**Course Topics**

**EEE 587 - Optimal Control Systems**

**Catalog Course Description:** Application of calculus of variations, Pontryagin's principle and dynamic programming to control problems. Computational techniques for

solving optimal control problems.

**Pre-requisites**: Engineering MENG, MS, MSE, PhD and MCS students OR Science & Engr of Materials PhD students.

**Prerequisites by Topic**: Basic concepts of linear algebra and differential equations. Basic concepts of feedback control. (EEE480 or 481, or equivalent, or instructor permission)

**Course Topics:**

1. Modelling and performance measures of control systems

2. Dynamic programming

3. The linear regulator

4. Calculus of variations

5. Pontryagin's minimum principle

6. Minimum time problems

7. Minimum energy problems

8. Numerical solution of two-point boundary-value problems