AERONAUTICAL & ASTRONAUT. ENG. (AAE)

AAE 210. INTRODUCTION TO AEROSPACE ENGINEERING. (3 Credits)
Topics will include the engineering fundamentals of aeronautics and astronautics, including an introduction to aerodynamics, propulsion, structures, orbital mechanics and mission planning. Current industry practices in aerospace vehicle specifications, manufacturing, flight testing and certification will be presented.
Prerequisites: ENGR 211 with C or better

AAE 412. SPACE SYSTEMS ENGINEERING. (4 Credits)
Introduction to space systems engineering. Topics will include the fundamentals of astronautics, orbital mechanics and trajectory design, flight dynamics, guidance and navigation, stability and control of spacecraft. Rocket propulsion concepts, including chemical rockets (liquid, gas and solid propellants), hybrid rocket engines and modern advances in satellite power systems will be discussed. Current design practices in space systems engineering will be emphasized.
Prerequisites: (ME 317 with C or better or ME 317H with C or better) and (ME 373 [C] or ME 373H [C])

AAE 512. SPACE SYSTEMS ENGINEERING. (4 Credits)
Introduction to space systems engineering. Topics will include the fundamentals of astronautics, orbital mechanics and trajectory design, flight dynamics, guidance and navigation, stability and control of spacecraft. Rocket propulsion concepts, including chemical rockets (liquid, gas and solid propellants), hybrid rocket engines and modern advances in satellite power systems will be discussed. Current design practices in space systems engineering will be emphasized.
Recommended: (ME 373 or ME 373H) and (ME 317 or ME 317H)