

# AVIONICS (AVS)

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## AVS1010 INTRODUCTION TO AVIONICS (3.00 Credits)

This course will expose students to the history, integration and growth of the avionics industry. When complete, students will be able to explain a brief history and role of basic aircraft avionic systems and components and their function, role and interaction with other systems. Students will understand basic data-bus communication and standards.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

## AVS2700C AVIONICS COMPONENT REPAIR AND CALIBRATION (3.00 Credits)

This course will expose students to an avionics shop environment. Students will be able to demonstrate repair capabilities and isolation techniques to the component level (i.e. resistor) for avionics equipment. Students will demonstrate and understanding and the proper use of avionics shop equipment to include generators, oscillators, frequency counters, oscilloscopes, etc.

Total Contact Hrs: 64.00

Lecture Hrs: 32.00

Lab Hrs: 32.00

Complete all the courses in the following option:

- Prerequisite: AVS1010 (minimum grade: C)

## AVS2760C INTRODUCTION TO ADVANCED AVIONICS (3.00 Credits)

This course will introduce students to recent advances in avionics systems. Modern changes within the last 10 years will be discussed, as will changes which are imminent. Students will understand the growing complexity of avionics systems and will learn how these changes will impact the industry in the near future.

Total Contact Hrs: 48.00

Lecture Hrs: 24.00

Lab Hrs: 24.00

Complete all the courses in the following option:

- Prerequisite: AVS1010 (minimum grade: C)

## AVS2770C INTRODUCTION TO AVIONICS ENGINEERING (3.00 Credits)

This course will expose students to the principles of avionics engineering, including specialized equipment, tools, software, and circuit creation using Computer Aided Drafting (CAD) programs. Students will be able to explain and create proper technical drawings and explain the rationale for details in production.

Total Contact Hrs: 64.00

Lecture Hrs: 32.00

Lab Hrs: 32.00

Complete all the courses in the following option:

- Prerequisite: AVS1010 (minimum grade: C)

## AVS2781C AVIONICS ENGINEERING II (3.00 Credits)

This course is designed to introduce students to signal generation and manipulation. Students will understand ARINC and RS standards. Students will demonstrate the ability to design safe and functioning and complicated avionics circuits with specific functionality and polarity. Students will be able to demonstrate the ability to design circuits for audio and video circuits and be exposed to final FAA approval processes. The course content also includes training in communication, leadership, human relations, employability skills, and safe and efficient work practices. Students will continue to prepare to take the Element 3,6,8 and 9 of the FCC General Radiotelephone Operator's License (GRPL) examination and meet criteria to satisfy testing for the National Center for Aerospace & Transportation Technologies (NCATT), Aircraft Electronics Technician (AET) certification and all four endorsements.

Total Contact Hrs: 64.00

Lecture Hrs: 32.00

Lab Hrs: 32.00

Complete all the courses in the following option:

- Prerequisite: AVS2770C (minimum grade: C)

## AVS2790C UNMANNED AERIAL VEHICLE (UAV) AVIONICS (3.00 Credits)

This course exposes the student to the differences between avionics installations in aircraft and those in unmanned aerial vehicles (UAVs). Topics discussed will be compact harness design, repairable design, autopilots, flight control systems, and FAAs remote identification ruling.

Total Contact Hrs: 72.00

Lecture Hrs: 24.00

Lab Hrs: 48.00

Complete all the courses in the following option:

- Option 1 - Prerequisite: AVS2760C (minimum grade: C) and AVS2770C (minimum grade: C)

AVS2930 EMERGING TECHNOLOGIES IN AVIONICS (3.00 Credits)

This course will expose students to emerging technology that affects the future of the avionics industry. Students will be able to identify emerging technology and acceptance and use. Students will show understanding in basic knowledge of how new technology works and interacts with existing technology.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

Complete all the courses in the following option:

- Prerequisite: AVS1010 (minimum grade: C)

AVS2941 AVIONICS INTERNSHIP & CAPSTONE (3.00 Credits)

This course serves as an end-of-program internship. The student, in partnership with a local, approved avionics employer, will complete a minimum of 250-hours of relevant work which utilizes skills developed throughout the program. The professor, student, and employer will agree on assessments.

The professor will visit the the worksite periodically throughout the semester to ensure the student is complying with the agreed- upon plan.

Alternatively, students may complete a relevant 250-hour, on-campus project, under faculty supervision, which incorporates skills learned throughout the program.

Total Contact Hrs: 250.00

Other Hrs: 250.00

Complete all the courses in the following option:

- Pre or Corequisite: AVS2781C (minimum grade: C)