

Assessment Plan

*For the Undergraduate Program in
Aviation Technology – Maintenance Management (ATMM)*

2021

I. Program Goals

1. Each student will pass the FAA written exams with a 90% or better.
2. Each student will obtain an FAA airframe and power plant license.
3. Each graduating student will be familiar with career opportunities and have a clear career goal and pathway.

II. Aviation Maintenance Learning Outcomes

1. Students completing the ATMM degree should be able to demonstrate proficient knowledge of the following technical areas to the level of FAA licensing requirements:
 - a. Aerodynamics and how to maintain or design those characteristics in aircraft through repairs and following FAA approved practices and methods learned in Flight Principles, AV1130 and Aircraft Structures AV1170.
 - b. Aircraft systems and components and how they operate, troubleshooting and repair of these systems in accordance with maintenance manuals and FAA suggested procedures acquired in Aircraft Systems AV 2170.
 - c. Aircraft structures, their purpose, design, strengths and how to build, inspect and repair aircraft structures practiced in Aircraft structures, AV1170 and Aircraft Components, AV1140.
 - d. Aircraft powerplants including their operation, troubleshooting, concept, inspection, and repair in accordance with manufactures' procedures practiced in Reciprocating Powerplants AV2100 and Turbine Powerplants AV2140.
2. Students will develop and utilize skills, techniques and accepted practices necessary for aircraft and aircraft component manufacturing, maintenance, repair, overhaul and airworthiness determination by carrying out laboratory procedures in class and being graded on those labs.
3. Graduates should develop an attitude of lifelong learning to stay current with FAA regulations, changing laws, current events, and technological advancements such as utilization of aircraft composites.
4. Students will develop skills and abilities for oral and written communication at a professional level. Students will improve their writing and communication skills in AV 4610, Senior Design.
5. Students will be able to utilize teamwork, business management, and leadership skills necessary for employment the professional aviation industry.

III. Assessment Plan:

During the freshman and sophomore years, students in the Aviation Technology Maintenance Management (ATMM) major will complete most of the courses required for the Federal Aviation Administration (FAA) Airframe and Powerplant (A&P) licenses. These classes prepare students for written and practical tests by helping them to develop the knowledge and laboratory skills to pass the six nationally standardized tests required for these licenses. Management and communications courses are incorporated into the program to provide essential business skills. Industry internships are available and encouraged in the junior and senior years. Students take FAA written and practical tests to earn their airframe and powerplant licenses. This major prepares students for entry-level positions in management and maintenance programs within the airline industry, corporate aviation, and general aviation. The FAA approved airframe and powerplant (A&P) curricula form the basis for this degree, and most positions will require the A&P licenses. Program assessment is completed through the following methods:

To assess the learning outcome 1) *to demonstrate proficient knowledge of the following technical areas to the level of FAA licensing requirements:*

- Annually, each May, the staff will compare the average exam scores of USU students to the national averages published on the FAA website. USU will strive to improve averages to 10% above the national average.
- The faculty has set a goal to improve the student average percentage 1.5 percent over the next 3 years. The current average of the three tests taken by USU students is 83.6 compared to the national average of 74.9. (Attachment A.)
- In the student's senior year, they will be required to pass a practice FAA knowledge test with a score of 90%.
- Students will be assessed on their ability to pass the FAA practical test required for licensing and staff will increase curriculum instruction on areas of deficiency.
- The Federal Aviation Administration annually inspects our curriculum to assure it meets or exceeds FAR Part 147 requirements.

To assess the learning outcome 2) *develop and utilize skills, techniques and accepted practices necessary for aircraft and aircraft component manufacturing, maintenance, repair, overhaul and airworthiness determination by carrying out laboratory procedures in class.*

- Individual classes will be assessed on their effectiveness in reaching program objectives of developing lab skills, we can identify what areas they are deficient in by observing student lab score results. The courses that prepare students for the practical tests are: AV1170, 1240, 2180, 2200, 2170, 2190, 2420, 2430, 2440, 4490, 2140, 2150, 2100, 2110, 4200, and 3280.

