

## SYLLABUS

### Aero 2 (57373), Spring 2010 in AE5 & Aero Lab

Instructor: Mr. Zielke  
638-3641 ext.3474

Instructor: Mr. Asman  
638-3641 ext.3243

Office Hours: Daily

Location: AE8

Daily: 7:30 am - 1:20pm

e-mail: keith.zielke@reedleycollege.edu

e-mail: jason.asman@reedleycollege.edu

Time: 7:00am-7:30am & (Mon 3:30pm-4:00pm)

Meets

Phone:

Phone:

**Class Hours:** Lecture: 7:30-8:45, Break: 8:45-8:55, Lecture: 8:55-10:10, Lunch: 10:10-10:35, Lab: 10:35-1:20

**Holidays:** Martin Luther King , Jan. 18; President's Day, Feb. 12&15; Spring break, Mar. 29-Apr. 2

**Canceled Class Notification:** If an Aero 3 class has to be cancelled, a cancellation notice will be placed on the classroom door. In addition, the cancelled class will be posted on the Reedley College website.

**Drop Deadline:** March 12, 2010 (a letter grade will be assigned after this date)

**Final Exam:** A two-hour comprehensive final exam worth 20 % of your total grade will be given at the end of the semester during finals week. You are required to take the final exam, however the final exam will not affect your FAA grade. Your final exam will be on May 17, 2010

**Required Textbooks:** Jeppesen, A&P Technician Airframe Textbook. 2003; Jeppesen, A&P Technician Powerplant Textbook. 2004; Advisory Circular 43.13-1B, 43.13-2B, Acceptable Methods, Techniques, and Practices. 2009.

(Note: Powerplant Written Test Guide and Workbook are *strongly* recommended. The questions found in these test guides are also available on the internet at <http://www.faa.gov>. They are located under knowledge test questions)

**Personal Supplies:** Safety Glasses & Hearing Protection (required in lab)

**Course Objectives:** The purpose of this course is to meet the Federal Aviation Administration requirements for certification as an Airframe and Powerplant Maintenance Technician.

**Grading Policy:** Because the AMT program is both a community college and a FAA approved curriculum at the same site, two grading systems are used. The FAA subject scores are computed as follows: A percent score will be used to compute all graded work where possible. Lab projects may also be graded on the basis of airworthiness, safety, ability to follow instructions, and professional approach to each project. When each subject is completed, the instructor will combine all lecture and lab scores in that subject and convert it to a percent score. Wherever possible, lecture and lab scores will be weighted equally. This score is the FAA Subject Score. *Important Note: Each one of the 44 FAA subject scores must be at or above 70% when completed, to receive credit toward the Airframe and Power plant Certificate. The College grade has no bearing upon meeting the FAA guidelines.*

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

Lecture	Points Earned	Points Possible	
Quiz 1	6	9	
Exam 1	25	30	
Assignment 1	<u>15</u>	<u>15</u>	
<b>Sub total:</b>	<b>46</b>	<b>54</b>	<b>85.1%</b>

Lab	Points Earned	Points Possible	
Project 1	18	18	
Project 2	16	18	
Project 3	<u>15</u>	<u>18</u>	
<b>Sub total:</b>	<b>49</b>	<b>54</b>	<b>90.7%</b>

To arrive at the FAA subject score, add the lecture and lab sub totals together, and divide by two. This will result in an 87.9% (in the preceding example) "FAA" subject score. The Reedley College "final exam" is not factored in, nor has any bearing on this score.

The Reedley College Aero grade is computed differently. 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 College final exam, which is always 20% of the final grade. This score is the College Grade. The College Grade is an average of all work completed in the course, 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%	<u>15</u>	<u>0.3</u>
<b>Sub total:</b>	<b>50</b>	<b>1.0</b>

To arrive at the College grade, multiply each subject total by the weight factor (determined by course 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)	= <u>24.0%</u>
<b>Total of all "weighted" subjects:</b>	<b>86.0%</b>
<b>Final Exam Score</b>	<b>98.0%</b>

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

$$\text{Formula: } (86\% \times 80\%) \quad \text{plus} \quad (98\% \times 20\%) = \mathbf{88.4\%}$$

The College letter grade scale is as follows:

100%-90% = A, 89%-80% = B, 79%-70% = C, 69%-60% = D, 59% and below = F.

