**Reedley College Aviation Maintenance Technology Program**

**AMT 50 Aviation Airframe Maintenance Fall 2023**

**Instructor: Joseph Woolsey e-mail:** **joseph.woolsey@reedleycollege.edu**

**Office Phone: none Office Location: Reedley College, Aero building, room 8**

**Office Hours: Monday-Friday 7:00-8:00 AM**

**Class Location:** Meets in Aero 5 **Daily Schedule:** Lecture: 8:00am – 10:50am, Lab 11:30am – 2:20pm

**Holidays:**  September 4th Labor Day,

**IMPORTANT DATES:** Aug 7 first day of class

Aug 10 last day to drop for full refund of enrollment & lab fees

 Aug 16 last day to add a class

 Aug 16 last day to drop and not receive a “W” grade

 Sep. 4 Labor Day

Sep 6 last day to drop but will receive a “W” grade

 Oct 6 last day of class (Wednesday)

**Course Objectives:**

1. Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems.

 2. Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devices.

 3. Inspect, check, and service speed and configuration warning systems, electrical brake controls, and anti-skid systems.

 4. Repair hydraulic and pneumatic power systems components.

 5. Inspect, check, and service aircraft electronic communication and navigation systems, including VHF passenger address interphones and static discharge devices, aircraft VOR, ILS, Radar beacon transponders, flight management computers, and GPWS.

 6. Inspect, check, troubleshoot, service, and repair airframe ice and rain control systems.

**Course Content:**

This course prepares students with the skills and technical knowledge they need to perform maintenance on aircraft in the aviation maintenance industry. The content of this course is a variety of airframe maintenance subjects required by the Federal Aviation Administration as part of the Aviation Maintenance Technology Program. Topics covered will include aircraft landing gear systems, hydraulic and pneumatic power systems, aircraft instrument systems, communication and navigation systems, aircraft electrical systems, position and warning systems, and ice and rain control systems.

**Course Outcomes:** Upon completion of this course, students will be able to:

**AMT-50 SLO1:** Evaluate, troubleshoot, and repair aircraft electrical, communication, navigation, and instrument systems.

**AMT-50 SLO2:** Service, inspect, and repair aircraft hydraulic and pneumatic power systems.

**AMT-50 SLO3:** Maintain aircraft landing gear, ice and rain protection, and cockpit warning systems.

**Canceled Class Notification:** If an AMT class has to be canceled, a cancellation notice will be placed on the classroom door. In addition, the canceled class will be posted on the Reedley College website and you will be notified through either email or Canvas..

**Student Handbook:** The official Reedley College Student Handbook is a great resource that contains lots of valuable information a student may need during their time here at Reedley College. You can view this handbook online or download it as a .pdf file from the Reedley College website. The address is: <https://www.reedleycollege.edu/_documents/about/2016rcstudenthandbookmay05_2016.pdf>

**Final Exam:** A comprehensive final exam worth 20% of your total grade will be given at the end of the semester. The Final Exam is closed-book in that students may not refer to any document during the test. All answers must come from memory. You are required to take the final exam. **You Must Pass the final exam with a 70% or Higher to pass the college course and to receive a passing grade for the FAA subject areas.**

**Required Textbooks:** These books are free to download in .pdf format here. <http://www.faa.gov/library/manuals/aircraft/>

1. U.S. Department of Transportation, Federal Aviation Administration. *Airframe & Powerplant Mechanics* ***Airframe volume 1 and 2*** *Handbook* (FAA-H-8083-31A-ATB) ISBN: 9781941144763, CO: Aircraft Technical Book Company, 2018
2. U.S. Dept. of Transportation, Federal Aviation Administration. ***Advisory Circular AC43.13-1B/2B****, Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair*, ISBN: 9780977489695, Aircraft Technical Book Co., 2009

***Recommended* Textbooks:** Aviation Mechanic Handbook (Part# - ASA-MHB-6) ISBN: 9781619544949

**Instructor Meetings:** You may need to meet with your instructor during the semester for various reasons. Instructors hold office hours for this purpose and welcome you to meet with them at that time. Your instructor’s office hours are posted outside of the office on the door and on Canvas. Be aware that this can be a busy time and you may have to schedule an appointment. The meetings will be held via Zoom video-conferencing application.

