

Tentative Sessions

Sessions 1 & 2:

- Introduction
- System modeling concept
- Black box modeling using artificial neural network
- Model architecture, optimization and testing
- Practical application of black box modeling

Sessions 3 & 4:

- Autoregressive with exogenous input (ARX) model structure
- Test signals
- Open-loop test
- ARX modeling using MATLAB System Identification Toolbox
- Model validation
- Controller design using pole-placement technique
- Simulation using MATLAB-Simulink

Sessions 5 & 6:

- Neural network ARX (NNARX) model structure
- Experimental set-up
- Pseudo-random binary sequences (PRBS) test signal
- Step test and PRBS test
- Data collection and pre-processing
- Model training and testing