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Amarillo College

Program Review

Form for Completion of Self Study

Instructional

(Including BOTH Academic and Continuing Education)

The ID number for this form is 1000088. You will need this number to update or edit your submission in the future.

Name of Division: Industrial and Transportation Technologies

Name of Department: Aviation

Name of Program: Aviation Maintenance and Aerospace Manufacturing

This Program Review is being conducted during year: 2010-2011

I. Program's/Department's Purpose

A.) State the purpose of the program/department. How is this purpose within the mission of Amarillo College?

Train students for employment in the aviation and aerospace industry.

Train technicians to pass the FAA Airframe and Powerplant licensure exams and secure positions with commercial and private aviation companies. Develop a trained workforce for local and regional aerospace manufacturing companies.

B.) When was the last time the program's/department's purpose statement was reviewed/revised by faculty and staff in the program/department?

The purpose statement was reviewed after the publication of the Amarillo College 2010-2015 Strategic Plan.

C.) If the program/department offers continuing education credits, how are these courses consistent with the mission of Amarillo College?

The Aviation Maintenance Technology program offers continuing education credits and training to the employees of Bell Helicopter/Textron through the Texas Workforce Commission Skills Development Fund grant.

D.) Does the program have admissions policies?

Yes

1. Where are the policies published?

The Aviation Maintenance Technology program applies Amarillo College admission policies to all students in the program. No additional or special admission requirements apply.

Admission requirements are published in the Amarillo College catalog.

2. Explain how these policies are consistent with the mission of Amarillo College.

Admission requirements for the Aviation Maintenance Technology program are in accordance with Amarillo College admission policies.

E.) Is the program/department accredited?

Yes

1. Which agencies or organizations accredit the department/program?

The Federal Aviation Administration (Air Agency Certificate # AM0T064K)

2. How many years are in the accreditation cycle?

more than 10

3. When was the accreditation affirmed or granted?

1995

4. What is the current status of the accreditation?

Accredited

F.) Is this program/discipline required to receive approval from an external agency or organization (other than the Texas Higher Education Coordinating Board) in order to offer courses?

Yes

1. Identify the external approver(s) for the department/program.

Federal Aviation Administration (Air Agency Certificate # AM0T064K)

2. What approval schedule is required by the external approver(s)?

Required by law (14 CFR, Part 147).

14 CFR, §147.7 Duration of Certificates.

(a) An aviation maintenance technician school certificate or rating is effective until it is surrendered, suspended, or revoked.

§ 147.43 Inspection

The Administrator may, at any time, inspect an aviation maintenance technician school to determine its compliance with this part. 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 certified. After such an inspection is made, the school is notified, in writing, of any deficiencies found during the inspection. Other informal inspections may be made from time to time.

3. When did the program/department last receive approval?

2011

II. Program's/Department's Improvements based on Planning, Evaluation and Assessment

A.) Identify at least one example of an improvement/revision which resulted from the annual PET forms for the last five years.

Any improvements/revisions within the program exclude any PET considerations.

B.) Identify at least one example of improvements/revisions which resulted from the last Program Review.

Demand to provide trained/skilled aerospace manufacturers resulted in Amarillo College receiving the Wagner-Peyser 7(b) 'Education in Flight' grant. Amarillo College, in collaboration with Bell Helicopter/Textron, the University of Texas at Arlington, and West Texas A&M University, developed and implemented an aerospace engineering and aerospace manufacturing Associate of Applied Science degree program. The Aviation Maintenance program was charged with the oversight of the Aerospace Manufacturing AAS. This degree option went into effect during the Fall 2010 semester.

There is no indication or record that indicates that the program review process provides academic managers or faculty with the tools to make improvements in the program.

C.) Identify all the delivery approaches used for courses within this program/department: (Select all that apply).

traditional classroom

D.) Identify at least one example of an improvement/revision that is a response to accomplish a strategy or tactical objective within the Strategic Plan 2010-2015.

