

The University of Texas at El Paso
College of Engineering
Department of Mechanical Engineering
Syllabus

Course Prefix and Number: AERO 4322

Course Title: Aerospace Propulsion

Credit Hours: 3

Prerequisite Courses:

MECH 2311: Introduction to Thermo-Fluid Science and CHEM 1305 or equivalent: Chemistry I both with C or better.

Course Description:

Aerospace Propulsion will teach you the operation and design principles of a wide variety of aerospace propulsion systems, including propellers, turbine engines, chemical rockets, electric thrusters, nuclear rockets, and propellant-less and other advanced propulsion concepts. In the process, you will learn how stored energy is converted to vehicle momentum through gas dynamics processes. You will also be introduced to propulsion system integration and testing, and aerospace mission propulsion system selection. By the end of this course you will come away with a strong foundation in all aerospace propulsion concepts.

Learning Outcomes:

- Compare variations in propulsion system designs for atmospheric and in-space aerospace systems
- Differentiate methods for converting stored energy to momentum
- Evaluate propulsion system designs in regards to mission selection
- Analyze how propulsion systems affect other aerospace vehicle subsystems

Required Materials: All required materials will be provided