

FLORIDA STATE COLLEGE AT JACKSONVILLE  
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1752

COURSE TITLE: Aviation Maintenance Technology General II

PREREQUISITE(S): None

COREQUISITE(S): None

CREDIT HOURS: 3

CONTACT HOURS/WEEK: 8

CONTACT HOUR BREAKDOWN:

Lecture/Discussion:	4
Laboratory:	4
Other <u>lecture/lab combination</u> :	

FACULTY WORKLOAD POINTS: 4

STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION: This course is designed to introduce aircraft hardware and precision measuring instruments; blueprints and drawings; hand and power tools; and fluid lines and fittings.

SUGGESTED TEXT(S):	<u>TITLE</u>	<u>NUMBER</u>
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	Jeppesen A&P Technician General Textbook ISBN #0-88487-203-3	
	Jeppesen A&P Technician General Workbook ISBN #0-88487-212-2	
	Jeppesen A&P Technician General Test Guide ISBN #0-89100-449-1	
	FAA AC 43.13-1B/2A Acceptable Methods, Techniques & Practices ISBN #0-89100-306-1	
	FAR Handbook for Aviation Maintenance Technicians ISBN #0-88487-314-5	
	Aviation Mechanic Handbook, by Dale Crane #ASA-M-HB1	
	Basic Blueprint Reading and Sketching, by Olivio (Delmar) ISBN #0-7668-0841-6	

IMPLEMENTATION DATE: Summer Term, 2006 (20063)

REVIEW OR MODIFICATION DATE: Fall Term, 2008 (20091) - Outline Review 2007

CONTACT HOURS  
PER TOPIC

## COURSE TOPICS

**Note: § Denotes required project**

## I. AIRCRAFT HARDWARE AND PRECISION MEASURING INSTRUMENTS 25

## A. Aircraft Hardware

**Objectives:**

1. Define terms related to aircraft hardware.
2. **§ Identify aircraft rivets by alloy, specification code, symbol, and head marking. (Level 3) (App. B.e.17) (GEN-033)**
3. Discuss usage of common aircraft rivets.
4. Describe special rivets.
5. Discuss standard aircraft bolt types, thread fits, specific numbers, applications and installations.
6. **§ Identify common aircraft bolts by head markings and head shapes. (Level 3) (App. B. e.17) (GEN-034)**
7. **§ Identify various types of screws, nuts and washers used in aircraft construction. (Level 3) (App. B. e.17) (GEN-035)**
8. **§ Identify types of pins used in aircraft construction. (Level 3) (App. B. e.17) (GEN-036)**
9. Discuss the usage of inserts for repairing threaded and unthreaded holes.
10. Discuss Dzus, airlock, and Camlock fasteners.
11. **§ Identify aircraft cable and cable terminals. (Level 3) (App. B. e.17) (GEN-037)**
12. Discuss aircraft turnbuckles.
13. Discuss safety methods used in aircraft construction.
14. **§ Install aircraft bolts using cotter pins. (Level 3) (App. B. e. 17) (GEN-038)**
15. **§ Safety-wire aircraft hardware. (Level 3) (App. B. e.17) (GEN-039)**

## B. Precision Measuring Instruments

**Objectives:**

1. Discuss non-precision measuring instruments and their usage.
2. **§ Demonstrate proper use of a rule. (Level 3) (App. B. e. 19) (GEN-040)**
3. Discuss precision measuring instruments and their usage.
4. Interpret drawings of micrometer readings.
5. **§ Demonstrate proper use of an outside, inside and depth micrometer (Level 3) (App. B. e. 19) (GEN-041)**
6. **§ Use a vernier and dial caliper to take inside, outside, and depth measurements. (Level 3) (App. B. e.19) (GEN-042)**
7. Demonstrate the use of a dial indicator

