**Reedley College**

**Proposed Course Modification**

|  |  |
| --- | --- |
| Course # / Title | AERO 4/Aviation Maintenance Technology |

## CHECK OFF SHEET

**PRELIMINARY STEPS.** Do before completing Course Modification Form.

**(EACH BOX SHOULD BE CHECKED AS COMPLETED BEFORE SUBMISSION.)**

🞎 1. Communicate with the Curriculum Chair regarding intent to modify an existing course outline (recommended, not required).

🞎 2. List term for implementation of modifications:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 🞎 | Fall | 2010 | 🞎 | Spring |  | 🞎 | Summer |  |

🞎 3. Check one:

Do not complete Fresno City College course alignment page if:

|  |  |
| --- | --- |
| x | No similar course or program at FCC. |
|  | Course currently in common with FCC course or accepted in lieu of and changes will not affect status. |
|  |

Complete Fresno City College course alignment page if:

|  |  |
| --- | --- |
|  | Course currently in common with FCC course or accepted in lieu of. Changes may affect status. Consult with counterparts at FCC and complete alignment page |
|  | Course not in common or accepted in lieu of but may be with proposed changes consult with FCC counterparts |

🞎 4. Changes sought in the following:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CSU General Education Code | Yes |  | No | x |
| Transfer Baccalaureate List | Yes |  | No | x |

If yes to either, schedule an appointment with the Articulation Officer

🞎 5. Changes sought in number of repeats for credit:

|  |  |
| --- | --- |
|  | Yes |
| x | No |

If yes, secure a **Course Repetition** form from the Curriculum Office.

**PROPOSED** **COURSE MODIFICATION FORM**

🞎 Appropriate sections of Course Outline of Record completed.

**FINAL** steps (Do after completing Course Outline of Record)

🞎 1. Signature Form. Secure signatures of the Department Chair and the Associate Dean before submitting the completed course proposal to the Curriculum Office.

🞎 2. Program Description. Course modification will change an existing program which is or will be described in the college catalogue.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Yes | x | No |

If yes, complete **Program Description Form** before submitting modification.

🞎 3. Final Check. All items above have been completed and checked off before modification is submitted.

**Reedley College**

**PROPOSED COURSE MODIFICATION**

All changes and modifications in the official course outline must come to the Curriculum Committee. Though minor changes may seem obvious, even these need to come to committee for information and to update the official curriculum. Changes in programs or in several department offerings should be submitted together if possible so that the whole picture is clear.

**OUTLINE. Please fill in current existing course number, title, and units for course to be modified.**

|  |  |  |  |
| --- | --- | --- | --- |
| Department | Industrial Technology | Course No. | **AERO 4** |
| Course Title | Aviation Maintenance Technology | Units | **17.5** |
|  | Effective Date | **08/01/2010** | |

**A.** **PROPOSED CHANGES.**

**(Indicate below all proposed changes to be made in the course outline.)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I. Cover Page | |  |  |  |
|  | 1. Course ID |  |  | 8. Classification (Degree applicable, Non-degree applicable, or |
|  | 2. Course Title |  | Pre-collegiate Basic skills) |
|  | 3. Units |  |  | 9. General Education Pattern, Graduation Requirement, and |
|  | 4. Lecture/Lab Hours |  | Major Category |
|  | 5. Grading Basis |  |  | 10. General Education Pattern/Baccalaureate (CSU) |
| x | 6. Entrance Skills: Basic Skills Prerequisites/Advisories |  | 11. Repeatability |
| x | 7. Subject Prerequisites/Corequisites/Advisories |  |  | 12. Catalog Description |

Other pages

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | II. Course Outcomes |  | x | VI. Methods of Grading |
| x | III. Course Objectives |  |  | VII. Levels of Educational Materials |
| x | IV. Course Content Outline |  | **Additional Pages (optional depending on course)** | |
| x | V. Approved Readings |  |  | Request for Repeatability/Limitation on Enrollment |

