

Aviation Maintenance Technology

<http://www.everettcc.edu/programs/bwe/aviation>



GENERAL INFORMATION

Aviation Maintenance Technicians, also known as aircraft (A&P) mechanics, are responsible for keeping aircraft in peak condition. They perform regularly scheduled inspections and maintenance, as required by the Federal Aviation Administration (FAA).

Besides routine maintenance and inspections, work for Aviation Maintenance Technicians involves repairs, replacement of parts, use of precision tools, troubleshooting for potential problems and finally testing of equipment following repairs to ensure that work has been done properly and within prescribed safety limits.

At large facilities or in aircraft assembly plants, many technicians specialize in preventative maintenance and in specific parts of the maintenance process. At smaller facilities, technicians are required to work on many types of aircraft and must be able to do all phases of the maintenance process.

Typically, technicians are FAA certified, which requires a certain number of hands-on hours as well as classroom hours in a program such as the one offered by EvCC.

EvCC's Aviation Maintenance Technology program has been operating on Paine Field more than 40 years and is FAA Part 147 approved, under FAA Air Agency Certificate EU9T125R. The program provides the background knowledge and practical shop experience to qualify for an FAA Aircraft Maintenance Technician Certificate, with the Airframe and Powerplant rating. The curriculum meets or exceeds the minimum number of hours required by CFR Part 147 for airframe and powerplant mechanics.

The Aviation Maintenance Technician Program is located at Paine Field, Everett, Washington. The program is eight quarters and follows the college academic calendar year, including summer quarters with classes and labs meeting daily. Students normally enter the program at the beginning of the fall quarter, but may enter in winter with instructor permission. Classes in Airframe and Powerplant Technology provide experience in such areas as engine and accessory overhaul and operation, airframe repair, maintenance and inspection procedures.

CAREER OPPORTUNITIES

The employment outlook for aircraft mechanics is favorable, and is projected to grow about as fast as the average for all occupations. Most job openings for aircraft mechanics will stem from replacement needs. Each year, as mechanics transfer to other occupations or retire, several thousand job openings will arise. Aircraft mechanics have a comparatively strong attachment to the occupation, reflecting their significant investment in training and a love for aviation. However, because aircraft mechanics' skills are transferable to other occupations, some mechanics leave for work in related fields.

The majority of aviation maintenance technicians work for airlines, repair stations or overhaul/maintenance facilities. Some, a small number, work for the Federal Government at facilities in several metropolitan areas located throughout the country. Most others work for independent repair shops or companies that operate their own airplanes for transporting executives and/or cargo. Some are self-employed.

Opportunities for advancement to positions as foremen, supervisors and inspectors are available to qualified airframe and powerplant maintenance technicians, particularly those who hold an associate degree in addition to their FAA ratings.

Median hourly earnings of aircraft mechanics and service technicians were about \$24.71 in May 2008. Mechanics who work for the major airlines generally earn more than those working on other aircraft.

This section includes text from the U.S. Department of Labor, *Occupational Outlook Handbook, 2008-09 Edition*, , <http://www.bls.gov/oco/ocos179.htm> (May, 2010).

THE PROGRAM

EvCC offers four options in Aviation Maintenance Technology:

- **A&P License Preparation**: Eight quarters of classes in Airframe and Powerplant Technology, AVA 101 – 104 and AVA 202 – 205. Completion of these courses earns an Aviation Department Certificate which qualifies the graduate to take FAA exams. Courses included in FAA approved Part 147 curriculum.
- **Certificate in Aviation Maintenance Technology**: 73-75 credits – earned upon completion of the A&P license preparation courses and award of the A&P license, plus completion of additional general education courses.
- **Associate in Technical Arts (ATA) in Aviation Maintenance Technology**: 90 credits – earned upon the completion of the Aviation Maintenance Technology Certificate and additional courses in general education. This degree is not intended for transfer. However, Central Washington University's Bachelor of Applied Science program offers a specialization in Administrative Management which utilizes credit from the ATA and is offered in Everett through the University Center.
- **Associate in Arts and Sciences – Option I**: 90 credits – earned upon completion of the Certificate and additional courses in general education. Two pathways are available and are intended for students planning to transfer to:
 - Central Washington University's Bachelor of Science in Airway Science, Aviation Maintenance Management degree program, offered in Ellensburg, WA, and
 - Embry Riddle Aeronautical University's Bachelor of Science in Professional Aeronautics, offered in Everett.