## C. Unit Test

## II. BLUEPRINTS AND DRAWINGS 25

## A. Usage and Interpretation

**Objectives:**

1. Define terms related to blueprints and drawings.

CONTACT HOURS  
PER TOPIC

## COURSE TOPICS (continued)

Note: § Denotes required project

2. Identify different types of aircraft drawings.
3. Identify types of sectional views.
4. § Make orthographic drawings. (Level 3) (App. B. b.8) (GEN-043)
5. § Make isometric sketches. (Level 3) (App. B. b.8) (GEN-044)
6. § Make a sketch of an alteration and a repair. (Level 3) (App. B. b.8)(GEN-045)
7. Match types of pictorial views to their correct descriptions.
8. § Identify the types of lines and symbols found on blueprints. (Level 3)(App.B.b.7,9) (GEN-046)
9. § Interpret notes on aircraft blueprints. (Level 3) (App. B. b.9) (GEN-047)
10. § Determine dimensions and tolerances on aircraft drawings.(Level 3) (App. B. b.7,9) (GEN-048)
11. Name information found in the title block of an aircraft drawing.
12. Describe usage of fuselage station numbers, water lines, buttock lines, and wing station numbers.
13. § Interpret an aircraft drawing. (Level 3) (App. B. b. 7,9) (GEN-049)
14. § Interpret information on graphs and charts. (Level 3) (App. B. b.10)(GEN-050)
15. § Troubleshoot a system by using a chart and identifying components within the system schematic. (Level 2) (App. B, b.7,10) (GEN-051)
16. Perform basic geometric exercises.

## B. Unit Test

## III. HAND AND POWER TOOLS

20

## A. Basic Hand Tools

**Objectives:**

1. State guidelines for care and safe use of hand tools.
2. Identify and discuss types of basic hand tools.
3. Discuss types of tools for electrical repairs and their usage.
4. Describe proper usage of hand-impact tools.
5. Identify basic types of torque wrenches.
6. Discuss the importance of proper calibration
7. Identify methods to achieve required torque values using assorted extensions
8. § Demonstrate proper set-up and use of a torque wrench. (GEN-052)

## B. Pneumatic Tools

**Objectives:**

1. State guidelines for proper care and safe use of pneumatic tools
2. Identify different pneumatic tools and attachments used in the aviation industry
3. Identify tool ratings
4. § Connect a pneumatic tool to an air supply and actuate. (GEN-053)

## C. Cutting Tools

CONTACT HOURS  
PER TOPIC

## COURSE TOPICS (continued)

**Note: § Denotes required project****Objectives:**

1. Identify types of cutting tools.
2. Discuss types of cutting tools and their usage.
3. Discuss types and uses of taps and dies.
4. Match descriptions of types of thread fits to their correct classes.
5. Interpret the National Taper Pipe Thread Size Chart.

## D. Machine tools

**Objectives:**

1. Identify the various machine tools in the hangar
2. Discuss the proper care and safe operation of drill presses, hydraulic presses, band-saws, floor shears and assorted power tools
3. **§ Demonstrate proper use of power tools and shop equipment. (GEN-054)**
4. **§ Fabricate a hardware block using hand, power and cutting tools. (GEN-055)**

## E. Unit Test

## IV. FLUID LINES AND FITTINGS

20

## A. Rigid Fluid Lines

**Objectives:**

1. Define terms related to rigid and flexible fluid lines and fittings.
2. Discuss materials and size designations of rigid tubing.
3. Discuss the fabrication of rigid tubing assemblies.
4. Discuss flared fittings used to connect rigid fluid lines.
5. Identify typical flareless fittings.
6. **§ Fabricate and install a bent flared and flareless rigid tube assembly.(Level 3) (App. B. d.13) (GEN-99)**

## B. Flexible Fluid Lines

**Objectives:**

1. Discuss flexible hose construction.
2. Discuss measurement and identification of flexible fluid lines.
3. Discuss and identify low-, medium-, and high-pressure hose.
4. Discuss the construction, usage, and advantages of Teflon hose.
5. Discuss methods used for attaching fluid line fittings to components.
6. Discuss flexible hose fittings.
7. Identify correct and incorrect flexible hose and rigid tubing installations.
8. Match color codes or names to related fluid line code symbols.
9. **§ Fabricate and install a flexible hose assembly. (Level 3) (App. B. d.13)(GEN-100)**

## C. Unit Test

## COURSE TOPICS (continued)

CONTACT HOURS  
PER TOPIC**Note: § Denotes required project**

## V. COMMUNICATION SKILLS

8

- A. Writing
  1. Logical and understandable statements and documentation.
  2. Grammar, spelling and jargon.
- B. Reading
  1. Understanding forms graphs, charts, diagrams and tables used as an AMT
  2. Follow written instructions.
  3. Interpreting assumptions and implications.
  4. Source documents.
- C. Speaking
  1. Asking and answering questions coherently and concisely.
  2. Vocabulary and jargon.
- D. Listening
  1. Attention to detail
  2. Barriers to effective listening.
  3. Feedback what was heard.