**B. DESCRIPTION OF CHANGES AND MODIFICATIONS.**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM NO.** | **CHANGED FROM** | **CHANGED TO** | **REASON** |
| 6 | Basic Skills Advisories: | Basic Skills Advisories:  Eligibility for English 125, English 126, and Math 101 | Students need these basic skills to succeed in the course |
| 7 | Subject Prerequisites (requires C grade or better):  AERO 1, AERO 2 | Subject Prerequisites (requires C grade or better): | Remove Prerequisites from Aero 3 in order to balance enrollment between 1st year Aero courses (AERO 1 & AERO 2) and 2nd year Aero courses (AERO 3 & AERO 4) per Aero staff discretion |
| 12 | Skills and knowledge appropriate to FAA Regulation Part 147 to include: Sheetmetal and Non-metallic Structures, Airframe Inspection, Communication and Navigation Systems, Aircraft Electrical Systems, Aircraft Instrument Systems, Engine Electrical Systems. | Aero 4 meets the FAA Airframe requirements including: Sheetmetal and Non-metallic Structures, Airframe Inspection, Communication and Navigation Systems, Aircraft Electrical Systems, Aircraft Instrument Systems, Engine Electrical Systems. The completion of Aero 1,2 and 4 qualifies the student for Licenser eligibility to maintain all aircraft Airframes. | Provide clarification to readers |
| II. | A. Meet the Federal Aviation Administration requirements for the majority of the “Airframe” subjects as specified in the Approved Maintenance Technician School.  B. Adhere to ethical and legal maintenance standards as prescribed in the Federal Aviation Administration, Federal Aviation Regulations.  C. Given acceptable manufacturers documentation, complete assigned inspections, modifications, repairs, calculations, and/or troubleshooting procedures.  D. Develop acceptable documentation for return to service certification of aircraft and/or related component parts.  E. Work successfully in a team atmosphere, alternately assuming the roles of leader and of team player.  F. Apply safety procedures in a shop environment and follow hazardous material handling procedures. | A. Meet the Federal Aviation Administration requirements for the majority of the “Airframe” subjects as specified in the Approved Maintenance Technician School.  B. Adhere to ethical and legal maintenance standards as prescribed in the Federal Aviation Administration, Federal Aviation Regulations.  C. Complete assigned inspections, modifications, repairs, calculations, and/or troubleshooting procedures, while determining if provided documentation is valid.  D. Develop acceptable documentation for return to service certification of aircraft and/or related component parts.  E. Work successfully in a team atmosphere, alternately assuming the roles of leader and of team player.  F. Apply safety procedures in a shop environment and follow hazardous material handling procedures. | Clarification of outcome “C” |
| III. | 1. (3) Perform airframe conformity and airworthiness inspections  2. (2) Install special rivets and fasteners  3 (3) Inspect and repair sheet metal structures  4 (3) Install conventional rivets  5. (3) Hand-form, lay out, and bend sheet metal  6. (2) Inspect bonded structures  7. (2) Inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and secondary structures  8 (2) Inspect, check, service, and repair windows, doors, and interiors  9. (1) Inspect, check, service, troubleshoot, and repair electronic flight instrument systems and both mechanical and electrical  heading, speed, altitude, temperature, pressure, and position indicating systems to include the use of built-in test  equipment  10 (2) Install instruments and perform a static pressure system leak test  11. (1) Inspect, check, and troubleshoot autopilot servos and approach control systems  12. (1) Inspect, check, and service aircraft electronic communication and navigation systems, including VHF passenger address  interphones and static discharge devices, aircraft VOR, ILS,LORAN, Radar beacon transponders, flight management  computers, and GPWS.  13. (2) Inspect and repair antenna and electronic equipment installations  14. (2) Repair engine electrical system components  15. (3) Install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices  16. (2) Repair aircraft electrical system components; crimp and splice wiring to manufacturers’ specifications; and repair  pins and sockets of aircraft connectors  17. (3) Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devise  18. (3) Inspect, check, troubleshoot, service, and repair alternating current and direct current electrical systems  19. (1) Inspect, check, and troubleshoot constant speed and integrated speed drive generators | 1. Perform airframe conformity and airworthiness inspections (Level 3)  2. Install special rivets and fasteners (level 2)  3 Inspect and repair sheet metal structures (Level 3)  4 Install conventional rivets (Level 3)  5. Hand-form, lay out, and bend sheet metal (Level 3)  6. Inspect bonded structures (level 2)  7. Inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and secondary structures (level 2)  8 Inspect, check, service, and repair windows, doors, and interiors (level 2)  9. Inspect, check, service, troubleshoot, and repair electronic flight instrument systems and both mechanical and electrical  heading, speed, altitude, temperature, pressure, and position indicating systems