**Attendance Policy:** Students are expected to meet in the assigned area for roll call no later than 7:30am each day.

**If a student misses 30 hours or more in any semester, that student must be dropped from that Aero course.**

Since good work habits are needed to become a successful aircraft maintenance technician, a **student arriving late for class more than three times in any nine week "course" will be subject to dismissal from that Aero Course.** Students shall report the time missed for taking any unauthorized breaks, or for missing any portion of lecture or lab to the instructor responsible for recording his or her progress for that day. All time missed in any portion of a subject **must be made up within that subject.** It is the student's responsibility to contact the instructor with whom the time was missed and arrange to make up the missed time. It is the responsibility of the student to verify that time made up is properly logged by that instructor. A missed time report will be maintained for each student by the instructor responsible for roll call. Any time missed, and subsequently made up will be entered on this form by that instructor. The missed time report forms will be accessible for student verification.

1. At the time of absence or late arrival the instructor will mark the student absent, enter the date, indicate whether the time missed was lecture or lab, and identify the subject(s) missed. **It is the responsibility of each student to verify that absences due to late arrival have been changed to actual time missed.** If not corrected, each absence becomes six hours time lost. Verification shall be done on the same day of the late arrival.

2. Students must report any time missed on the Time Make-up Form and submit it to the appropriate instructor at the end of the class session. **It is the student's responsibility to complete the time make-up form.** After the time is made-up, the instructor will enter the date the work was completed and initial. At the end of each nine-week block of instruction, the time missed and the time made up will be posted in the master records. All work must be made up in order to qualify for the A & P Mechanic certificate.

**Behavioral Standards:** Please do not enter the classroom while another class is in progress. No food or drink is allowed in the Aero classrooms or lab. The use of any form of tobacco is only permitted outside at the South entrance to the Aero building, please help keep that area clean. Always maintain an attitude of safety in the lab. Always receive proper training before operating equipment that you do not know how to use properly. Safety glasses must be worn in all areas required. No open-toed shoes are to be worn in the lab.

**Academic Dishonesty:** Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. 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 without an instructor's permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

**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.

**Special Needs Requests:** If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Mr. Zielke

Aero 2, Spring 2010

Reading Assignment and Exam Schedule

Note: **Approximate Test dates; January 15, January 21, January 29, February 6, February 12, February 24, February 25, February 26, March 5, March 16, March 31, April 14, April 16, April 24, May 1, May 8 and May 12.** Each test will normally include the material listed between the prior exam and the current exam. Quizzes may be given at any time. Quiz questions will be selected from the reading assignment or from current worksheets.

### Cabin Atmosphere Control Systems

DATE DUE	TOPIC	TEXT
January 11,12 13,14 (1/2 days) 15,19,20,26,  27, 28	Flight Physiology  Oxygen Systems  Pressurization Systems	Airframe Textbook Chapter 14, A pages 14-2 to 14-5, Test 1  B pages 14-6 to 14-26, Test 2  C pages 14-27 to 14-47,Test 3

### Ice and Rain Control Systems

DATE DUE	TOPIC	TEXT
February 3,4,5  11	Airframe Ice Control Systems  Rain Control Systems	Airframe Textbook, Chapt 13, A pages 13-1 to  13-15, Test 4 B pages 13-16 to 18, Test 5

### Hydraulic and Pneumatic Power Systems

DATE DUE	TOPIC	TEXT
February 16 17, 23,24, 25  March 3,4	Hydraulic Systems  Pneumatic Systems	Airframe Textbook , Chapt 8, A, B, pages 8-1 to 8-10 Test 6, C Pages 8-11 to 8-48, Test 7  D pages 8-49 to 8-58, Test 8

## Position and Warning Systems

DATE DUE	TOPIC	TEXT
March 5,11,12, 15	Position and Warning	A&P Airframe, Chapt 10, page 10-1 to 10-9, Test 9

## Landing Gear Systems

DATE DUE	TOPIC	TEXT
March 19, 22,23, April 5,6,7	Landing Gear Systems and Maintenance	A&P Airframe, Chapt 9, pages 9-2 to 9-17 (Syst & Maint), Test 10
13,14	Brake systems	9-18 to 9-38 (Brakes), Test 11
15,21	Tires	9-39 to 9-52 (Tires), Test 12

## Engine Electrical

DATE DUE	TOPIC	TEXT
April 22,23, 29	DC generators and alternators  D:II:C:12	Powerplant Textbook, Gen pages 8-2 to 8-19, Alt pages 8-21 to 8-27, Test 13,
30	Motors D:II:C:12	Motors pages 8-28 to 8-48, Test 14
May 3, 7	Electrical System components  D:III:C:13	Powerplant Textbook pages 8-53 to 8-66, Test 15