VI. ENTREPRENEURSHIP OPPORTUNITIES AVIATION GENERAL  
MAINTENANCE TECHNICIAN HELPER

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- A. Small Business in Our Society
  1. Opportunities
  2. Entrepreneurs
  3. Rate of Failure
  4. Reason for Failures
- B. Forms Of and Personal Requirements of Business Organizations
  1. Sole Proprietorship
  2. Partnership
  3. Corporation
    - A. Regular
    - B. Subchapter-S
  4. Advantages and Disadvantages of Each
- C. Franchises
  1. Definition
  2. Types
  3. Trends
- D. Startup Vs. Buying A Business
  1. Advantages of startup

## COURSE TOPICS (continued)

**Note: § Denotes required project**

2. Advantages of buying existing business

## E. Developing a Business Plan

1. Need for planning
2. Steps
3. The plan itself

VII. EMPLOYABILITY SKILLS FOR AVIATION GENERAL  
MAINTENANCE TECHNICIAN HELPER

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## A. Conducting Job Search

1. Media and agency information sources.
2. Exploring websites, career development centers, publications, and resource documents.
3. Personal documents required when applying.

## B. Job Application

1. Application forms.
2. Resume writing.
3. Punctuation and spelling.

## C. Interview Skills

1. Types of interviews
2. Etiquette required.
3. Presentation skills.

## D. On the Job Behaviors

1. Response to criticism.
2. Work habits.
3. Interpersonal relationships.

## E. Job Changes

1. Promotions.
2. Inter-department.
3. New companies.

## F. Right-to-Know Law

1. Florida statutes.
2. Exceptions.

## VIII. GENERAL II REMEDIATION, REVIEW, AND TESTING

5

PROGRAM TITLE: Aviation Maintenance Management

COURSE TITLE: Aviation Maintenance Technology General II

CIP NUMBER: 1649.010401

LIST PERFORMANCE STANDARD ADDRESSED:

NUMBER(S): TITLES(S):

- 02.0 PERFORM BASIC AIRCRAFT DRAWING SKILLS--The student will be able to:
- 02.01 Use aircraft drawings, symbols, and system schematics. [FAA FAR Part 147, Level 2]
  - 02.02 Draw sketches of repairs and alterations. [FAA FAR Part 147, Level 3]
  - 02.03 Use blueprint information. [FAA FAR Part 147, Level 3]
  - 02.04 Use graphs and charts. [FAA FAR Part 147, Level 3]
- 04.0 MAINTAIN AIRCRAFT FLUID LINES AND FITTINGS--The student will be able to:
- 04.01 Fabricate and install rigid and flexible fluid lines and fittings. [FAA FAR Part 147, Level 3]
  - 04.02 Identify and utilize special fluid-line tools.
  - 04.03 Utilize proper personal safety procedures for fluid lines and fittings.
- 05.0 PERFORM AIRCRAFT MATERIALS AND PROCESSES SKILLS--The student will be able to:
- 05.04 Identify and select aircraft hardware and materials.[FAA FAR Part 147, Level 3]
  - 05.06 Perform precision measurements. [FAA FAR Part 147, Level 3]
  - 05.07 Perform safety-wiring techniques.
- 15.0 DEMONSTRATE APPROPRIATE COMMUNICATION SKILLS--The student will be able to:
- 15.01 Write logical and understandable statements or phrases to accurately complete forms/invoices commonly used in business and industry.
  - 15.02 Read and understand graphs, charts, diagrams, and tables commonly used in this industry/occupation area.
  - 15.03 Read and follow written and oral instructions.
  - 15.04 Answer and ask questions coherently and concisely.
  - 15.05 Read critically by recognizing assumptions and implications and by evaluating ideas.
  - 15.06 Demonstrate appropriate telephone/communication skills.
- 16.0 DEMONSTRATE EMPLOYABILITY SKILLS AS AN AVIATION GENERAL MAINTENANCE TECHNICIAN HELPER--The student will be able to:
- 16.01 Conduct a job search.
  - 16.02 Secure information about a job.
  - 16.03 Identify documents that may be required when applying for a job position.
  - 16.04 Complete a job-application form correctly.
  - 16.05 Demonstrate job-interview skills.
  - 16.06 Identify appropriate responses to criticism from employer, supervisor, or other employees.
  - 16.07 Identify work habits for getting and keeping a job.
  - 16.08 Explain how to make job changes.
  - 16.09 Explain the purpose of the "Right-to-Know" law.