**Student Education Plan:** A Student Education Plan (SEP) is a plan detailing the coursework that is required to meet Reedley College certificate, graduation, or transfer requirements. A SEP must be completed by a Reedley College counselor. It will note the classes you have completed and the classes you still need to take. The SEP should include courses you have taken at other schools. You will be encouraged to complete a SEP sometime during this semester if you have not already completed one.

**REQUIRED TEXTBOOKS/EQUIPMENT:**

1. Uniform shirts
2. Hearing protection, both in-ear and over-the-ear
3. Closed toed shoes
4. Safety glasses with ANZI Z87.1 or greater (2 pair are recommended)
5. Vinyl or latex gloves
6. Pencils, pens, paper, 8½ by 11 binder
7. Simple calculator that add, subtract, multiply, divide. Cell phones may not be used during tests/quizzes, etc.
8. 6" steel machinist rule with 1/64" scale.
9. Clipboard (provided by college)
10. Laptop computer and charger (school supplied) – see laptop policies
11. Toolbox and tools (provided via lab fee) - see required tool list
12. FAA-H-8083-32B Airframe & Powerplant Mechanic’s *Powerplant* Handbook (available in Canvas)
13. FAA-H-8083-31B Airframe & Powerplant Mechanic’s *Airframe* Handbook (available in Canvas)
14. General, Airframe, and Powerplant Airman Certification Standards (ACS) Hard-copy (provided by college)
15. AC 43.13 1A (available in Canvas)
16. AC 43.13 2B (available in Canvas)
17. FAR/AMT 2023 (can use online FARs)
18. AMT Student Handbook (available in Canvas)
19. Parking permits are required this semester – See email from college

**Grading Policy:** The AMT program is both a community college and a FAA approved curriculum at the same site, therefore, two grading systems are used. The grade required by the FAA is determined for each of the FAA subjects completed throughout the semester. These scores are calculated independently of each other but they will be combined at the end of each semester and added to your final exam score as the Reedley College grade for that semester. The subject area scores will account for 80% of the semester grade and the final exam will account for the remaining 20%.

**FAA subject scores:** A percent score will be used to compute all graded work where possible. Lecture scores will be based on a combination of quiz and test scores, class assignments, and homework assignments. Lab projects will be graded on many factors including: safety practices, job completion, time management, following directions, and the care of equipment and tools. The instructor will also evaluate your professional approach to each project. When each subject is completed, we will combine all lecture and lab scores in that subject and convert it to a percent score. **You must score no less than 70% in BOTH lecture and lab. Then, the instructor will administer a subject area final exam. This exam will contain written as well as oral and practical problems. You must earn a passing score of 70% or greater on the subject area final exam to pass that FAA subject area.** Wherever possible, lecture and lab scores will be weighted equally.

**Subject area final:** The subject area final is also known as the “mock oral and practical” this is a final exam that is designed to simulate the real FAA oral practical as closely as is possible. **YOU MUST PASS THIS TEST WITH A 70% OR HIGHER TO PASS MY CLASS REGARDLESS OF YOUR LAB AND LECTURE GRADE.** This is however a pass/fail test and the score is not factored into your final FAA or College grade as long as you pass.