Charged under the Wagner-Peyser 'Education in Flight' grant, the Aviation Maintenance program developed and implemented the AAS Degree which built upon the Aerospace Manufacturing Certificate (Level 1 Certificate). Our goal was for students to complete the certificate of completion and enter the workforce as soon as possible. Once in the workforce, these same students would return to Amarillo College to complete the AAS Degree and seamlessly transfer to a 4 year university for the completion of a Bachelor's Degree.

E.) Provide names and titles of those who determined the process used to assess outcomes of the program and/or courses in the department.

Federal Aviation Administration

Ed Nolte, Chair, Aviation Maintenance Technology

Joe Gandy, Instructor, Aviation Maintenance Technology

Dennis Moseley, Instructor, (retired) Aviation Maintenance Technology

Richard Whitaker, Instructor, Aerospace Manufacturing

James Faustina, Instructor, Aviation Maintenance Technology

1. Explain the primary reasons behind the competencies that were selected.

Competencies and outcomes for the Aviation Maintenance curriculum are addressed by the United States Code of Federal Regulations, Title 14, Part 147, Section 1 (14 CFR 147.1).

Competencies and outcomes for the Aerospace Manufacturing curriculum were developed in partnership with Bell Helicopter/Textron. In 2009, Bell Helicopter conducted a Gap Analysis on the skill sets taught in our Aerospace Manufacturing curriculum and the skill sets needed to perform manufacturing jobs/positions in the Amarillo plant. As a result of that analysis, Amarillo College (Aviation Maintenance program) made revisions to several courses in the aviation inventory. Most of these revisions were completed by tweaking the existing course outlines and syllabi without the requirement for a formal curriculum change.

2. Identify the primary reasons for the assessment tool(s) selected.

Assessment tools are based on 14 CFR 147.1 and industry input.

3. Evaluate the assessment approaches to date.

Assessment is based on the following:

14 CFR, §147.38a Quality of Instruction.

Each certified aviation maintenance technician school shall provide instruction of such quality that, of its graduates of a curriculum for each rating who apply for a mechanic certificate or additional rating within 60 days after they are graduated, the percentage of those passing the applicable FAA written tests on their first attempt during any period of 24 calendar months is at least the percentage figured as follows:

(a). For a school graduating fewer than 51 students during that period-the national norm minus the number 20.

As used in this section, "national passing norm" is the number representing the percentage of all graduates of all certificated aviation maintenance technician schools who apply for a mechanic certificate or additional rating within 60 days after they are graduated and pass the applicable FAA written tests on their first attempt during the period of 24 calendar months described in this section.

F.) For student or program/course outcome assessments, review the program's/department's five-year graph(s) of *quantitative* results or provide a brief narrative summary of *qualitative* results.

FAA- General, Airframe, Powerplant – Amarillo College														
2007			2008			2009			2010			2011		
Test	Pass	%	Test	Pass	%	Test	Pass	%	Test	Pass	%	Test	Pass	%
7	7	100	6	4	66				5	5	100	3	3	100

The FAA test results could provide a good assessment of student success if all of our students apply to take the exams. For whatever the reason, more than half of our graduates decide not to take the FAA exams to become licensed Airframe and Powerplant Mechanics. Without the FAA license, our graduates are finding good employment in their field of study at Bell Helicopter/Textron as Assemblers and Flight Mechanics.

Note: The FAA Mechanics training is an essential component of the Amarillo College

program. However, the majority of Aviation students and graduates attend the Aerospace Manufacturing Certificate program.

1. What changes have been made in the curricula of the program/department because of the analysis of these results?

No curriculum changes are planned based on this data.

Preliminary investigation reveals that a DME (Designated Mechanic Examiner) on staff at Amarillo College will greatly increase the number of program completers who obtain their FAA Airframe and Powerplant licenses. It would benefit the college to sponsor one of our faculty to certify as a DME.

G.) Review the five-year graph(s) of course completions for the program/department.

