



MASTER COURSE OUTLINE

Prepared By: Erik Borg

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COURSE TITLE

Airframe Mechanic II

GENERAL COURSE INFORMATION

Dept.: AMT

Course Num: 152

(Formerly:)

CIP Code: 47.0607

Intent Code: 21

Program Code: 718

Credits: 4-21

Total Contact Hrs Per Qtr.: 66-363

Lecture Hrs: 22-99

Lab Hrs: 44-264

Other Hrs:

Distribution Designation: General Elective (GE)

COURSE DESCRIPTION (as it will appear in the catalog)

This course will cover aircraft airframe systems and components. To provide the skills in checking, overhaul, repairs, installation, removal, servicing, inspection, and troubleshooting of landing gear systems, hydraulic and pneumatic power systems, cabin atmosphere control systems, aircraft instruments, communication and navigation system lab, aircraft fuel systems, aircraft electrical systems, position and warning systems, ice and rain control systems, and, fire protection systems. This course is approved under FAA Part 147.

PREREQUISITES

Instructor Approval

TEXTBOOK GUIDELINES

Airframe & Powerplant Technician Airframe Textbook (FAA H-8083-31-ATB)

Airframe & Powerplant Mechanics, Airframe Workbook (FAA H-8083-31-ATB)

Airframe & Powerplant Mechanics, Airframe FAA Airmen Knowledge Test (FAA H-8083-ATB)

Airframe & Powerplant Mechanics, General Textbook (FAA H-8083-30-ATB)

Airframe & Powerplant Mechanics, General Workbook (FAA H-8083-30-ATB)

Airframe & Powerplant Mechanics, General FAA Airmen Knowledge Test Guide

AC 43.13-1B & -2B Acceptable Methods Technique/Alterations

Federal Aviation Regulation Handbook for Aviation Maintenance Technicians

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems
2. Repair hydraulic and pneumatic power systems components
3. Identify and select hydraulic fluids
4. Inspect service, troubleshoot, and repair hydraulic and pneumatic power systems
5. Inspect, check, troubleshoot, service, and repair heating, cooling, air conditioning, pressurization systems, and air-cycle machines
6. Inspect, check, troubleshoot, service, and repair oxygen systems

7. Inspect, check, service, troubleshoot, and repair electronic flight instrument systems and both mechanical and electrical heading, speed, altitude, temperature, pressure, and position indicating systems to include the use of built-in test equipment
8. Install instruments and perform a static pressure system leak test
9. Inspect, check, and troubleshoot autopilot servos and approach coupling system
10. Inspect, check, and service aircraft electronic communication and navigation systems, including VHF passenger address interphones and static discharge devices, aircraft VOR, ILS, Omega, flight management computers, and GPWS
11. Inspect and repair antenna and electronic equipment installations
12. Check and service fuel dump systems
13. Perform fuel management, transfer and defueling
14. Inspect, check, and repair pressure fueling systems
15. Repair aircraft fuel system components
16. Inspect and repair fluid quantity indicating systems
17. Troubleshoot, service, and repair fluid pressure and temperature warning systems
18. Inspect, check, service, troubleshoot and repair aircraft fuel systems
19. Repair and inspect aircraft electrical system components; crimp and splice wiring to manufacturers' specifications; and repair pins and sockets of aircraft connectors
20. Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devices
21. Inspect, check, troubleshoot, service, and repair alternating current and direct current electrical systems and constant speed and integrated drive generators
22. Inspect, check, and service speed and takeoff warning systems, electrical brake controls, and antiskid systems
23. Inspect, check, troubleshoot, and service landing gear position indicating and warning systems
24. Inspect, check, troubleshoot, service, and repair airframe ice and rain control systems
25. Inspect, check, and service smoke and carbon monoxide detection systems
26. Inspect, check, and service, troubleshoot, and repair aircraft fire detection and extinguishing systems

