



There's Lots of Space for You in Mechanical and Aerospace Engineering

Fall 2015

MAE 4060 – Introduction to Spaceflight Mechanics (3 CR)

How spacecraft fly: the mathematics of flight dynamics and the technologies for attitude control and propulsion. (Peck)

MW 8:40am – 9:55 am

MAE 4150/5150 – GPS: Theory and Design (4 CR)

GPS satellite orbital dynamics, position/navigation/timing algorithms, and hardware characteristics. (Psiaki)

TR 10:10am – 11:25am + lab

MAE 6950 – Space Biomedical Engineering & Human Performance (3 CR)

Human spaceflight systems and technologies, human spaceflight risks, astronaut training, physiology, and psychology. Suitable for seniors and MEng students. (Diaz)

MW 2:55pm – 4:10pm

Spring 2016

MAE 4160/4161/5160 – Spacecraft Technology and Systems Architecture (3-4 CR)

Contemporary space technology from satellite subsystem design through launch and mission operations, focusing on robotic and human-rated spacecraft, rockets, and planetary rovers, emphasizing spacecraft-system architecture and design. (Selva)

Prerequisite: MAE 4060

MAE 6060 – Spacecraft Attitude Dynamics, Estimation, and Control (3 CR)

Applications of spacecraft attitude dynamics in mission design, operations, and autonomy. Attitude estimation and guidance, navigation, & control issues unique to spacecraft. (Peck)

MAE 6720 – Celestial Mechanics (3 CR)

Graduate-level treatment of 2-body and 3-body orbit problems; Hill curves, libration points; osculating orbital elements, perturbation equations; effects of various forces (Burns)