# AMT General IV Course No. 40434 Credit: 0.5

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| **Student name:** |  | **Graduation Date:** |  |

Pathways and CIP Codes:Aviation Maintenance and Operations (47.0607) - Maintenance and Avionics Strand

Course Description: This course continues to develop correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards.

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

**Prerequisite:** AMT General III (40433)

## Benchmark 1: Identify, interpret, explain, and apply basic electricity concepts as it relates to aviation.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Define electron theory, magnetism, voltage, & regulation |  |
| 1.2 | Define capacitance and inductance in a circuit. |  |
| 1.3 | Identify alternating current (AC) electrical circuits and direct current (DC) electrical circuits. |  |
| 1.4 | Explain electrical laws and theory and electrical circuit drawings |  |
| 1.5 | a. Define Ohm's Law, Kirchoff’s Law, Watt’s Law, Faraday’s Law, & Lentz’s Law |  |
| 1.6 | f. Define Right-hand motor rule, elctrostatic dischargem and binary numbers |  |
| 1.7 | Identify electrical measurement tools, principles, and procedures. |  |
| 1.8 | Identify resistance in series circuits and parallel circuits |  |
| 1.9 | Identify Current, Resistance, Impedance, total resistance and Power |  |
| 1.10 | Explain series circuits, parallel circuits, and complex/combined circuits. |  |

## Benchmark 2: Identify Components in an electrical circuit.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.1 | Define Transformers. |  |
| 2.2 | Identify controlling devices, including switches and relays. |  |
| 2.3 | Identify protective devices, including fuses, circuit breakers, and current limiters. |  |
| 2.4 | Identify resistor types and color coding, semiconductors, including diodes, transistors, and integrated circuits. |  |
| 2.5 | Identify digital logic, including RAM, ROM, NVRAM, logic gates, inverter, rectifier, and flip flop. |  |
| 2.6 | Describe AC and DC motors. |  |

## Benchmark 3: Accurately measure resistance/continuity, voltage, current and power in an electrical circuit.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 3.1 | Describe circuit continuity. |  |

## Benchmark 4: Identify, inspect, service and properly handle aircraft batteries.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 4.1 | Explain aircraft batteries. |  |

## Benchmark 5: Identify and inspect aviation fuels, fueling/defueling procedures and safety precautions.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 5.1 | Describe aviation fueling/defueling procedures. |  |
| 5.2 | Identify types/classes of fire extinguishers and procedures. |  |
| 5.3 | Explain characteristics of aviation gasoline and turbine fuels, including basic types and means of identification., grades/types of fuels and fuel additives commonly used. |  |

## Benchmark 6: Ability to start, ground operate, move, service and secure aircraft and identify typical ground operation hazards.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 6.1 | Explain airport operation area procedures and ATC communications, including runway incursion prevention. |  |
| 6.2 | Define engine starting, ground operation, aircraft towing & securing procedures ,and aircraft taxiing procedures. |  |
| 6.3 | Identify aircraft oil, oxygen, hydraulic, pneumatic, and deicing servicing procedures. |  |
| 6.4 | Define parts material handling, protections, tool and hardware use & accountability and FOD control |  |
| 6.5 | Identify hazardous materials, Safety Data Sheets (SDS), and PPE. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

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