***Important Note: Each one of the* 40 *FAA subject area scores must be at or above 70% when completed to receive credit toward the Airframe and Powerplant Certificate. The College grade has no bearing upon meeting the FAA guidelines.***

**FAA Subject Grading System: (sample calculations)**

 **Lecture Points Earned Points Possible Lecture Percentage**

 Quiz 1 11 15

 Exam 1 25 30

 Assignment 1 + 15 + 15

  51 60 **85.0%**

 **Lab Points Earned Points Possible Lab Percentage**

Project 1 18 20

 Project 2 16 20

 Project 3 + 15 + 20

  49 60 **81.7%**

To arrive at the FAA subject score, add the lecture and lab sub totals together, and divide by two. This will result in an 83% FAA subject score. All percentages are rounded off to the nearest whole number.

 **Lecture Percentage** 85.0% **FAA Subject Score**

 **Lab Percentage** + 81.7% 166.7%

 166.7% 2 = 83.35%  **83%**

The semester final exam score is not factored in, nor has any bearing on this FAA score.

To calculate the semester grade for Reedley College, each completed subject score explained above is then "weighted" in proportion to the number of hours of instruction it contains. These weighted scores are then combined with the final exam score, which is always 20% of the final grade. This score is the semester college grade. The college grade is an average of all work completed in the course during that semester, including the final exam.

**College Grading System: (sample calculations)**

 **Subject Totals Hours per Subject Weight Factor**

 Subject 1 85% 10 0.2

 Subject 2 90% 25 0.5

 Subject 3 80% 15 0.3

 Sub total: 50 1.0

To arrive at the College grade, multiply each subject total by the weight factor (determined by subject length), then add the products together. For example:

 Subject 1: (85%) subject total (X) weight factor (0.2) = 17.0%

 Subject 2: (90%) subject total (X) weight factor (0.5) = 45.0%

 Subject 3: (80%) subject total (X) weight factor (0.3) = 24.0%

Total : 86.0%

 Final Exam Score 98.0%

Multiply the “weighted” total by 80%, then add the final exam score weighted at 20% for the “College” total score.

 Formula:(86% X 80%) plus (98% X 20%)  **= 88.4%**

**Letter Grade scale is as follows: 100%-90% = A, 89%-80% = B, 79%-70% = C, 69% and below = F.**

**ATTENDANCE POLICY:** The intent of this attendance policy is to ensure:

1. The student gains the most from the learning experience of this course and is present to learn.
2. The student learns the typical attendance responsibilities when employed as an Aircraft Mechanic.

Graded activity will occur nearly (if not) every class meeting. Students are expected to be in the classroom and ready for the first class event no later than the official start time of the class.

Reading assignments, homework, test dates, etc. may be verbally changed and announced during any class meeting. Students are expected to attend all scheduled class meetings, be punctual, write down verbal directions, and then follow all verbal and written directions. It is the student’s responsibility to find out what was missed if the student is absent.

Circumstances out of the student’s control will be considered for an excused absence.

If a student knows in advance that they are going to be absent for any length of time, submit an email or written request in advance to the instructor with name, date of requested absence, reason for absence, and a proposed make-up date/time. Provide appropriate documentation. Students will typically be allowed to accomplish the graded activity early, not late.

If an event is going to be missed for a reason out of the control of the student (such as illness), the student must call the instructor at least 30 minutes prior to the start of class, but preferably as soon as it is apparent that a class meeting will be missed. If requested, the student will need to provide hard copy documentation proving the absence was outside of the student’s control.

If a student has no appropriate documentation that proves the circumstances were out of their control or the student fails to call the instructor 30 minutes prior to the class, it will be considered an unexcused absence.

Students have 7 calendar days to make-up all graded activity or a zero will be assigned to that activity. If it was an unexcused absence, then the student will receive half (50%) credit of made-up items. It is the student’s responsibility to ask the instructor to accomplish make-up graded activity.

Any and all make-up work must be finished no later than the last day of classes as shown on the Daily Schedule in this syllabus.

Failure to show up for the first class meeting will cause that student to be dropped from the course.

Students will be dropped by the instructor prior to the last day to earn a “W” grade when the student has been absent more than 24 hours of class. Make-up work will not be provided to any student who has missed more than 24 hours of class per 9 week term.