1. Explain any increase or decrease that is more than a one-year anomaly.

DIVISION/Department	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Aviation Maintenance Technology						91	64	61	35	22

InstRschDbTbl8.SPS: Includes All Semester & Quarter Credit Hour Completers

Between 2005 and 2009, the number of completers for the Aviation Maintenance/Aerospace Manufacturing program declined. This is a result of the initial demand for Assembler positions at Bell Helicopter/Textron between 2004 & 2006 which subsequently effected the enrollment once the hiring bubble burst. However, for the past 3 years the demand for assembler positions have stabilized and our supply of qualified graduates (approximately 40 per year which is not indicated in any AC database) is meeting the hiring demand for Bell Helicopter/Textron.

2. Provide the program's/department's plan of action for improving any identified problem or results from the implementation of the plan of action.

No changes are planned based on 3 year old data. The program will continue to be responsive to the needs of Bell Helicopter/Textron and other Amarillo based aerospace and manufacturing industries.

H.) Does the program/department provide for alternative methods of awarding credit? (Select all that apply).

Credit for Experience

1. What approaches are used to assure outcomes are comparable to those expected of students who enrolled and completed the course?

Military personnel may receive credit by experience by submitting their DD-214 (Record of Military Training) for evaluation by our Aviation maintenance faculty prior to applying for testing less than 14 CFR, Part 65 to the FAA. This is to ensure that FAA will except the military training in lieu of the instructional hours required under 14 CFR Part 147.1.

I.) For general education and/or core curriculum required by this program/department, identify the relevant competencies approved by the Academic Affairs Committee (see Catalog section entitled Degrees and Certificates: General Education Competencies).

The Aviation program adheres to the Amarillo College policy of a minimum of 15 hours of General Education Requirements for an AAS Degree. (Refer to the Amarillo College Catalog.)

1. Explain how outcomes for the competencies have been assessed and achieved and provide links to the documentation.

Assessment tools are based on 14 CFR, 147.1 and industry input (referenced above).

Students must complete a minimum 400 hours of documented instruction in general aviation skills, 758 hours in airframe and 752 hours in powerplant. When all skills are mastered, Amarillo College aviation faculty provides documentation to the FAA

allowing the student to undergo the federal exams. The FAA documents the results of all student exams for Amarillo College.

2. Outline a plan for correcting any weaknesses.

Assessment tools are based on 14 CFR, 147.1 and industry input (referenced above).

Students must complete a minimum 400 hours of documented instruction in general aviation skills, 758 hours in airframe and 752 hours in powerplant. When all skills are mastered, Amarillo College aviation faculty provides documentation to the FAA allowing the student to undergo the federal exams. The FAA documents the results of all student exams for Amarillo College.

J.) Do students/graduates in this program/department have to be certified or licensed?

Yes

1. Review the results for certification/licensure results of the program/department and/or job placement for the past five years.

2. Explain any increase or decrease that is more than one-year anomaly.

FAA- General, Airframe, Powerplant – Amarillo College														
2007			2008			2009			2010			2011		
Test	Pass	%	Test	Pass	%	Test	Pass	%	Test	Pass	%	Test	Pass	%
7	7	100	6	4	66				5	5	100	3	3	100

The FAA test results could provide a good assessment of student success if all of our students apply to take the exams. For whatever the reason, more than half of our graduates decide not to take the FAA exams to become licensed Airframe and Powerplant Mechanics. Without the FAA license, our graduates are finding good employment in their field of study at Bell Helicopter/Textron as Assemblers and Flight Mechanics.

