Florida CTE

Avionics Fundamentals 1 (2026)

Demonstrate proficiency in the fundamentals of aviation maintenance technology. The student will be able to: 01.0	1 **Apply proper Occupational Safety Health Administration (OSHA) safety standards.** 01.01
	2 **Identify the primary parts of an aircraft.** 01.02
	3 **Describe how avionics systems integrate with aircraft airframe and propulsion systems.** 01.03
	4 **Research and describe the certifications associated with the avionics maintenance technician.** 01.04
Demonstrate skills in technical communications. The student will be able to: 02.0	1 **Interpret electronic schematics** 02.01
	2 **Write reports and make oral presentations.** 02.02
	3 **Maintain test logs.** 02.03
	4 **Write formal reports of laboratory experiences** 02.04
	5 **Read and follow written instructions.** 02.05
	6 **Answer and ask questions coherently and concisely** 02.06
Demonstrate proficiency in basic aircraft wiring and PCB practices. The student will be able to: 03.0	1 **Explain the theoretical concepts and safety precautions of soldering.** 03.01
	2 **Use appropriate hand tools to cut, strip, crimp, splice, solder, and stamp/identify wires and cables to industry standards for aircraft installation.** 03.02
	3 **Prepare, use, install, and inspect general purpose connectors.** 03.03
	4 **Research and identify the proper AN-MS connectors for use in aircraft electrical systems.** 03.04
	5 **Identify and use power tools properly.** 03.05
	6 **Demonstrate acceptable PCB soldering techniques.** 03.06
	emonstrate acceptable de-soldering techniques. 03.07

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	8 Demonstrate electrostatic discharge (ESD) safety procedures. 03.08
	9 Describe the construction of printed circuit boards (PCB's). 03.09
	10 Demonstrate proficiency in reworking and repairing aircraft wiring and PCB's. 03.10
Demonstrate proficiency in basic direct current (DC) circuits. The student will be able to: 04.0	1 Identify sources of electricity. 04.01
	2 Define voltage, current, resistance, power, and energy. 04.02
	3 Apply Ohm's law and power formulas. 04.03
	4 Read and interpret color codes and symbols to identify electrical components and values. 04.04
	5 Measure properties of a DC circuit using an analog volt/ohm (VOM) meter. 04.05
	6 Measure properties of a DC circuit using a digital multimeter (DMM). 04.06
	7 Measure properties of a DC circuit using an oscilloscope. 04.07
	8 Compute conductance and compute and measure resistance of conductors and insulators. 04.08
	9 Apply Ohm's law to series circuits. 04.09
	10 Analyze and troubleshoot series circuits. 04.10
	11 Apply Ohm's law to parallel circuits. 04.11
	12 Analyze and troubleshoot parallel circuits. 04.12
Demonstrate proficiency in advanced direct current (DC) circuits. The student will be able to: 05.0	1 Apply Ohm's law to series-parallel and parallel-series circuits. 05.01
	2 Verify the operation of series-parallel, parallel-series, and bridge circuits. 05.02
	3 Troubleshoot series-parallel and parallel-series and bridge circuits. 05.03
	4 Identify and define voltage divider circuits (loaded and unloaded). 05.04
	5 Verify the operation of voltage divider circuits (loaded and unloaded). 05.05
	6 Analyze and troubleshoot voltage divider circuits (loaded and unloaded). 05.06
	7 Describe magnetic properties of circuits and devices. 05.07
	)etermine the physical and electrical characteristics of capacitors and nductors. 05.08

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	9 **Define resistor-capacitor (R-C) and resistor-inductor (R-L) time constants.** 05.09
	10 **Adjust and operate power supplies for DC circuits.** 05.10
Demonstrate proficiency in aircraft direct current (DC) power systems. The student will be able to: 06.0	1 **Identify the types and construction of aircraft batteries.** 06.01
	2 **Define battery shop safety features and precautions when servicing various types of aircraft batteries.** 06.02
	3 **Explain the process of servicing lead-acid and nickel-cadmium batteries.** 06.03
	4 **Describe the types of aircraft DC generation systems.** 06.04
	5 **Describe the purpose and operation of aircraft DC current limiters, regulators, and reverse current relays.** 06.05