To assess the learning outcome 3) *develop an attitude of lifelong learning to stay current with FAA regulations, changing laws, current events and technological advancements such as utilization of aircraft composites & utilize teamwork, business management, and leadership skills necessary for employment in the professional aviation industry:*

- Students will complete a senior design project and may choose to do an internship. Employers of these internships will be surveyed to find strengths and weaknesses within the curriculum. (Attachment B)

To assess the learning outcome 4) *Develop skills and abilities for oral and written communication at a professional level. Students will improve their writing and communication skills in AV 4610, Senior Design.*

- Student writing will be assessed and critiqued throughout their senior year and with a

final paper that will be graded using a rubric. Scores can be compared to previous years and assess where improvements can be made.

To assess the learning outcome 5) to utilize teamwork, business management, and leadership skills necessary for employment the professional aviation industry

- Each May, faculty will discuss the effectiveness of teamwork in classes such as Powerplants, AV2100, where students work in teams on an engine and Aircraft Systems, AV2170, where students work in groups to swing landing gear.

IV. Assessment Data:

Attachment A Summary

FAA written test	National averages	USU 5-year Averages	USU 2021 Averages
AMA	76.4%	84.5%	78.75%
AMG	73.85%	82.43%	77.5%
AMP	70.16%	83.45%	84.2%

Student Name _____

form 2

Employer Evaluation of Learning Objectives

Instructions - Read Carefully

Please rate the employee according to how well he/she achieved each learning objective according to the following rating scale:

1 = Failed to meet minimum requirements
3 = Average or expected accomplishment
5 = Unique or outstanding performance

2 = Limited accomplishment
4 = Exceeds average performance

Please write/type learning objectives below or attach a sheet listing objectives.

Learning Objectives	Rating
1	
2	
3	
4	
5	

Supervisor's Signature _____ Date _____

Employer Evaluation of Student Performance

Instructions - Read Carefully

This rating sheet provides a practical method through which the ability of the individual can be judged with a reasonable degree of accuracy and uniformity. Indicate your opinion of this employee by placing a **X** on the phrase in the block which seems best to fit the employee. If you can't make up your mind between two phrases, place your **X** in the narrow space between two blocks. Please follow instructions carefully.

1. Use your own independent judgment.
2. Disregard your general impression of the employee and concentrate on one factor at a time.
3. When rating an employee, call to mind instances that are typical of his/her work and way of acting. Do not be influenced by UNUSUAL SITUATIONS which are not typical.
4. Make your rating with the utmost care and thought be sure it represents a fair and square opinion. **DO NOT ALLOW PERSONAL FEELING TO GOVERN YOUR RATING.**
5. After you have rated the employee on all factors, write at the bottom of the sheet any additional information about the employee which you feel has not been covered by the rating report, but which is essential to a fair appraisal.

Knowledge of work	Practically none	Below average	Acceptable knowledge	Somewhat above average	Well-informed	Extremely well informed
Effect on Workers	Often breeds trouble and dissatisfaction	Sometimes causes dissension	No outstanding effects on co-workers	Better than average	Promotes cooperation and good will	Outstanding for loyalty and cooperation
Promptness	Always tardy	Must be reminded occasionally	Usually prompt	Never late without good excuse	Almost never late	Always prompt
Responsibility	Careless and negligent	Not very reliable	Accepts responsibility when asked	Accepts responsibility/w/o being told	Accepts responsibility Above Average	Exceptionally reliable
Accuracy	Is highly inaccurate	Is often inaccurate	Makes occasional errors	Somewhat above average	Rarely makes mistakes	Never makes mistakes
Quantity of Work	Amount of work unsatisfactory	Turns out just enough To getby	Turns out fair amount	Always finishes allotted amount	Turns out more than average amount	Consistently outputs unusually large amount
Initiative	Must always be told what to do	Needs considerable supervision	Needs direction and help in some cases	Needs little supervision	Pushes work through on own initiative	Always finds extra work to do
Application	Indifferent and lazy	Tendency toward indifference	Average application	Interested and diligent	Puts extra effort into work	Works continuously and enthusiastically
Possibilities for promotion	None	Lacks some necessary traits	Good enough for present job	Improving self through study	Has great future possibilities	Is promotable now
Ability to handle public	Difficult personality	Likely to antagonize people	Hesitant and diffident	Pleasant and courteous	Ingenious and tactful	Unusual personality and aptitude

