
- Robust Control
- State Space Analysis of Control Systems
- Design of Control Systems in State Space
- Stability

References

**NOTE:** Any book on the subject may serve as Reference for the above topics

Related Courses
- Undergraduate courses in Signals and Systems and Controls.

The students are allowed to bring 2 sheets front and back (8.5x 11). Exams will be closed book