**TOOLS AND EQUIPMENT POLICY**: All mandatory listed textbooks, tools, safety glasses, ruler, earplugs, laptop with charger, calculator, paper, pens, pencils listed in the “Required Textbook/Equipment” section of this syllabus must be available every class day. Failure to have any tool or equipment needed will result in the student not being able to accomplish class work and no make-up will be allowed. See Tool & Equipment Document. Any tool or equipment provided by the college must be turned-in by the end of the course otherwise an appropriate charge will be made to the student’s college financial account.

**STUDENT CONDUCT STANDARDS:** Students who do not comply with the “Student Conduct Standards” are subject to the College disciplinary actions. The Student Conduct Standards can be found in the “Important Links” document in Canvas

**BEHAVIOR:** Any behavior which disrupts their own learning or the learning of other students will not be tolerated. Here are some examples of inappropriate in-class behavior:

1. Eating of any kind is only allowed in the designated location and only when class is not in session (breaks or lunch). Drinks are allowed in classrooms and lab until it disrupts student learning. No drinks of any kind are ever allowed in the simulator lab.

2. Using foul language directed towards a person

3. Total of student voices being louder than the instructor

4. Use of Cell phones or cell phones ringing /notifications going off or use of earbuds/headphones during class

5. “Horseplay”

6. Discriminatory or harassing remarks based on gender, age, national origin, race, religion, or disability.

**SAFETY STANDARDS:** Students must follow all written and verbal safety procedures. Students must possess and use all safety equipment in lab at all times as appropriate:

1. Closed toed shows will be worn in lab at all times
2. Safety glasses certified as ANZI Z87.1 or greater will be worn when using tools or close to where tools are being used
3. Earplugs or earmuffs will be used when using power tools, near power tools being used, and when running engines or near running engines. Turbine engine runs require both earplugs and earmuffs.
4. The use of earbuds and headphones is prohibited in lab at all times.

**ACADEMIC DISHONESTY:** Academic dishonesty in any form is a very serious offense and will incur serious consequences.

*Cheating*is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another’s work, supplying one’s work to another, giving or receiving copies of examinations or questions without an instructor’s permission, or using or displaying notes or devices inappropriate to the conditions of the examination.

*Plagiarism*is a specific form of cheating: the use of another’s words or ideas or answers without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to copying another student’s homework, getting answers for quizzes or tests from a source from another student or an outside source.

While in possession of quizzes or tests (either during the test, exam, or during review), students may not take pictures or take notes of any kind on the testable material.

**Any student caught cheating will receive a zero on the assignment and an automatic “F” grade for the course.**

***§ 65.18 Written tests: Cheating or other unauthorized conduct.***

***(a)****Except as authorized by the*[*Administrator*](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=0c265d2e5b0cc0d1944056607ecc5df4&term_occur=999&term_src=Title:14:Chapter:I:Subchapter:D:Part:65:Subpart:A:65.18)*, no*[*person*](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=24a80ca42ed148d527b7ddad982da95a&term_occur=999&term_src=Title:14:Chapter:I:Subchapter:D:Part:65:Subpart:A:65.18)*may -*

***(1)****Copy, or intentionally remove, a written test under this part;*

***(2)****Give to another, or receive from another, any part or copy of that test;*

***(3)****Give help on that test to, or receive help on that test from, any*[*person*](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=24a80ca42ed148d527b7ddad982da95a&term_occur=999&term_src=Title:14:Chapter:I:Subchapter:D:Part:65:Subpart:A:65.18)*during the period that test is being given;*

***(4)****Take any part of that test in behalf of another*[*person*](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=24a80ca42ed148d527b7ddad982da95a&term_occur=999&term_src=Title:14:Chapter:I:Subchapter:D:Part:65:Subpart:A:65.18)*;*