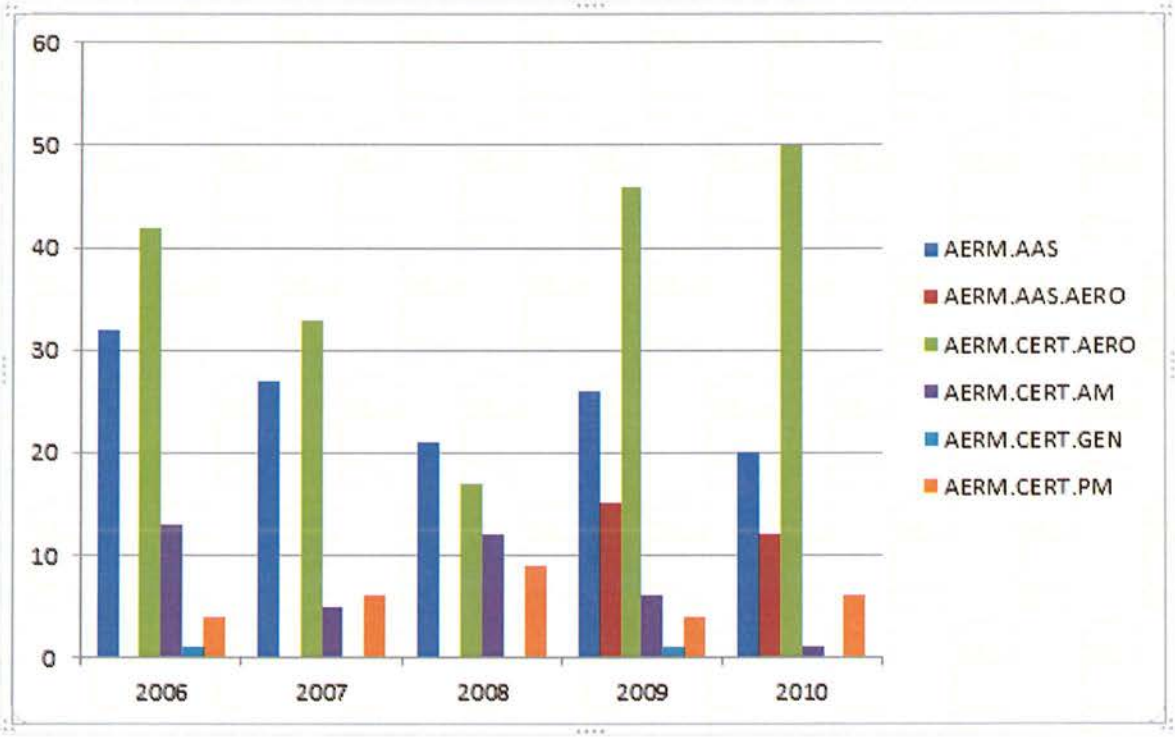
Note: The estimated cost for all written, oral and practical FAA exams is $1,200.

3. Provide a plan of action for the identified problem.

Preliminary investigation reveals that a DME (Designated Mechanic Examiner) on staff at Amarillo College will greatly increase the number of program completers who obtain their FAA Airframe and Powerplant licenses. It would benefit the college to sponsor one of our faculty to certify as a DME.

K.) For all technical programs/departments offering one or more technical programs (Associate in Applied Science or Certificates), review the program's/department's graphs of the results for job placement during the past five years.

1. Explain any increase or decrease that is more than a one-year anomaly.



This graphical analysis provides a visual representation of the ebbs and tides of program enrollment over the past 5 years. We propose these swings in enrollment are based on the stability of Bell Helicopter/Textron as a long term employer and the contracts with the Department of Defense. When there is doubt concerning the longevity of V-22 project, enrollment decreases. When contract agreements and new aircraft projects are announced, enrollment increases.

2. Provide a plan of action for the identified problem.

During the hiring freeze enacted by Bell Helicopter/Textron in 2006, twelve graduates of the Aerospace Manufacturing certificate found employment with other local manufacturing/production companies (Amarillo Gear, Headsets Inc., Composite Shapes) because of the skill sets taught in the program. We do not look forward to another event such as this, but these situations are inevitable in the aerospace industry.

III. Curricula

A.) Does the program/department have affiliation(s)/agreement(s)/contract(s) with any other entity for the purpose of delivering instructional content?

B.) How many curricula changes were approved by the Academic Affairs Committee during the past five years?

3

1. Which steps in the curricula change process had faculty involvement prior to submitting the curricula proposal(s) to the Academic Affairs Committee.

Faculty were involved in the alignment of the Aerospace Manufacturing certificate into the Manufacturing core and the development of the Aerospace Manufacturing AAS Degree. The WECM maintenance revision was more of a house cleaning chore with limited involvement from the faculty.

