

MECH 513. CONTROL SYSTEMS.

Credits: 3

Offered by: Mechanical Engineering (Faculty of Engineering)

Terms offered: Fall 2025

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Description

State-space modelling and related linear algebra. Controllability and observability of linear time-invariant systems and corresponding tests, system realizations. Stability: Bounded-Input-Bounded-Output (BIBO), internal, Lyapunov. Linear state feedback control: pole placement and root locus design methods, linear quadratic regulator. State observers: full- and reduced-order designs, separation principle, Linear Quadratic Gaussian (LQG) design. Introduction to optimal control and optimal state estimation.

- Restriction: Not open to students who have taken MECH 413.
- (3-0-6)
- Prerequisite: MECH 412 or MECH 419.

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