



### Scilab Control Systems Simulation – Course Outline

Format: One full day. All lessons include an exercise workbook to reinforce instruction through hands on exercises.

Day One		
Lesson 1: Xcos Review	Lesson 2: System Representation and Identification	Lesson 3: Design, Analysis, and Simulation
Basic Operations in Xcos Super Blocks Reading/Writing to Workspaces Reading/Writing to Files Continuous/Discrete-time linear state-space system (CLSS/DLSS)	Polynomials/Linear Algebra Review Transfer Functions State Space Representation Canonical Controllable Form Probability tools Model Estimation	Feedback Gain Pole Placement Removing Poles and Zeros Optimal/Robust Controllers Bode/Nichols/Nyquist/Root Locus Plot Sensitivity Routh Stability Impulse/Step Response Second Order Feedback System DC Motor Modeling
Lab 1: Hands on Exercises with Instructor	Lab 2: Hands on Exercises with Instructor	Lab 3: Hands on Exercises with Instructor