

APRIL 14, 2006

REPORT OF PROGRAM REVIEW:

Airframe, Certificate
Airframe & Powerplant, Certificate
Powerplant, Certificate

Review Committee:

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OVERVIEW:

The Committee met in February and again in March to discuss information available for this review. The Committee worked with documents provided by the Program and gathered additional information from other sources inside and external to UAF.

The UAF Aviation Maintenance Program is created by and operated under national rules and guidelines of the Federal Aviation Administration (FAA). The requirement for national standards in this field dictates strict terms of the size (25 students maximum), curriculum and operation of the program. No other university program operates under such controls. In return, the FAA has frequent inspections to insure quality of the program independent of the university and, after the appropriate exam, issues certificates that qualify successful students for employment in the industry anywhere in the country. As the Outcomes Assessment documents show, 95 to 100 % of the program graduates pass the FAA tests and greater than 90% of the students find work in the industry. The program, in addition to contributing to the workforce, maintains an active relationship with the aviation industry in Alaska through frequent seminars and special topic courses.

FAA Certification of Aviation Maintenance Technician Schools

The Federal Aviation Administration (FAA) regulates both the operation and maintenance of aircraft in the United States. Pilots and mechanics must demonstrate to the FAA that they possess the required knowledge, experience and skill for the tasks they wish to perform. Once these requirements are met, pilots and mechanics are issued certificates indicating which privileges they are authorized to exercise.

To meet the experience requirements, each applicant for a mechanic certificate must present either an appropriate graduation certificate from a certificated aviation maintenance technician school or documentary evidence of at least 30 months experience concurrently performing the duties appropriate to both the airframe and powerplant ratings. If an applicant is seeking only an airframe OR powerplant rating, documentary evidence of at least 18 months of appropriate practical experience must be presented.

The Tanana Valley Campus Aviation Maintenance Technician Program is a FAA certified program. This certification was obtained, and is maintained, by meeting the requirements of Part 147 of the Federal Aviation Regulations. Part 147 specifies requirements in the following areas: Facilities, Equipment, Materials, Curriculum, Operating Rules, and Instructor Certification. An aviation maintenance technician school certificate is effective until it is surrendered, suspended or revoked.

The FAA may, at any time, inspect the aviation maintenance technician school to determine its compliance with Part 147. Such an inspection is normally made once each six months to determine if the school continues to meet the requirements under which it was originally certificated. After such an inspection is made, the school is notified, in writing, of any discrepancies found during the inspection. Other informal inspections may be made from time to time.

There are only 171 certified aviation maintenance technician schools in the country. There are less than 10 that offer the entire program in one year.

STRENGTHS AND WEAKNESSES OF THE PROGRAM

Enrollment:

Strengths:

Usually filled to near capacity.

Students go on to work as aircraft mechanics or in a related field.

High employment/industry demand.

Good test results compared to FAA norms.

Have started to partnership with local businesses to reserve spots in the program for their workers.

Several scholarships are available for aviation-related programs through UAF and several local and national associations.

Weaknesses:

Program is expensive for students – roughly \$10,000 for the year.

Graduation Rates:

Strengths:

Excellent program completion, a 90% + graduation rate.

The program is compressed to allow students to receive a certificate in one year and seek employment relatively quickly.

Out-of-Class Opportunities:

Strengths:

- Instruction given at remote facilities (Eielson AFB, Ft. Wainwright, and various local businesses.)
- Partnership with Southern Alberta Institute of Technology in Canada.

Faculty:

Strengths:

- Three full-time faculty and several adjunct faculty – all are experienced mechanics.
- Informal policy of faculty working on airplanes in the field to stay current.
- Faculty go to specialized factory-offered courses to stay up-to-date.
- Faculty present and/or arrange special seminars and short courses on an almost monthly basis to fulfill special interests and recurrent needs of the industry and aviation community.

Facilities:

Strengths:

- Newly renovated space.

Weaknesses:

- Storage space is limited.
- Program is expensive to maintain and is reliant on donated equipment that is usually out of date (although general mechanical theories still apply.)
- The burden of repairing tools and machinery falls upon the faculty since new equipment is extremely expensive.

Support/Attitudes/Infrastructure:

Strengths:

- Program is recognized as being crucial to community and state aviation needs.
- The Program is held accountable to the FAA's strict standards and is re-certified yearly.

Weaknesses:

- Fees are listed in a somewhat obscure way, confusing students about their total costs.