C.) Is any program within the department a technical program (e.g. AAS or certificate)?

Yes

1. When was the last advisory committee meeting.

26 September 2011

2. Provide a link to the minutes of the last advisory committee(s) minutes in the Electronic Archives.

http://www.actx.edu/archives/index.php?module=article&id=95

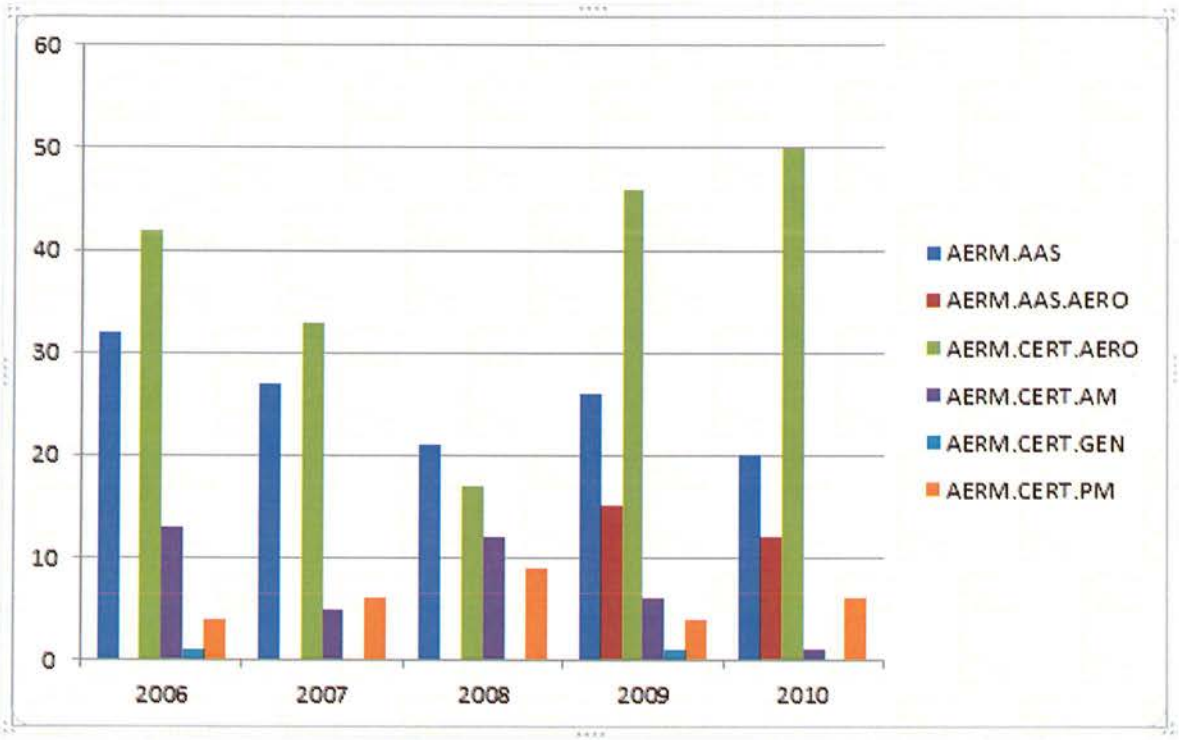
3. Provide a link to the appropriate committee membership of the advisory committee(s) in the Electronic Archives.

http://www.actx.edu/archives/index.php?module=article&id=95

IV. Enrollment Data

A.) After receiving the five-year graph(s) indicating the number of students enrolled in the program/department, by total students, number of full-time equivalents, and number of completers, determine if there is more than a one-year anomaly.