to include the use of built-in test  equipment (level 1)  10 Install instruments and perform a static pressure system leak test (Level 2)  11. Inspect, check, and troubleshoot autopilot servos and approach control systems (level 1)  12. Inspect, check, and service aircraft electronic communication and navigation systems, including VHF passenger address  interphones and static discharge devices, aircraft VOR, ILS,LORAN, Radar beacon transponders, flight management  computers, and GPWS. (level 1)  13. Inspect and repair antenna and electronic equipment installations (level 2)  14. Repair engine electrical system components (level 2)  15. Install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices (Level 3)  16. Repair aircraft electrical system components; crimp and splice wiring to manufacturers’ specifications; and repair  pins and sockets of aircraft connectors (level 2)  17. Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devise (Level 3)  18. Inspect, check, troubleshoot, service, and repair alternating current and direct current electrical systems (Level 3)  19. Inspect, check, and troubleshoot constant speed and integrated speed drive generators (level 1) | Clarification of FAA levels in objectives |
| IV. | A. Sheet-metal and Non-metallic Structures  B. Airframe Inspection  C. Communication and Navigation Systems  D. Aircraft Electrical Systems  E. Aircraft Instrument Systems  F. Engine Electrical Systems | **Lecture;**  A. Sheet-metal and Non-metallic Structures  B. Airframe Inspection  C. Communication and Navigation Systems  D. Aircraft Electrical Systems  E. Aircraft Instrument Systems  F. Engine Electrical Systems  **Lab will give students the opportunity to apply concepts to practical applications**  A. Sheet-metal and Non-metallic Structures  B. Airframe Inspection  C. Communication and Navigation Systems  D. Aircraft Electrical Systems  E. Aircraft Instrument Systems  F. Engine Electrical Systems | Addition of Lab content outline |
| V. | A. Airframe and Powerplant Technician General Text Book, Jeppesen, 2004  B. Airframe and Powerplant Technician Airframe Textbook, Jeppesen, 2003  C. Airframe and Powerplant Technician Powerplant Textbook, Jeppesen, 2004  D. Aircraft Gas Turbine Powerplants, Jeppesen, 1977  E. Aircraft Inspection and Repair (AC-43.13-1B &2A, FAA, supplied by Jeppesen, 1998  F. Federal Aviation Regulations, Aviation Maintenance Technician, Jeppesen, 2003  G. Aviation Mechanic Handbook, Crane, 1992  H. Airframe and Powerplant Mechanic Powerplant Handbook (AC-65-12A), FAA, 1996  I. Dictionary of Aeronautical Terms, Crane, 1991  J. Computer-Based-Training hardware and software  K. Aircraft and aircraft mock-up components  L. Microfiche Library, ATP, 2006  M. CD library, various  N. Hard-copy Service Manuals, Maintenance Manuals, Parts Manuals; various | A. Federal Aviation Regulations, Aviation Maintenance Technician, Jeppesen, 2010  B. Airframe and Powerplant Technician General Text Book, Jeppesen, 2009  C. Airframe and Powerplant Technician Airframe Textbook, Jeppesen, 2009  D. Airframe and Powerplant Technician Powerplant Textbook, Jeppesen, 2009  E. Aircraft Inspection and Repair (AC-43.13-1B &2B, FAA, supplied by Jeppesen, 2008  F. Dictionary of Aeronautical Terms, Crane, 2008  G. Aviation Mechanic Handbook, Crane, 2006  H. Aircraft Gas Turbine Powerplants, Jeppesen, 2002  I. Computer-Based-Training hardware and software  J. Aircraft and aircraft mock-up components  K. Microfiche Library, ATP, 2008  L. CD library, various  M. Hard-copy Service Manuals, Maintenance Manuals, Parts Manuals; various | Update of text publication dates |
| VI. | ***A. Writing***  1. Technical reports.  2. Complete aircraft discrepancy reports and maintenance forms and records.  3. Write discrepancy reports and maintenance records  ***B. Problem Solving***  **Quiz #1**  ***A & P Inspection***  (10 points possible)   1. If an annual inspection is completed on February 15, 2006, the next annual inspection will be due on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. ….   ***C. Skill demonstrations***  … **JOBS**: 1. Student will disassemble and inspect alternator.  2. Student will inspect bearings, general condition of alternator components and brush length.  3. Student will check rotor and stator for shorts to ground and proper resistance.  4. Student will confirm proper condition of diodes without removing diodes.  5. Student reassemble the alternator.  6. Student will then run alternator on test bench, checking for proper voltage and amperage output  7. Results of 1 to 6 entered on discrepancy sheet. | ***A.Writing***  ***Required assignments may include but are not limited to the following:***  Discrepancy reports  Laboratory reports  Log book entries  **Sample student prompt;**  Complete aircraft discrepancy reports and maintenance forms and records.  ***B. Problem Solving***  ***Required assignments may include, but are not limited to the following:***  Quizzes  Lab reports  Lab projects  **Sample student prompt;**  Diagnose power supply problem on King NavCom  ***C. Skill demonstrations***  ***Required assignments may include, but are not limited to the following:***  Lab project  Research project  Exam  **Sample student prompt;**  Repair to damaged rib using AC 43.13 1B per airworthy standards | Simplification of methods to measure student achievement |

