



# BROWARD COMMUNITY COLLEGE COURSE OUTLINE

**LAST REVIEW: 2007-2008**

*(i.e. 2003-2004)*

**NEXT REVIEW: 2012-2013**

*(i.e. 2008-2009)*

**STATUS: A**

*(A, I, D)*

**COURSE TITLE: Fluid Lines & Fittings**

**COMMON COURSE NUMBER: AMT 1030**

**CREDIT HOURS: 1**

**CONTACT HOUR BREAKDOWN**

*(per 16 week term)*

**CLOCK HOURS: 26.25**

**Lecture: 10**

**Lab: 16.25**

*(Voc. Course ONLY)*

**Clinic:**

**Other:**

**PREREQUISITE(S): None**

**COREQUISITE(S): None**

**PRE/COREQUISITE(S): None**

**COURSE DESCRIPTION** *(750 characters, maximum):* Prepares the student to fabricate and install rigid and flexible lines and fittings with regard to bends, tools, and lubricants. Provides training in the area of identification of materials, fittings, and routing of fluid lines; Student fee charged.

General Education Requirements – Associate of Arts Degree (AA), meets Area(s): Area

General Education Requirements – Associate in Science Degree (AS), meets Area(s): Area

General Education Requirements – Associate in Applied Science Degree (AAS), meets Area(s): Area

## **UNIT TITLES**

1. Rigid and Flexible Fluid Lines and Fittings

## **ASSESSMENT:**

Please provide a brief description *(250 characters maximum)* that details how students will be assessed on the course outcomes.

1. **Quizzes, Test, and/or Final Exam (cumulative/comprehensive);**
2. **Selected faculty may assess homework, projects, class participation/attendance, and/or extra credit projects.**  
Upon successful completion of this course, the students should be able to fabricate and install rigid and flexible lines and fittings with regard to bends, tools, and lubricants.



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Common Course Number: AMT 1030

## UNITS

### Unit 1 Rigid and Flexible Fluid Lines and Fittings

#### General Outcome:

- 1.0 The student shall:** The students should be able to fabricate and install rigid and flexible fluid lines and fittings.

#### Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 1.1 Fabricate single and double flare tubing.
- 1.2 Install Military Standard (MS) flareless fittings.
- 1.3 Explain the significance of the identification stripes that appear on aircraft hose.
- 1.4 Fabricate and install beaded tubing.
- 1.5 Use lubricants and sealants in the assemble of lines and fittings.
- 1.6 Identify flexible hydraulic lines.
- 1.7 Install hose clamps.
- 1.8 Determine the bend radii for rigid tubing.
- 1.9 Fabricate aluminum tubing using standard AN flared tube fittings.
- 1.10 Route fluid lines in entryways and passenger, crew, or baggage compartments.
- 1.11 Repair metal tube lines.
- 1.12 Route fluid lines adjacent to electrical power cables.
- 1.13 Install rigid tubing.
- 1.14 Select tube-flaring tools.
- 1.15 Identify AN fitting materials from color designators.



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- 1.16 Explain the maximum reduction in original outside diameter allowed when bending aluminum alloy hydraulic lines.
- 1.17 Discuss the procedure to follow if scratches are detected on an aluminum alloy tube.
- 1.18 List the storage requirements for hydraulic hose.
- 1.19 Install flexible hydraulic hose.
- 1.20 Describe the lubricant used when assembling oxygen fittings.