# ECSE 516. NONLINEAR AND HYBRID CONTROL SYSTEMS.

Credits: 3

Offered by: Electrical & Computer Engr (Faculty of Engineering)

This course is not offered this catalogue year.

## Description

Examples of hybrid control systems (HCS). Review of nonlinear system state, controllability, observability, stability. HCS specified via ODEs and automata. Continuous and discrete states and dynamics; controlled and autonomous discrete state switching. HCS stability via Lyapunov theory and LaSalle Invariance Principle. Hybrid Maximum Principle and Hybrid Dynamic Programming; computational algorithms.

- Restriction: Accessible only to Honours Electrical Engineering students and Graduate students in Engineering
- Prerequisites: ECSE 500 and ECSE 501 or equivalent