

# **SYSM6307 - Linear Systems**

[SYSM 6307](#) ([EECS 6331](#) and [MECH 6300](#)) Linear Systems (3 semester credit hours) State space methods of analysis and design for linear dynamical systems. Coordinate transformations and tools from advanced linear algebra. Controllability and observability. Lyapunov stability analysis. Pole assignment, stabilizability, detectability. State estimation for deterministic models, observers. Introduction to the optimal linear quadratic regulator problem. Prerequisites: [ENGR 2300](#) and [EE 4310](#) or [MECH 4310](#) or equivalent. (3-0) Y