Overall Rating: Excellent Very Good Average Marginal Poor

Has this evaluation been discussed with the student? Yes No

Additional Information: _____

Supervisor Signature _____ Date _____

Student Name _____

form 4

Student Evaluation of Learning Objectives

Instructions - Read Carefully

Please rate the employee according to how well he/she achieved each learning objective according to the following rating scale:

1 = Failed to meet minimum requirements
3 = Average or expected accomplishment
5 = Unique or outstanding performance

2 = Limited accomplishment
4 = Exceeds average performance

Please write/type learning objectives below or attach a sheet listing objectives.

Learning Objectives	Rating
1	
2	
3	
4	
5	

Student's Signature _____ Date _____

Student Evaluation of Student Performance

Instructions - Read Carefully

This rating sheet provides a practical method through which the ability of the individual can be judged with a reasonable degree of accuracy and uniformity. Indicate your opinion of this employee by placing a **X** on the phrase in the block which seems best to fit the employee. If you can't make up your mind between two phrases, place your **X** in the narrow space between two blocks. Please follow instructions carefully.

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- Disregard your general impression and concentrate on one factor at a time.
- When rating an yourself, call to mind instances that are typical of your work and way of acting. Do not be influenced by UNUSUAL SITUATIONS which are not typical.

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Ability to handle public	Difficult personality	Likely to antagonize people	Hesitant and diffident	Pleasant and courteous	Ingenious and tactful	Unusual personality and aptitude

Overall Rating: Excellent Very Good Average Marginal Poor

Time and Work Verification

In order to justify credit awarded, each student must verify the total number of hours worked. Complete the following: Rate of

Pay _____ Total Hours Worked _____ Total Wages Earned _____

Student Signature: _____ fDate: _____

Confidential Student Evaluation of the Work Experience Please type or print your responses to the following questions regarding your work experience during this past work period. Make additional comments if you wish. The purpose of the form is to provide opportunity for frank appraisal of the job location in the interests of the employer and future students.

Criteria	Excellent	Good	Average	Poor	Very Poor	No Observation
1. Work experience relates to field of study						
2. Adequacy of employer supervision						
3. Helpfulness of supervisor						
4. Cooperativeness of fellow workers						
5. Opportunity to use academic learning						
6. Opportunity to develop human relations skills						
7. Provided levels of responsibility consistent with student ability and growth						
8. Opportunity to develop communication skills						
9. Opportunity to develop creativity skills						
10. Opportunity to solve problems						
11. Opportunity to develop critical thinking skills						
12. Helpfulness of faculty coordinator						
13. Overall evaluation of Co-op experience						

14. Did you share this evaluation with your employer/supervisor? Yes No
15. Would you work for this organization again? Yes No
16. Would you recommend the Cooperative Education Internship Program to other students? Yes No
17. List ways you have benefited from this experience.

18. What did you learn about yourself, personally, as a result of this experience?

19. If you were to make one suggestion to improve the Cooperative Education Internship Program, what would it be?

20. Additional Comments:

Please email your responses to donna.crow@usu.edu or turn this form in with your final report.

Student Name _____ Student ID _____ Date _____

Major _____ Faculty Co-op Coordinator _____

Company/Business _____ Immediate Supervisor's Name

Work Address
