

Aviation Technology- Maintenance  
Standard Course Outline

AVTA 1011 – WELDING

Catalog Description: Basic gas, arc, and TIG welding. Clock hours: 18 lecture, 18 shop

Prerequisite: AVTG 1001

Credit hours/ Contact hours/ Load hours: 1/36/6 hours per day for 6 days

Target Audience & Transferability:

This course is designed for students seeking a Technical Certificate in Airframe or, when combined with General and Powerplant, an AAS in Aviation Maintenance Technology, or an AS in Aviation Maintenance Management. Individual AVT courses or Certificates may be transferable to other FAA Certified Aviation Maintenance Technician schools under Federal Regulations.

Student Outcomes/ Course Topics:

REFERENCES: AC 43.13-1B, AC 65-9A, AC 65-15A; AMT-A; JSAT.  
FAA Standard: *FAA-S-8081-27 2-5, Change 2 (9/24/03)*

The student:

1. Exhibits knowledge of at least two of the following—
  - a. flame welding gasses.
  - b. storage/handling of welding gasses.
  - c. flame welding practices and techniques.
  - d. inert-gas welding practices and techniques.
  - e. purpose and types of shielding gasses.
  - f. characteristics of acceptable welds.
  - g. characteristics of unacceptable welds.
  - h. types of steel tubing welding repairs.
  - i. procedures for weld repairs.
  - j. soldering preparation, types of solder, and/or flux usage.
  - k. welding and/or soldering safety practices/precautions.
2. N/A
3. Demonstrates the ability to perform at least one of the following—
  - a. ignite a torch, set one or more specified flame patterns, and accomplish proper torch shutdown. (Level 2)
  - b. solder a joint or connection. (Level 2)
  - c. using aircraft quality materials, weld or braze a joint. (Level 2)
  - d. determine the appropriate method/material(s) to use for a specific welding, soldering, or brazing task. (Level 2)
  - e. determine the appropriate data to use for a specific welding, soldering, or brazing task. (Level 1)

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Required Text(s):

Airframe Structures Textbook (ASA)	ISBN # 1-56027-339-9
Airframe Systems Textbook (ASA)	ISBN # 1-56027-340-2
Airframe Test Study Guide (ASA)	ISBN # 1-56027-571-5
FAR Handbook for AMT (ASA)	ISBN # 1-56027-563-4
AC43.13-1B Acceptable Methods, Practices, & Techniques (ASA)	ISBN # 1-56027-488-3

Optional Text(s):

Technician Airframe Textbook (Jeppesen)	ISBN # 0-89100-395-9
Technician Airframe Workbook (Jeppesen)	ISBN # 0-89100-402-5
AC65-15A Aircraft Mechanics Handbook Airframe (FAA)	ISBN # 1-56027-023-3

Supporting Reference(s)

O&P Study Guide (ASA)	ISBN # 1-56027-406-9
Maintenance Handbook (ASA)	ISBN # 1-56027-518-9
Dictionary of Aeronautical Terms (ASA)	ISBN # 1-56027-587-2

The workbooks and test study guides may be used to aid the instructor and students to reinforce the textbook information. Other Textbooks may be used depending upon availability.

Required Methods of Instruction:

Classes are taught off-campus in a full time day or night format, requiring maximum attendance in lecture and shop. Attendance is taken every hour. Missed time must be made up outside of regular scheduled class time before moving to the next subject.

Required Forms of Assessment:

Periodic exams will be performed by FAA approved instructors as required to insure progress. Students must pass this course with a 70% or better to qualify for an FAA approved Certificate of Completion in the Airframe Section.