1. If so, provide the faculty and staff analysis of their assessment of the problem.



Percent of Hours Passed with A-C	Year of Record									
	2004		2005		2006		2007		2008	
DIVISION/Department	#	%	#	%	#	%	#	%	#	%
Aviation Maintenance Technology	142	76	117	75	115	88	82	84	64	84

In general, data provided through the AC data book is not time sensitive and irrelevant for technical programs. The college's technical programs are evaluated by the state (Carl D. Perkins Grant) utilizing 4 criteria:

1. Technical Skill Attainment (Credential, Certificate or Diploma)
2. Retention or Transfer
3. Nontraditional Participation and Completion
4. Placement of Students

Currently, there is no process to gather/document the aforementioned data.

However, technical skill attainment can be evaluated easily if the program of study has a licensure process upon completion of the program. This data flows back to the department from the licensing agency, but does not show up on the college's radar unless accreditation/certification is in jeopardy. Programs without external licensure cannot document skill attainment in an objective manner.

The question remains; If the state is evaluating us on the criteria listed, why aren't we evaluating ourselves using that criteria?

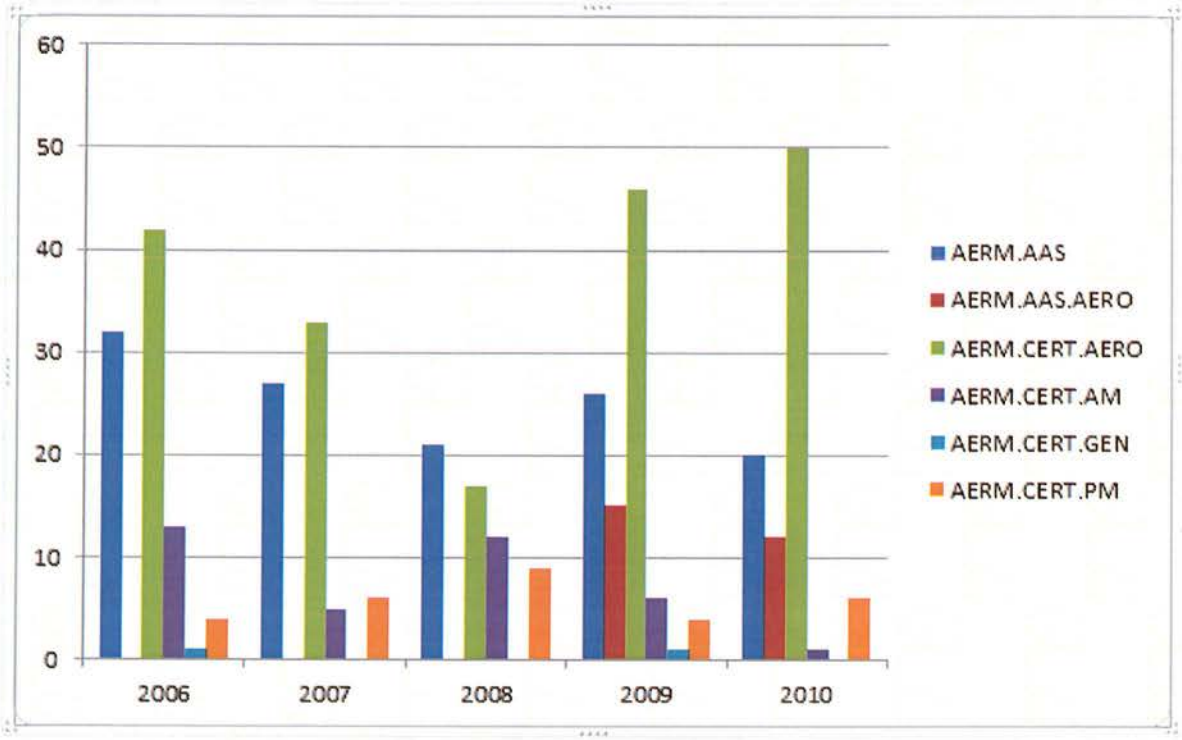
http://www.txhighereddata.org/reports/performance/perkdata/perkdata_pdf.cfm?dfice=003540&progyr=2011

2. Create an action plan for needed improvement and commendation for any dramatic improvement.

Provide data needed to properly assess and administrate the college's technical programs.

B.) For programs/departments with majors, review the graphs of program majors and the number of new majors by year.