ASSESSMENT OF PROGRAM QUALITY

Assessment Plan:

Strengths:

- Plan was implemented in 2001-02.
- Successful placement is almost at 100%.
- Students pass the mandatory FAA exams.
- Exit survey is given in the capstone courses (AFPM 270/272).
- Information has been used to modify program and stay current with FAA standards.

Weaknesses:

Data generated by the FAA and UAF alike are not consistent since more or fewer students are enrolled than actually show up on various reports. The numbers reported often do not accurately reflect the number of students enrolled or the number that graduate.

RECOMMENDATIONS

Specific Recommendations:

The costs of the program are not completely evident to prospective students. Fees for classes add about \$2900 to tuition and other UAF enrollment costs, so the total cost to a student for the one-year program is about \$10,000. These costs should be explicit in the information provided to students.

The operating funds, apparently derived from student fees, are marginal for sustaining the Program and keeping it up to date. Currently the program is largely dependent on donated equipment that is usually out of date. Also, the faculty need to regularly participate in state or national meetings to maintain expertise. The overall budget should be reviewed on a regular basis to ensure that the faculty and equipment are timely.

Overall Recommendation: Continue program with some changes to address the weaknesses identified in the review.

APPENDIX 1. PROGRAM OVERVIEW

Maintenance Technology-Aviation Maintenance Technology Certificate and A.A.S. Program

Overview

The Program is designed to give the students seven options:

- To earn a Certificate in Aviation Maintenance Technology.
- To earn an Associate in Applied Science degree in Maintenance Technology.
- To earn a Certificate in Airframe.
- To earn a Certificate in Powerplant.
- To complete courses to have entry-level skills in one or more Aviation Maintenance Technology areas.
- To update technical skills.
- To complete courses for personal growth and educational development.

Mission and Goals

The UAF Aviation Maintenance Technology program is a one-year FAA (Federal Aviation Administration) certificate program that teaches to the 44 Code of Federal Regulations Part 147.

The primary objective is to provide individuals with quality academic, technical, and professional skills required for entry-level employment in the aviation industry. At completion of the Aviation Maintenance Technology program, all students will:

1. Be prepared for employment in the industry or to continue their education.
2. Be able to grow and adapt to changes in the workplace and technology.
3. Have a successful work ethic.

Student Learning Outcomes

Students will possess the skills and knowledge to become highly competitive candidates for job openings and promotions within ground vehicle maintenance and related fields.

Students will satisfy desired employer expectations in the skills and knowledge of communication, critical thinking, computation, human relations, vocational experience and manipulative skills necessary for professional employment in ground vehicle maintenance fields.

Students will engender the desire to continue self-improvement for life-long learning.

Assessment of Goals and Outcomes

Departmental effectiveness can be gauged by the following:

- Full enrollments and continued successful placement of our students is a major indicator.
- Students pass the Federal Aviation Administration tests and obtain a certificate as an aviation mechanic.

Curriculum and Instruction

The Aviation Maintenance Technology program has established a partnership with SAIT (Southern Alberta Institute of Technology). This has strengthened the program and correlates with its primary objective—student employment.

Departmental students who have decided to enter management or engineering technology programs may transfer to four-year technical colleges.

The Federal Aviation Administration approves all instructors and instructional materials. The FAA conducts annual comprehensive reviews and inspection of the program.

Instructional Staff

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|------------------------|---|
| Full-time Faculty..... | 3 |
| Adjunct Faculty..... | 3 |

Facilities, Equipment, and Technology

The program has a lab and one classroom. The lab is 8,000 square feet.

Our primary equipment consists of four complete aircraft plus several partial subassemblies, along with NDT, cleaning, lathes, milling machines, and miscellaneous smaller test and machine equipment.

Strengths

- A major strength of the program is the organization of the program as a 1-year program. Course content and length of classes is identical to other programs around the country but students have few vacations and are in the class eight hours per day as they would be working in industry.
- Our Aviation Maintenance Technology Advisory Committee serves as our strongest connection to the local community. Membership is a strong representation from both the airline and repair sector in the community.

Challenges

- To keep equipment up-graded.
- To find funding for needed essential instructional supplies, such as shop manuals and small tools.
- To find competent adjunct faculty.
- Recommendations and Actions Taken
 1. Institute exit survey in capstone courses (AFPM 270/272).
 2. Continue contact with DME's and FAA.