



**AVIONICS TECHNICIAN PROGRAM**  
**GENERAL CURRICULUM**

In partnership with



**Division of  
Continuing Education**

UNIVERSITY OF CENTRAL FLORIDA

# Theory

## Week #1

- Introduction Instructor & Students
- Expectations of the course and classroom rules & safety
- Explanation of student package
- Types of airplanes & categories (General Aviation, Corporate Airplanes, Commercial Aviation)
- Parts of the airplane ( Rudder, Flaps, Elevator, Etc.)
- Gyroscopic Instruments (Heading Indicator, Attitude Indicator, Turn Coordinator)
- Vacuum System
- Pitot Static System (Airspeed Indicator, Vertical Sped, Altimeter)
- ADS-B (Automatic Dependent Surveillance-Broadcast)
- VOR (VHF Omnidirectional Range)
- DME (Distance Measuring Equipment)
- NDB & ADF (Non-directional Radio Beacon & Automatic Direction Finder)
- Radios, COMM, Audio Panel, Navigation
- Antennas

## Week #2

- GPS (Global Positioning System)
- WAAS (Wide Area Augmentation System)
- Transponders (Mode A, Mode C, Mode S)
- ELT ( Emergency Locator Transmitter)
- ATC (Air Traffic Control)
- EFIS (Electronic Flight Instrument System)
- PFD (Primary Flight Display)
- MFD / ND (Multi-function Display / Navigation Display)
- TCAS (Traffic Collision and Avoidance System)
- Bus Bar (Aircraft Electrical System Components)
- Human Factors
- General Review
- Assessment

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# Hands on Training

## Week #3

- Pitot Static Test / System Diagram / System Error / Barfield 1811D Tester
- Terminals & Connectors
  - ✓ D-Sub
  - ✓ Molex
  - ✓ Circular Connectors
  - ✓ Connector Design & Usage
- Coax Cable
  - ✓ BNC Connectors
  - ✓ TNC Connectors
- Quadrax Connectors familiarization
  - ✓ Basics of building High Speed Network Cable
- Fiber Optics Introduction
  - ✓ Fiber Optic Cables
  - ✓ Applying Fiber Optics in Aviation

## Week #4

- Basic Electronics
  - ✓ Ohm's Law
  - ✓ Series & Parallel Circuit
  - ✓ Resistors Color Codes
  - ✓ Alternating Current (AC)
  - ✓ Direct Current (DC)
  - ✓ Logic Gates (AND, OR, NOR, XOR)
  - ✓ Diodes
  - ✓ Capacitors
  - ✓ Use of multimeter
  - ✓ Use of Oscilloscope
  - ✓ Use of function generator
  - ✓ Use of power supply

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## Weeks #5-6

- Familiarization of Tools (Hand Tools / Crimp Tools)
- Use of Daniels AFM8, AF8 Crimp Tool
- Go-NO-Go Gauge
- Use of HX3 / HX4 Crimp Tool
- Schematic Symbols
- Soldering Techniques
- Wire Splice
- Soldering Jacks
- Wire Tying Knot

## Radio / Audio Panel / Transponder Harness Assembly

### Weeks #7-12

- Inventory of Wire harness kits
- Schematic familiarization (GMA340 / GTR200 / GTX345)
- Assembly Connectors for GMA340 (Audio Panel)
- Assembly Connectors for GTR200 (Radio)
- Assembly Connectors for GTX345 (Transponder)
- Perform harness ring-out (continuity check)
- Install Harnesses to the Radio, Audio Panel, and Transponder
- Connect ADS-B to iPad for live Air Traffic Surveillance
- Disassembly wire harnesses and inventory kits

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