



## **Course Description**

### **AMT0269 | Aircraft Electrical Systems & Quality Control | 2.13 credits**

In this course, the student will learn the principles of basic electricity as it relates to aviation electrical systems; work with data, including computer-generated flow diagrams and spreadsheets; working with wiring & fiber optics; advanced blueprint reading with respect to performing actual tasks; and key elements of quality control. Prerequisites: AMT0044 and AMT 0045.

### **Course Competencies:**

**Competency 1:** The student will learn the principles of basic electricity as it relates to aviation electrical systems by:

1. Examining the fundamentals that underpin DC & AC electricity
2. Identifying and examining aviation electrical systems
3. Analyzing safety considerations when working with electricity in an aviation environment

**Competency 2:** The student will learn to use data, flow charts & spreadsheets by:

1. Collecting information and evaluating its quality concerning a project
2. Creating schedules, flow diagrams, and spreadsheets
3. Interpreting computer-generated data as it relates to the aviation environment

**Competency 3:** The student will learn the techniques of installing wiring and fiber optics by:

1. Demonstrating basic knowledge of uses of wiring & fiber optics
2. Reviewing specifications for installation & troubleshooting
3. Routing wiring & fiber optic cables per specifications
4. Verifying completed installation and performing operational checks

**Competency 4:** The student will learn advanced blueprint reading with respect to performing actual tasks by:

1. Demonstrating advanced knowledge of allowance & tolerance
2. Identifying cumulative measurement and references within a drawing
3. Calculating geometric dimensioning & tolerance

**Competency 5:** The student will demonstrate knowledge of the quality control process by:

1. Explaining the role of external standards: ASTM, ISO, ASME, ICAO
2. Working to approve specifications defined by regulatory bodies
3. Validating observed data and determining best practices

### **Learning Outcomes**

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information