## Engine Instrument Systems

DATE DUE	TOPIC	TEXT
May 10,11	Engine Instrument Systems	A&P Airframe, Chapt 11, pages 11-2 to 11-43, Test 17
May 17	Final Exam	50 FAA Questions from applicable areas

## Spring 2010    Aero 2    Mr. Asman

### Lecture & Reading Assignments

Subject area exams and quizzes may include material from reading assignments, lectures, lab sheets, and appropriate FAA written test bank questions. Students are responsible for the assigned reading material before the specific lecture date. Quizzes can be given at any time. Students are expected to make up any missed assignments, tests, quizzes, or exams **within three days after returning to class.** A comprehensive final exam is scheduled for May 18th.

Day	READING ASSIGNMENT
	<b>FUEL &amp; FUEL METERING SYSTEMS</b>
January 11&12	<b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-19 thru 7-37 (Up to Pressure Carburetors)
January 13&14	<b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-19 thru 7-37 (Up to Pressure Carburetors)
January 21	<b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-19 thru 7-37 (Up to Pressure Carburetors)
January 22	<b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-37 thru 7-44 (Pressure Carbs up to Fuel Injection)
January 25	<b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-37 thru 7-44 (Pressure Carbs up to Fuel Injection)
January 29	<b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-37 thru 7-44 (Pressure Carbs up to Fuel Injection)
February 1	<b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-44 thru 7-52 (RSA Fuel Injection Systems)
February 2	<b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-52 thru 7-60 (TCM Fuel Injection Systems)
February 8	<b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-44 thru 7-52 (RSA Fuel Injection Systems)  <b>Jeppesen Powerplant Textbook</b> , Chapter 7, 7-52 thru 7-60 (TCM Fuel Injection Systems)
	<b>AIRCRAFT FUEL SYSTEMS</b>
February 9	<b>Jeppesen Airframe Textbook</b> , Chapter 15, Section A (Fuels & Fuel System Requirements) <b>Jeppesen Powerplant Textbook</b> , Chapter 7, Section A (Fuel Systems)
February 10	<b>Jeppesen Airframe Textbook</b> , Chapter 15, Section A (Fuels & Fuel System Requirements)  <b>Jeppesen Powerplant Textbook</b> , Chapter 7, Section A (Fuel Systems)
February 18	<b>FAR</b> 23.951; 23.953; 23.954; 23.955; 23.957; 23.959; 23.961; 23.967; 23.971; 23.973; 23.975; 23.1557
February 22	<b>Jeppesen Airframe Textbook</b> , Chapter 15, Section B (Fuel System Operation)
February 26	<b>Jeppesen Airframe Textbook</b> , Chapter 15, Section B (Fuel System Operation)
March 1	<b>Jeppesen Airframe Textbook</b> , Chapter 15, Section B (Fuel System Operation)