AVIATION PROGRAM OUTCOMES

1. Demonstrate Aviation Maintenance Skills, prepare for the FAA Airframe and Powerplant certification or to be technically competent in Airframe and Powerplant Maintenance.
2. Communicate both in writing and verbally about aviation maintenance concepts and processes using technical terms, to both professional and administrative audiences.
3. Apply appropriate technical and problem solving skills in the context of their work.
4. Work as an effective and dependable team member, as well as independently.
5. Demonstrate how and when to self-start, especially in learning and seeking new knowledge in an ever-changing field.
6. Research and acquire data that demonstrates their ability to correctly interpret and apply technical information to insure continued airworthiness.
7. Operate ethically, integrating FAA regulations, company rules and policies, and individual decision-making.
8. Demonstrate safe work habits that reflect concern and care for self, others and the continued airworthiness of aircraft.
9. Develop the skills and experience necessary to secure employment including development of documents and skills necessary for job search.

ADMISSION AND PROGRAM REQUIREMENTS

Admission to the program requires that the student be at least 18 years of age, have a high school diploma or GED certificate, complete ENGL 098 with a grade of C (2.0) or higher or place into ENGL& 101, complete MATH 075 with a grade of C (2.0) or higher or place into MATH 081, and be able to read, write, speak and understand the English language.

A student may enroll in Powerplant Technology only or Airframe Technology only, but must successfully complete Aviation General before taking the FAA examinations. To be eligible for either the airframe or powerplant certificate, a minimum of 400 hours in Applied Science (General) is required and either 755 hours for Powerplant Technology or 885 hours for Airframe Technology. The combined sequence of courses for airframe and powerplant technicians requires two years of school. Additional academic work at the College may also qualify the students for an Associate degree. The combination of an A&P license and an associate degree give the graduate additional qualifications for employment and advancement.

The Aviation Maintenance Technician Program at EvCC provides the knowledge and practical skills required to take the FAA exams for both Airframe and Powerplant ratings. By taking academic work beyond the training necessary for FAA licensing, students may qualify for the degree of Associate in Technical Arts/Aviation or Associate in Arts and Science Option I/Aviation Maintenance Management. Academic classes may proceed, follow or be taken concurrently to the AMT curriculum.

FAA CERTIFICATION

The FAA requires at least 18 months of work experience for an airframe, powerplant, or avionics repairer's certificate. For a combined A&P certificate, at least 30 months of experience working with both engines and airframes is required. Completion of a program at an FAA-certified aviation maintenance technician school can substitute for the work experience requirement. Applicants for FAA certificates must also pass written, oral and practical tests. Most employers require that mechanics have a high school diploma and an A&P certificate. EvCC is one of only five FAA certified schools in the state of Washington.

COSTS

In addition to tuition and books, students should be prepared to spend from \$500 to \$1000 for tools and equipment, which are required on the first day of class.

NOTES FOR CERTIFICATE AND DEGREES

Note 1: Select a computer course from: CL 101; CS 108 or 124; CS 110; ENGR 142; BT 100, 101, 130, 217, 219.

Note 2: Humanities, Social Science and Natural Science courses must be selected from the approved list for the Associate in Arts and Sciences – DTA – degree.

Note 3: (CP) computer proficiency; (CS) computation skills; (HR/IC) human relations and interpersonal communications; (WS) writing skills; (H) humanities; (SS) social sciences; (NS) natural sciences.

Note 4: These checklists are designed for students with an interest in earning a certificate or degree in Aviation Maintenance Technology. A checklist should be maintained by the student while at Everett Community College. The quarter before expected completion, the checklist should be submitted by the student, with a diploma application, to the Enrollment Services Office. All certificate requirements are listed in the Catalog, including the completion of the minimum credits, with a minimum 2.0 GPA.

Note 5: Applicants requesting award of a Certificate in Aviation Maintenance Technology, Associate in Technical Arts or AAS in Aviation Maintenance Technology must have a valid FAA Airframe & Powerplant license at the time of certificate/degree application.

Note 6: Students interested in transfer to Embry Riddle Aeronautical University may work with their advisor to complete and submit a 2+2 Agreement Admission Form to Embry Riddle Aeronautical University in order to connect with ERAU advisors prior to graduation from EvCC.

