Aerospace Engineering **Division:**

Course Title: Optimal Control **Number of Credits: 3**

Course Topics:

- Optimal control problem definition and formulation
- The performance measure
- Dynamic programming
- The Hamilton-Jacobi-Bellman equation
- The variational calculus
- Pontryagin's minimum principle
- The variational approach to optimal control
- Numerical techniques in optimal control

Reading Resources:

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- – Kirk, D., "Optimal Control Theory: An Introduction", reprint, Courier Corporation, 2012.
- – Longuski, J., Guzmán, J., Prussing, J., "Optimal Control with Aerospace Applications", Springer, 2014.
- – Ben-Asher, J., "Optimal Control with Aerospace Applications", AIAA, 2010.
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