LIST PERFORMANCE STANDARD ADDRESSED: (continued)

NUMBER(S):            TITLES(S):

- 17.0    DEMONSTRATE AN UNDERSTANDING OF ENTREPRENEURSHIP RELATED TO OPPORTUNITIES IN AVIATION GENERAL MAINTENANCE OCCUPATIONS--The student will be able to:
- 17.01    Define entrepreneurship.
  - 17.02    Describe the importance of entrepreneurship to the United States economy.
  - 17.03    List the advantages and disadvantages of business ownership.
  - 17.04    Identify the risks involved in ownership of a business.
  - 17.05    Identify the necessary personal characteristics of a successful entrepreneur.
  - 17.06    Identify the business skills needed to operate a small business efficiently and effectively.



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

<i>Section 1</i>	
COURSE PREFIX AND NUMBER: <u>AMT 1752</u>	SEMESTER CREDIT HOURS: <u>3</u>
COURSE TITLE: <u>Aviation Maintenance Technology General 2</u>	

*Section 2*

TYPE OF COURSE: (Click on the box to check all that apply)

<input type="checkbox"/> AA Elective	<input checked="" type="checkbox"/> AS Required Professional Course	<input type="checkbox"/> College Prep
<input type="checkbox"/> AS Professional Elective	<input checked="" type="checkbox"/> AAS Required Professional Course	<input type="checkbox"/> Technical Certificate
<input type="checkbox"/> Other _____		
<input type="checkbox"/> General Education: (For General Education courses, you must also complete Section 3 and Section 7)		

*Section 3 (If applicable)*

INDICATE BELOW THE DISCIPLINE AREA FOR GENERAL EDUCATION COURSES:

<input type="checkbox"/> Communication	<input type="checkbox"/> Social & Behavioral Sciences	<input type="checkbox"/> Mathematics
<input type="checkbox"/> Natural Sciences	<input type="checkbox"/> Humanities	

*Section 4*

INTELLECTUAL COMPETENCIES:

<input checked="" type="checkbox"/> Reading	<input checked="" type="checkbox"/> Speaking	<input type="checkbox"/> Critical Analysis	<input type="checkbox"/> Quantitative Skills	<input type="checkbox"/> Scientific Method of Inquiry
<input checked="" type="checkbox"/> Writing	<input checked="" type="checkbox"/> Listening	<input type="checkbox"/> Information Literacy	<input type="checkbox"/> Ethical Judgment	<input checked="" type="checkbox"/> Working Collaboratively

<i>Section 5</i>	
LEARNING OUTCOMES	METHOD OF ASSESSMENT
• Select aircraft hardware appropriate for usage	Practical test based on FAA Practical Test Standards
• Demonstrate proper use of precision measuring instruments	Practical test based on FAA Practical Test Standards
• Use and interpret aircraft blueprints	Written test created from FAA Test Bank of Questions
• Demonstrate proper use and care of hand tools	Written tests, reports and/or use of equipment to demonstrate student competency in field.
• Fabricate fluid lines and fittings	Practical test based on FAA Practical Test Standards
• Demonstrate effective reading, writing, speaking and listening skills.	Simulated job interview assignment
• Demonstrate and understanding of entrepreneurship as it relates to the AMT profession	Written test
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*Section 6*

Name of Person Completing This Form: Richard Rozanski