***(Additional sheets may be attached if necessary.)***

**C.** **EXPLANATIONS.** If course modification results in changes in the program which will require use of the program description form, please give rationale.

**Please attach the complete outline before modifications to this form. If only the first page of the outline is being modified, also attach the new first page. If other pages of the outline are being modified, please attach the complete new outline.**

**Reedley College**

**SIGNATURE FORM**

*Submission/Recommendation/Action*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Course Department and Number:* | | Industrial Technology/AERO 4 | | |
| *Course Title:* | Aviation Maintenance Technology | | | |
|  |  |  | *Effective Date:* | 08/01/2010 |

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Submitted By:** | Keith Zielke | **Date:** | 01/29/2010 |

|  |  |  |  |
| --- | --- | --- | --- |
| **2. Reviewed by Department:** |  | **Date:** |  |
|  | **Department Chair’s Signature** |  |  |

**Attach department recommendation. (optional)**

|  |  |  |  |
| --- | --- | --- | --- |
| **3. Received/Reviewed by Dean of Instruction:** |  | **Date:** |  |
|  | **Dean’s Signature** |  |  |

|  |  |
| --- | --- |
| **4. Approved by Curriculum Committee on:** |  |
|  | **Date** |

|  |  |  |
| --- | --- | --- |
|  |  |  |
| **Curriculum Committee Chair** |  | **Date** |

|  |  |  |
| --- | --- | --- |
|  |  |  |
| **Vice President of Instruction** |  | **Date** |

|  |  |  |  |
| --- | --- | --- | --- |
| **5. Reviewed by Articulation Officer:** |  |  |  |
|  |  |  | **Date:** |

|  |  |
| --- | --- |
| **CSU GE Code submitted for articulation:** |  |

# COURSE ALIGNMENT

**REEDLEY COLLEGE**

**Complete only if YES was checked on New Course Proposal Packet check off sheet for a similar department or course at FCC**.

|  |  |
| --- | --- |
| FCC Course |  |

|  |  |  |  |
| --- | --- | --- | --- |
| RC Course ID |  | Course Title |  |

The RC and FCC faculty members of the Department have communicated regarding the attached course. The following determination has been made:

Check the appropriate boxes:

🞎 The course department is the same 🞎\* Prerequisites/Corequisites are the same.