Note 7: Courses included FAA approved Part 147 curriculum.

Courses listed with an ampersand in the course number (e.g. ENGL&101) reflect the new Common Course Numbering System. Courses in [brackets] are the "old" course numbers and may be used to satisfy requirements. For more information, go to www.everettcc.edu/ccn

PROGRAM ADVISORS

Advisors are located at Paine Field Bldg. C-80

- ◆ Alex Porter, 425-388-9093 aporter@everettcc.edu

Administrative Assistant: Michele Johnson, 425-388-9533, mljohnson@everettcc.edu

The Aviation program provides information sessions throughout the year, and attendance is required for prospective and new students. Call 425-388-9533 for dates and times.

GETTING STARTED AT EVCC

Our Enrollment Services Office provides information about application, advising, orientation and registration for new and continuing students. Though advising is voluntary, all prospective and current students are invited to contact the Counseling, Advising and Career Center if they would like to speak one-to-one with an advisor about getting started. Contact:

- ◆ Enrollment Services, Jackson Center 425-388-9219 admissions@everettcc.edu
- ◆ Counseling, Advising and Career Center, Third Floor, Parks, 425-399-9363

HELPFUL TRAITS

- ◆ High degree of mechanical aptitude.
- ◆ Conscientious, thorough work habits.
- ◆ Ability to diagnose and solve complex mechanical problems.
- ◆ Agility.
- ◆ Ability to work quickly, possibly under pressure, and still work efficiently.
- ◆ Self-motivated to always work toward the goal of achieving highest safety standards, since people's lives are literally affected by the quality of work.

Everett Community College does not discriminate on the basis of race, religion, creed, color, national origin, age, sex, sexual orientation, marital status, the presence of any physical, sensory or mental disability, genetic information or status as a disabled or Vietnam era veteran in its program and activities, or employment. The Vice President of Instruction and Student Services has been designated to handle inquiries regarding student-related non-discrimination policies and can be reached at 2000 Tower Street, Everett, WA 98201, or by phone at (425)388-9216. The Vice President of Administrative Services/Human Resources has been designated to handle employment-related inquiries regarding the non-discrimination policies and can be reached at 2000 Tower Street, Everett, WA 98201, or by phone at (425)388-9232. This publication is effective APRIL 2011. The College reserves the right to change courses, programs, degrees and requirements. It is the student's responsibility to be aware of correct information by routinely checking with Enrollment Services and/or the advisors listed in this publication. Requirements applicable to all certificates and degrees are published in the College Catalog. Nothing contained herein shall be construed to create any offer to contract or any contractual rights. For more information, call 425-388-9219, Everett Community College, 2000 Tower Street, Everett, WA 98201, www.everettcc.edu

AIRFRAME AND POWERPLANT LICENSE PREPARATION

This sequence assumes no prior aviation experience. The "A" section involves 10 quarter credits of lecture, while the "J" section involves 10 quarter credits of lab. Students must enroll in both the A and J sections. Typically, students enter in the fall, but may enter in Winter Quarter with instructor permission.

The FAA approved courses are:

First Year	
Fall	AVA 101–General
Winter	AVA 102– Powerplant
Spring	AVA 103– Powerplant
Summer	AVA 104– Powerplant

Second Year	
Fall *	AVA 202 – General/Airframe
Winter	AVA 203 – Airframe
Spring	AVA 204 – Airframe
Summer	AVA 205 – Airframe
*135 hours completes the General curriculum	

Upon successful completion of the Airframe and Powerplant program, the student will be issued a completion certificate, as required by Federal Aviation Regulation (FAR) Part 147, showing the date of completion and approved curriculum completed. Successful completion qualifies the student to take the Federal Aviation Administration (FAA) Aircraft Maintenance Technician exam for both airframe and powerplant ratings. The A&P license qualifies graduates for entry-level employment in both airline and general aviation maintenance. These FAR Part 147 certificates are not recorded on the student's EvCC transcript.

