



CREDIT COURSE OUTLINE

I. COVER PAGE

(1) AERO 210

(2) Aviation Maintenance Technology Supplemental
Laboratory

(3) 1

Number _____ Title _____ Units _____

(4) Lecture / Lab Hours:		(8) Classification:	
Course Hours			
	Weekly Lec hours:		Degree applicable:
	Weekly Lab hours:	54.00	Non-degree applicable: X
	Total Contact hours:		Basic skills:
Lec will generate __ hour(s) outside work.		(9) RC Fulfills AS/AA degree requirement: (area)	
Lab will generate __ hour(s) outside work.		General education category:	
		Major:	
		Certificate of:	
		Certificate in:	
(5) Grading Basis:	Grading Scale Only		
	Pass/No Pass option		
	Pass/No Pass only	X	
(6) Advisories:			
(7) Pre-requisites (requires C grade or better):			
Corequisites:			
		(10) CSU	Baccalaureate:
		(11) Repeatable: (A course may be repeated three times)	
		3	
		(12) C-ID:	
		Proposed Start Date:	Summer 2009

(12) Catalog Description:
This course provides laboratory assistance for the Aviation Maintenance Technician students who have attempted, but not satisfactorily completed one or more of the 44 subjects required for graduation from the federally regulated Aviation Maintenance Technician School (AMTS) at Reedley College. This course will meet by arrangement and will be tailored to the specific needs of each student in order to provide the level of training needed to successfully complete the subject(s) previously taken but not passed.

II. COURSE OUTCOMES:

(Specify the learning skills the student demonstrates through completing the course and link critical thinking skills to specific course content and objectives.)

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

- I. Meet the minimum stated goals and objectives for the stated subject goals previously not met.
- II. Meet the Federal Aviation Administration requirements for the subjects as specified in the Approved Aviation Maintenance Technician School.
- III. Adhere to ethical and legal maintenance standards as prescribed in the Federal Aviation Administration, Federal Aviation Regulations.
- IV. Complete acceptable manufacturers documentation, complete assigned inspections, modifications, repairs, calculations, and/or troubleshooting procedures.
- V. Develop acceptable documentation for return to service certification of aircraft and/or related component parts.
- VI. Apply safety procedures in a shop environment and follow hazardous material handling procedures.

III. COURSE OBJECTIVES:

(Specify major objectives in terms of the observable knowledge and/or skills to be attained.)

In the process of completing this course, students will:

- Pass the applicable subject(s) previously taken but not passed.
- Possible subjects:
 - I. (3) Determine the relationship of voltage, current, and resistance in electrical circuits
 - II. (2) Calculate and measure electrical power
 - III. (3) Measure voltage, current, resistance, and continuity
 - IV. (3) Read and interpret electrical circuit diagrams
 - V. (3) Inspect and service batteries
 - VI. (2) Calculate and measure capacitance and inductance
 - VII. (2) Use drawings symbols and schematic diagrams
 - VIII. (3) Draw sketches of repairs and alterations

- IX. (3) Use blueprint information
- X. (3) Use graphs and charts
- XI. (2) Weigh aircraft
- XII. (3) Perform complete weight and balance checks and properly record data
- XIII. (3) Fabricate and install rigid and flexible fluid lines and fittings.
- XIV. (3) Identify and select aircraft hardware and materials
- XV. (1) Identify and select appropriate nondestructive testing methods
- XVI. (2) Perform penetrant, chemical etching, and magnetic particle inspections
- XVII. (3) Perform precision measurements
- XVIII. (3) Inspect and check welds
- XIX. (2) Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards
- XX. (2) Identify and select fuel
- XXI. (3) Identify and select cleaning materials
- XXII. (3) Inspect, identify, remove, and treat aircraft corrosion and perform aircraft cleaning
- XXIII. (1) Service and repair wood structures
- XXIV. (1) Identify wood defects
- XXV. (1) Inspect wood structures
- XXVI. (1) Inspect, test, and repair fabric
- XXVII. (1) Select and apply fabric and fiberglass covering materials
- XXVIII. (1) Apply trim, letters, and touch-up paint
- XXIX. (2) Identify and select aircraft finishing materials
- XXX. (2) Apply finishing materials
- XXXI. (2) Inspect finishes and identify defects
- XXXII. (3) Determine areas and volumes of various geometrical shapes
- XXXIII. (3) Solve ratio, proportion and percentage problems
- XXXIV. (3) Perform algebraic operations involving addition, subtraction, multiplication and division of positive and negative numbers
- XXXV. (3) Extract roots and raise numbers to a given power
- XXXVI. (3) Demonstrate ability to read, comprehend and apply information contained in FAA and manufacturers aircraft maintenance specifications, data sheets, manuals and publications, related Federal Aviation Regulations, airworthiness directives, and advisory material
- XXXVII. (3) Read, understand, and relate technical information
- XXXVIII. (3) Write descriptions of aircraft condition and work performed including aircraft discrepancies and corrective actions using typical aircraft maintenance records
- XXXIX. (3) Complete required maintenance forms, records, and inspection reports
- XL. (3) Exercise mechanic privileges with the limitations prescribed by Part 65 of the Federal Aviation Regulations.
- XLI. (2) Use and understand the principles of simple machines; sound, fluid, dynamics, basic aerodynamics, aircraft structures and theory of flight
- XLII. (1) Weld magnesium and titanium
- XLIII. (1) Solder stainless steel
- XLIV. (2) Solder, braze, gas-weld, and arc-weld steel
- XLV. (1) Weld aluminum and stainless steel
- XLVI. (1) Fabricate tubular structures
- XLVII. (1) Understand the role human factors plays in aviation maintenance safety
- XLVIII. (2) Operate a windows-based computer for CBT training Activate a personal computer and load/save Lab Volt data files and ATP (Aircraft Technical Publishers) type certificate data files.
- XLIX. Access and use TDATA software to research and record aircraft airworthiness directives for aircraft.
 - L. Access the internet at FAA.GOV and other sources to research aircraft airworthiness directives and to look up other pertinent aircraft information.
 - LI. Use email messaging to request information from aircraft and aircraft parts vendors for product information.