March 2	<b>Jeppesen Airframe Textbook</b> , Chapter 15, Section C (Fuel System Repair, Testing, & Servicing) <b>AC43.13-1B</b> , chapter 8, section 2
March 8	<b>Jeppesen Airframe Textbook</b> , Chapter 15, Section C (Fuel System Repair, Testing, & Servicing) <b>AC43.13-1B</b> , chapter 8, section 2
March 9	<b>Jeppesen Airframe Textbook</b> , Chapter 15, Section C (Fuel System Repair, Testing, & Servicing) <b>AC43.13-1B</b> , chapter 8, section 2
<b>FIRE PROTECTION &amp; ENGINE FIRE PROTECTION SYSTEMS</b>	
March 10	<b>Jeppesen Airframe Textbook</b> , Chapter 16, Section A (Fire Detection) <b>Jeppesen Powerplant Textbook</b> , Chapter 11, Section A (Fire Detection Systems)
March 16	<b>Jeppesen Airframe Textbook</b> , Chapter 16, Section A (Fire Detection) <b>Jeppesen Powerplant Textbook</b> , Chapter 11, Section A (Fire Detection Systems)
March 17	<b>Jeppesen Airframe Textbook</b> , Chapter 16, Section A (Fire Detection) <b>Jeppesen Powerplant Textbook</b> , Chapter 11, Section A (Fire Detection Systems)
March 17	<b>FAR</b> 23.851; 23.855; 23.865; 23.1181; 23;1195; 23.1197; 23.1199; 23.1201; 23.1203.
March 18	<b>Jeppesen Airframe Textbook</b> , Chapter 16, Section B (Fire Extinguishing Systems) <b>Jeppesen Powerplant Textbook</b> , Chapter 11, Section B (Fire Extinguishing Systems)
March 24	<b>Jeppesen Airframe Textbook</b> , Chapter 16, Section B (Fire Extinguishing Systems) <b>Jeppesen Powerplant Textbook</b> , Chapter 11, Section B (Fire Extinguishing Systems)
March 25	<b>Jeppesen Airframe Textbook</b> , Chapter 16, Section B (Fire Extinguishing Systems) <b>Jeppesen Powerplant Textbook</b> , Chapter 11, Section B (Fire Extinguishing Systems)
March 26	<b>Jeppesen Airframe Textbook</b> , Chapter 16, Section B (Fire Extinguishing Systems) <b>Jeppesen Powerplant Textbook</b> , Chapter 11, Section B (Fire Extinguishing Systems)
<b>ASSEMBLY &amp; RIGGING</b>	
April 8	<b>Jeppesen Airframe Textbook</b> , Chapter 1, Section A (Aircraft Design & Construction) <b>Jeppesen General Textbook</b> , Chapter 2, page 2-14 thru 2-15 (Stress)
April 9	<b>Jeppesen Airframe Textbook</b> , Chapter 1, Section A (Aircraft Design & Construction) <b>Jeppesen General Textbook</b> , Chapter 2, page 2-34 thru 2-44 (Airplanes, Forces of Flight)
April 12	<b>Jeppesen Airframe Textbook</b> , Chapter 1, Section A (Aircraft Design & Construction) <b>Jeppesen General Textbook</b> , Chapter 2, page 2-34 thru 2-44 (Airplanes, Forces of Flight)
April 16	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-20 thru 1-39 (Airplane Assembly & Rigging) <b>Jeppesen General Textbook</b> , Chapter 2, page 2-34 thru 2-44 (Airplanes, Forces of Flight)

April 19	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-20 thru 1-39 (Airplane Assembly & Rigging) <b>Jeppesen General Textbook</b> , Chapter 2, page 2-34 thru 2-44 (Airplanes, Forces of Flight)
April 20	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-20 thru 1-39 (Airplane Assembly & Rigging) <b>Jeppesen General Textbook</b> , Chapter 2, page 2-34 thru 2-44 (Airplanes, Forces of Flight)
April 26	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-39 thru 1-51 (Airplane Assembly) <b>Jeppesen General Textbook</b> , Chapter 2, page 2-44 thru 2-51 (Airplanes, Axis of Flight)
April 27	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-39 thru 1-51 (Airplane Assembly) <b>Jeppesen General Textbook</b> , Chapter 2, page 2-44 thru 2-51 (Airplanes, Axis of Flight)
April 28	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-39 thru 1-51 (Airplane Assembly) <b>Jeppesen General Textbook</b> , Chapter 2, page 2-44 thru 2-51 (Airplanes, Axis of Flight)
May 4	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-52 thru 1-57 (Fundamentals of Rotary-Wing Aircraft) <b>Jeppesen General Textbook</b> , Chapter 2, Section F (Helicopter Aerodynamics)
May 5	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-52 thru 1-57 (Fundamentals of Rotary-Wing Aircraft) <b>Jeppesen General Textbook</b> , Chapter 2, Section F (Helicopter Aerodynamics)
May 6	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-52 thru 1-62 (Fundamentals of Rotary-Wing Aircraft) <b>Jeppesen General Textbook</b> , Chapter 2, Section F (Helicopter Aerodynamics)
May 12	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-62 thru 1-73 (Fundamentals of Rotary-Wing Aircraft) <b>Jeppesen General Textbook</b> , Chapter 2, Section F (Helicopter Aerodynamics)
May 13	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-62 thru 1-73 (Fundamentals of Rotary-Wing Aircraft) <b>Jeppesen General Textbook</b> , Chapter 2, Section F (Helicopter Aerodynamics)
May 14	<b>Jeppesen Airframe Textbook</b> , Chapter 1, 1-62 thru 1-73 (Fundamentals of Rotary-Wing Aircraft) <b>Jeppesen General Textbook</b> , Chapter 2, Section F (Helicopter Aerodynamics)
May 17	<b>FINAL EXAM DATE</b>