CERTIFICATE IN AVIATION MAINTENANCE TECHNOLOGY

Please see Notes. Student Name: _____ Advisor Signature: _____ Date: _____

Course Number	Course Title	Credits	Quarter Completed	Grade
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A&P LICENSE

Students with an A&P License may be awarded sixty (60) credits after completing 30 required credits at EvCC

60	_____	_____
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GENERAL EDUCATION REQUIREMENTS (30 credits)

ENGL 91 or 98 or higher

Writing

3-5

CMST& 210 (HR/IC)

Interpersonal Communication

5

MATH 075 or above

Prof/Tech Math – Avia/Weld/Prec Mach

5

Total: 73-75 credits, with a minimum 2.0 GPA

ASSOCIATE IN TECHNICAL ARTS IN AVIATION MAINTENANCE TECHNOLOGY

Please see Notes. Student Name: _____ Advisor Signature: _____ Date: _____

Course Number	Course Title	Credits	Quarter Completed	Grade
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A&P LICENSE

Students with an A&P License may be awarded sixty (60) credits after completing 30 required credits at EvCC

60	_____	_____
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COMPLETION of Diversity Course

Where completed/Course Title

Year Completed

Grade

GENERAL EDUCATION REQUIREMENTS (30 credits)

ENGL 98 or ENGL& 101 (WS)

5

CMST& 210 (H) (HR/IC)

Interpersonal Communication

5

MATH 99 or above (CS)

5

Computer Course (see Note 1) (CP)

5

Social Science course (see Note 2) (SS)

5

Natural Science course (see Note 2) (NS)

5

Total: 90 credits, with a minimum 2.0 GPA

ASSOCIATE IN ARTS AND SCIENCES – OPTION I

AVIATION MAINTENANCE TECHNOLOGY

Completion of the following degree requirements meets the transfer agreement with **Embry Riddle Aeronautical University (ERAU)** toward a Bachelor of Science in Professional Aeronautics, or students also meet transfer requirements toward **Central Washington University's (CWU)** Bachelor of Science in Airway Science, Aviation Maintenance Management degree program.

The courses you complete in some categories on this checklist will depend on which university you have selected as your destination. Note each university's requirements carefully.

Student Name: _____ Advisor Signature: _____ Date: _____

COMPLETION of Diversity Course

	(Where Completed/Course Title)	(Year Completed)	(Grade)
Course Number	Course Title	Credits	Quarter Completed
Grade			
A&P LICENSE			
Students with an A&P License from a FAR Part 147 school may be awarded 45 credits by EvCC after completing 30 required credits at EvCC.		45	_____
BASIC COMMUNICATION SKILLS For ERAU and CWU, 10 credits:			
ENGL& 101 or 101D	English Composition I	5	_____
ENGL& 102 or 102D	Composition II	5	_____
QUANTITATIVE, REASONING AND COMPUTER LITERACY SKILLS			
For ERAU: Math& 141 ^[140]		_____	_____
For CWU:		_____	_____
MATH& 141, 142, 148 or 151		_____	_____
PHIL& 106 or CS& 131		_____	_____
HUMANITIES			
For ERAU, 10 credits:		_____	_____
ENGL 240, or 246 or 254D		_____	_____
CMST&220 ^[101]		_____	_____
For CWU, 5 credits, select one of: ART& 100; MUSC& 105, 116; DRMA& 101; PHIL& 101, 110 or 215; or ENGL& 111		_____	_____
SOCIAL SCIENCE			
For ERAU, 10 credits:		_____	_____
ECON& 201		_____	_____
ECON& 202		_____	_____
For ERAU and CWU, 5 credits, select one of: ECON& 101; HIST& 146, 148,100, 111, 112; POLS& 101, 202; SOC& 201, 110; ANTH& 204, 206D; GEOG 102D, 201D; PSYC& 100		_____	_____
NATURAL SCIENCE			
For ERAU: PHYS& 121 ^[117]		_____	_____
For CWU: CHEM& 110 or CHEM& 121 (preferred)		_____	_____
For CWU: One of: ASTR& 100, 101; ANTH 215; BIOL& 175, &212, ENVS& 101; or GEOG 205		_____	_____
OTHER REQUIREMENTS			
For ERAU and CWU: CL 101		5	_____
For CWU: Students who have not completed two years of foreign language study in high school must complete one year of foreign language (in a single language) in college.		_____	_____
ELECTIVES (Suggest ACCT&201 for ERAU)			
_____	_____	_____	_____
_____	_____	_____	_____

Total: 90 credits, with a minimum 2.0 GPA