1. Provide an analysis of the program's/department's faculty and staff assessment of the problem and an action plan for needed improvement and commendation for any dramatic improvement.



The data depicted on the bar graph was derived from data collected by the faculty and staff of the Aviation department. This data is not a good indication of enrollment; students often have a multiple enrollment status within the same program. For example, a student enrolled in the AERM.AAS (Aviation Maintenance Degree) may concurrently count as a student enrolled in the AERM.CERT.AM (Airframe Mechanic Certificate).

V. Resources

A. Faculty

1.) Review the five-year graph(s) of the student to faculty ratio in the program/department.

a. Explain any increase or decrease that is more than a one-year anomaly.

There are no known anomalies in the student to faculty ratios for the past 5 years.

The five-year graphs referenced in this section of the Program Review are not available.

b. Provide an action plan for improvement of any identified problem.

Provide real-time data for proper analysis.

2.) In the database for Roster of Instructional Staff (also known as Roster of Faculty), review the credentials of each full-time and part-time faculty member within the program/department. If any faculty member does not meet the SACS and THECB requirements, evaluate whether additional documentation is significant to grant an exemption.

All faculty meet SACS requirements.

3.) List the names and the last date for all full-time faculty evaluations based on the schedule indicated in the Faculty Performance Review (FPRP).

Joe Gandy Spring 2011

Richard Whitaker Spring 2011

James Faustina Spring 2012

4.) List the names of each part-time faculty and the last date of evaluation by students and supervisor for each course taught.

5.) Amarillo College's Board Policy Manual defines each faculty member's academic freedom as 'full freedom in the classroom in discussing the subject being taught and to pursue research and publications. However, a faculty member must no attempt to force on students a personal viewpoint and must at all times allow for diversity of opinion.' Has anyone in the program/department filed a grievance for violation of the aforementioned academic freedom?

No

B. Library

1.) Which of the following library collections/resources/services have been used by faculty, staff and/or students within the past five years? (Select all that apply)

Credit for Experience

2.) Which two or three collection/resources/services should be improved to support Amarillo College's mission regarding teaching and service?

N/A

3.) Does your program/department have discipline accreditation?

Yes

a. How has the library participated in this discipline's accreditation?

N/A

C. Technology and Security/Privacy

1.) After assessing the strengths and weaknesses of the program's/department's access to technology, what improvements would ensure that the students have access and training in the use of technology?

Students rise to the level of competency the faculty require.

2.) What improvements would ensure that students use technology?

N/A

3.) Review program/department operations. Does any operation present the possibility for violations of security, confidentiality, or integrity of student records?

No

D. Support Services for Students

1.) Which support services need to be strengthened to better serve students in this program/department?

N/A

a. Explain what aspects of the services need to be strengthened.

N/A

2.) Describe any indicators or problems that prevent a healthy, safe and secure environment for the students, faculty and staff of this program/department.

N/A

3.) Describe any indicators or problems that hamper adequate physical facilities, both on and off campus, to meet the needs of the program/department.

The facilities utilized by the Aviation Maintenance Technology span from inadequate to good. Facilities on the north section of East Campus (Building W) are in a constant state of repair, and classrooms do not have the technology other classrooms on campus have. As we renovate and re-function the buildings on the East campus, this situation should right itself.

It would be beneficial for everyone to tour the East Campus facilities and compare them to the other Amarillo College campuses.

VI. Budget

A.) Which program/department outcomes have resulted in budget requests to date?

Budgets have been flat for the past 3 years. Outcomes from PET or Program Reviews are not part of the budgetary equation.

B.) Project the program's/department's strategic initiatives for the next five years based on the program's/department's outcomes.

VII. Publications

A.) If the program/department publishes any advertising or recruitment documents (electronic or paper), do the documents accurately represent Amarillo college and the program/department?

Yes

B.) Does the program/department publish any documents (electronic or paper) with references to SACS accreditation?

No

VIII. Other

A.) State any additional comments/concerns which may impact this program/department during the next five years.