***(5)****Use any material or aid during the period that test is being given; or*

***(6)****Intentionally cause, assist, or participate in any act prohibited by this paragraph.*

***(b)****No*[*person*](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=24a80ca42ed148d527b7ddad982da95a&term_occur=999&term_src=Title:14:Chapter:I:Subchapter:D:Part:65:Subpart:A:65.18)*who commits an act prohibited by*[*paragraph (a)*](https://www.law.cornell.edu/cfr/text/14/65.18#a)*of this section is eligible for any airman or ground instructor certificate or*[*rating*](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=5e04dbe216da194fe7f0e9b20dcdc53a&term_occur=999&term_src=Title:14:Chapter:I:Subchapter:D:Part:65:Subpart:A:65.18)*under this chapter for* ***a period of 1 year after the date of that act****. In addition, the commission of that act is a basis for suspending or revoking any airman or ground instructor certificate or*[*rating*](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=5e04dbe216da194fe7f0e9b20dcdc53a&term_occur=999&term_src=Title:14:Chapter:I:Subchapter:D:Part:65:Subpart:A:65.18)*held by that*[*person*](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=24a80ca42ed148d527b7ddad982da95a&term_occur=999&term_src=Title:14:Chapter:I:Subchapter:D:Part:65:Subpart:A:65.18)*.*

 *Plagiarism*is a specific form of cheating: the use of another’s words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights. Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on a particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents.

**DOING WELL IN THIS COURSE:** To learn the most from this course, the instructor suggests the following techniques:

1) Maintain punctual and perfect attendance.

2) Show up prepared having done reading assignment, accomplished homework assignments, studied for tests/final exam, and brought equipment (homework, notepaper, lecture notes, pencils, pens, calculator) to class.

3) Study alone plus participate in a study group three times per week (every week) to do practice questioning for each test/exam.

4) Read and follow all verbal & written (syllabus, exams, homework, project) instructions.

5) Use a day planner/calendar and refer to daily schedule of class activities in this syllabus.

6) Get a good night’s sleep, eat healthy, exercise, and stay hydrated.

7) Accept that struggling to learn difficult topics and changing habit patterns is normal and expected.

8) Ask the instructor for additional help.

**PROBLEMS:** Personal problems that affect your academic performance must be brought to the attention of the instructor immediately. *Problems must be worked out in advance*. Doing poorly on a graded activity or not showing up for a graded activity cannot be fixed “after the fact.”

**CELL PHONE, TABLETS, LAPTOPS:** During class time, college laptops may only be used for official class activities. No use of cell phones or tablets in class or in lab without prior permission from the instructor. See Laptop Computer Policies.

**STUDENTS WITH DISABILITIES/SPECIAL ACCOMMODATIONS:** If you have a verified need for an academic accommodation or materials in alternate media (e.g. Braille, large print, electronic text, etc.) per the Americans with Disabilities Act or Section 504 of the Rehabilitation Act, please contact your instructor as soon as possible.

**GRIEVANCE PROCEDURE:** Every effort is made to treat all students the same. If you feel you have been treated unfairly, please inform the instructor immediately so appropriate corrections can be made. If you have a problem with the instructor or the way this course is conducted, please talk to the instructor immediately. See Grievance Procedure URL in “Important Links” in Canvas files

**Make up work and tests:** Unless otherwise stated all lab, work and class assignments are due no later than the Wednesday before the last day class there are NO EXCEPTIONS to this due date. If extra time is needed to complete lab assignments the only day for extra lab time is Mondays from 2:20 to 5:00 pm. There will be no other days for making up lab projects. If a student fails a subject area test they are allowed one retake for the entire 9-week course. The make up test procedure is as follows: student misses a test or fails a test they must schedule the retake 48 hours in advance. The instructor will create a different test than the previously failed test. After the student takes the second test the two scores will be averaged together and the student will receive the average score as their new final test score. Example: first test score 60/100 second test score 80/100 add two scores together 60+80=140 divide 140/2=70, new score 70.

I certify that I have read and understand the syllabus for AMT 50.

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Printed name of student signature date