

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

Course Prefix and Number: AERO 4364

Course Title: Aerospace Communications

Credit Hours: 3

Prerequisite Courses: MECH 2342 with a C or better.

Course Description: The course will deliver fundamentals on design, implementations and testing of communications systems in Aerospace applications. The course will provide the participants with fundamentals on digital and analog signal processing, signal losses and attenuation; and will prepare the students to design flight communication systems and ground stations using a variety of instruments.

Learning Outcomes: Upon completion of this course, students will be able to: understand the fundamentals of analog and digital signals; how the environment affects signal propagation; specify, design and implement communication systems for onboard and ground stations; the students will also be able to design and implement systems with common communication instruments, such as GPS and Radars.

Required Materials:

-Textbooks:

- Roddy, Dennis. Satellite communications. McGraw-Hill Prof Med/Tech, 2006.
- Tooley, Mike, and David Wyatt. Aircraft communications and navigation systems. Routledge, 2017.

-Laptop

Course Schedule:

- Fundamental on Waves and Signals.
- Wave Propagation
- Environmental losses
- Antenna Design
- Modulation
- Link Budgets
- Ground Stations
- Mobile Services and Instruments: GPS and Radar