IV. COURSE OUTLINE:

V. APPROPRIATE READINGS

Reading assignments may include but are not limited to the following:

I. Sample Text Title:

II. Other Readings

1. Recommended - 1. *Airframe and Powerplant Technician General Text Book*, Jeppesen, 2004 2. *Airframe and Powerplant Technician Airframe Textbook*, Jeppesen, 2003 3. *Airframe and Powerplant Technician Powerplant Textbook*, Jeppesen, 2004 4. *Aircraft Gas Turbine Powerplants*, Jeppesen, 1977 5. *Aircraft Inspection and Repair (AC-43.13-1B & 2A)*, FAA, supplied by Jeppesen, 1998 6. *Federal Aviation Regulations, Aviation Maintenance Technician*, Jeppesen, 2003 7. *Aviation Mechanic Handbook*, Crane, 1992 8. *Airframe and Powerplant Mechanic Powerplant Handbook (AC-65-12A)*, FAA, 1996 9. *Dictionary of Aeronautical Terms*, Crane, 1991 10. *Computer-Based-Training hardware and software* 11. *Aircraft and aircraft mock-up components* 12. *Microfiche Library, ATP*, 2006 13. *CD library, various* 14. *Hard-copy Service Manuals, Maintenance Manuals, Parts Manuals; various*

- ___ Global or international materials or concepts are appropriately included in this course
- ___ Multicultural materials and concepts are appropriately included in this course

If either line is checked, write a paragraph indicating specifically how global/international and/or multicultural materials and concepts relate to content outline and/or readings.

VI. METHODS TO MEASURE STUDENT ACHIEVEMENT AND DETERMINE GRADES:

Students in this course will be graded in at least one of the following four categories. Please check those appropriate. A degree applicable course must have a minimum of one response in category A, B, or C.

A. Writing	
Check either 1 or 2 below	
X	1. Substantial writing assignments are required. Check the appropriate boxes below and provide a written description in the space provided.
	2. Substantial writing assignments are NOT required. If this box is checked leave this section blank. For degree applicable courses you must complete category B and/or C.
	a) essay exam(s)
	b) term or other paper(s)
	c) laboratory report(s)
	d) written homework
	e) reading reports
	f) other (specify)

Required assignments may include but are not limited to the following:

B. Problem Solving	
Computational or non-computational problem-solving demonstrations, including:	
X	a) exam(s)
X	b) quizzes
X	c) homework problems
X	d) laboratory reports
X	e) field work
X	f) other (specify): Example: Lab for Engine Electrical Systems; Trouble shoot Cessna 172 charging system

Required assignments may include but are not limited to the following:

Sample test question for Engine Electrical Systems:
How is voltage output controlled on a typical DC alternator charging system?
?

C. Skill demonstrations, including:	
X	a) class performance(s)
X	b) field work
X	c) performance exams(s)
X	d) other (specify)

Required assignments may include but are not limited to the following:

D. Objective examinations including:	
X	a) multiple choice
X	b) true/false
X	c) matching items
X	d) completion
X	e) other (specify):

COURSE GRADE DETERMINATION:

Description/explanation: Based on the categories checked in A-D, it is the recommendation of the department that the instructor's grading methods fall within the following departmental guidelines; however, the final method of grading is still at the discretion of the individual instructor. The instructor's syllabus must reflect the criteria by which the student's grade has been determined. (A minimum of five (5) grades must be recorded on the final roster.)

If several methods to measure student achievement are used, indicate here the approximate weight or percentage each has in determining student final grades.

50% Written (3/4 objective test, 1/4 short answer) 50% Lab Applications

Does Course Require Social Facilities? No

Attached Files:

BASIC SKILLS ADVISORIES PAGE The skills listed are those needed for eligibility for English 125, 126, and Math 201. These skills are listed as the outcomes from English 252, 262, and Math 250. In the right hand column, list at least <u>three</u> major basic skills needed at the beginning of the target course and check off the corresponding basic skills listed at the left.
Check the appropriate spaces.
<input type="checkbox"/> Eligibility for Math 201 is advisory for the target course.

_____ Eligibility for English 126 is advisory for the target course.

_____ Eligibility for English 125 is advisory for the target course.

If the reviewers determine that an advisory or advisories in Basic Skills are all that are necessary for success in the target course, stop here, provide the required signatures, and forward this form to the department chair, the appropriate associate dean, and the curriculum committee.

REQUISITES

No requisites

JUSTIFICATION OF LIMITATION ON ENROLLMENT

Enrollment in courses or blocks of courses may be limited based on performance, honors, or other performance based criteria. Be mindful of the disproportionate impact the limitation will have on specific groups of students. It is important to determine if the limitation will disproportionately keep under-represented students from enrolling in the course or block of courses.

Describe the reasons for limiting the enrollment.

Course Designator: AERO 210

Course Title(s): Aviation Maintenance Technology Supplemental Laboratory

Rationale for Limiting Enrollment:

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