INSTITUTIONAL OUTCOMES

- IO1 **Communication:** Students will be able to identify and explain a variety of airframe and/or powerplant systems and components as evaluated by the completion of the FAA written, oral and practical exams
- IO3 **Human Relations/Workplace Skills:** Students will be able to demonstrate teamwork, ethics, appropriate safety awareness and/or workplace specific skills

COURSE CONTENT OUTLINE

1. Aircraft Landing Gear Systems
2. Hydraulic and Pneumatic Power Systems
3. Cabin Atmosphere Control Systems
4. Aircraft Instrument Systems
5. Communication and Navigation Systems
6. Aircraft Fuel Systems
7. Aircraft Electrical Systems
8. Position and warning systems
9. Ice and Rain Control Systems
10. Fire Protection Systems

DEPARTMENTAL GUIDELINES *(optional)*

Student grades are based on the following items:

- | | |
|----------------------------------|-----|
| 1. Classroom/lecture assignments | 50% |
| a. Written assignments | 25% |
| b. Tests | 25% |
| c. Final exam | 50% |

Examinations will be given to ensure the understanding and/or retention of the subject material. An appropriate exam will be given to each student who completes each subject area. A quarter final review exam will be given during the last three days of each quarter. Any other testing or quizzes may be given at the instructor's discretion. Each student is given only 3 attempts at passing an exam. The first exam attempt must be passed with a 70% or better, 75% or better for the second and 80% on the third attempt. If the student fails to pass any exam with an acceptable score after three attempts the student will be required to surrender all credits, hours, lab projects, and classroom theory for the subject or subjects failed. The final recorded score will be that of the first attempted exam. Missed or failed exams will be given only with prior arrangements with the instructor.

2. Performance completing lab/shop assignments 50%

- a. Quality of work 50%
- b. Work habits 50%
 - i. Follows instructions.
 - ii. Follow safety rules
 - iii. Completes assignments in a timely manner.
 - iv. Stays productive.

Laboratory performance will be graded at the completion of each practical assignment by observation, oral examination, or written examination. Practical projects must be completed in a timely manner. A minimum passing grade of 80% must be obtained by each student in order to receive a final Letter of Completion from this course.

Letter Grade	%	Numeric Grade
A	97-100	3.8-4.0
A-	93-96	3.5-3.7
B+	89-92	3.2-3.4
B	85-88	2.9-3.1
B-	81-84	2.5-2.8
C+	77-80	2.2-2.4
C	73-76	1.9-2.1
C-	69-72	1.5-1.8
D+	65-68	1.2-1.4
D	61-64	.9-1.1
D-	58-60	.7-.8
F	0-57	0.0

ATTENDANCE:

The AMT courses are offered as scheduled below.

07:30 to 16:00 Monday through Thursday.

A minimum of 400 hours of attendance is mandatory for the completion of the AMT General program at BBCC. Upon successful completion of 1150 hours of instruction (which includes 400 hours of General and 750 hours of Airframe/Powerplant), a certificate of completion is granted and the student is eligible to take the FAA written exams for the Airframe/Powerplant Mechanic certificate.

The Instructor will monitor absenteeism by use of the student time cards. A student enrolled in the AMT program at BBCC will be allowed to miss a maximum of twenty-four (24) hours of class time per quarter. Those students who miss more than 24 hours of class time may be required to reduce their credits for that quarter.

MAKE-UP PROVISIONS

Make-up time must be arranged with the appropriate instructor and will be completed by the student on his/her own time under the instructor's supervision at the end of the quarter. Make-up hours will be documented through the use of

time cards, using time clock procedures, and must be signed by the appropriate instructor. Make-up time and projects will be related directly to those areas of instruction missed by the students.

If time missed is due to school closure caused by weather, power outages, or other unforeseen events, the missed time must be made up during scheduled make-up days at the end of the quarter.

When a student is dropped from a class due to excessive absenteeism, failing grades, or not making up missed time in accordance with the above policies, all recorded attendance hours will be forfeited from the class and considered non-transferable if the student repeats the class.

DIVISION CHAIR APPROVAL

DATE