🞎 The course number is the same 🞎\* The catalog descriptions are the same.

🞎 The course title is the same. 🞎\* The number of repeats are the same.

🞎 The units are the same

🞎 The lecture/lab hours are the same. (rationale if not the same)

|  |
| --- |
|  |

🞎 The grading basis is the same. (CR-NC/A-F)

🞎 It was determined that this course is a match.

*(\*Items with asterisk do not need to be an exact match.)*

🞎 The course does not match but should be evaluated for acceptance in lieu of FCC’s

|  |
| --- |
|  |

🞎 This course is not a match.

Please provide an explanation of the differences:

|  |  |  |
| --- | --- | --- |
|  |  |  |
| RC Instructor |  | Date |
|  |  |  |
| Department Chair |  | Date |
|  |  |  |
| Dean |  | Date |

**PROGRAM DESCRIPTION FORM**

**New Program/Changes to**

# PROGRAM DESCRIPTION

|  |  |
| --- | --- |
| Proposing Department: |  |
| Department Chair Signature: |  |
| Dean’s Signature: |  |

*Note: following approval, the information you provide here will appear in the college catalog. Please take care to be brief, clear and accurate*.

|  |  |  |
| --- | --- | --- |
| **Program Name\*:** |  |  |

(check one box only; submit a separate form for each program description)

🞎 Certificate of Completion

🞎 Certificate of Achievement

🞎 Associate in Arts Degree (Major)

🞎 Associate in Science Degree (Major)

🞎Transfer Preparation

🞎 Other

**Intended Outcomes** (maximum 150 words; be succinct, but be as concrete as possible; what can students expect?)

|  |  |
| --- | --- |
| **Total Units Required:** |  |

**Major Courses** (list by prefix, number, course title and units)

**Recommended Courses**

**Additional Information** (optional—maximum 100 words)

**Advice concerning Transfer**: Students planning to transfer to an upper-division program in a related major at another institution should become familiar with and try to meet the requirements of that institution. In addition to the catalog of the transfer institution, students may consult a counselor, advisor or online resources such as ASSIST ([www.assist.org](http://www.assist.org)) or CollegeSource ([www.collegesource.org](http://www.collegesource.org)) for additional guidance.

(For appropriate programs only. Optional: Add to this statement any caveats that would be important for a prospective student.)

**Advisor(s)** (list by last name only, \*\*and list at a minimum all regular faculty in the discipline)

|  |
| --- |
|  |
|  |
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|  |
|  |
|  |
|  |

\*\*List first name also when there is more than faculty member with a particular last name; show location in parentheses when primary work location is not the Reedley campus.



# CREDIT COURSE OUTLINE

##### I. COVER PAGE

| (1)  Course ID: AERO 4 |  | (2)  Course Title: Aviation Maintenance Technogy |  | (3)  Units: 17.5 |
| --- | --- | --- | --- | --- |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (4) Lecture / Lab Hours: | | |  | |  | (8)Classification: | | | | | | | | |
| Total Course Hours | | | Total Lec hours: | | 15 |  | | | | | | | | |
|  | | | Total Lab hours: | | 15 |  | | | | Degree applicable: | | | | x |
| Lec will generate |  | | | hour(s) outside work | |  | | | | Non-degree applicable: | | | |  |
| Lab will generate |  | | | hour(s) outside work. | |  | | | | Pre-collegiate basic skills: | | | |  |
|  | | | | | |  | | | |  | | | |  |
| (9)RC | | Fulfills AS/AA degree requirement: (area) | | | | | |  |
| (5)Grading Basis: | | Grading scale only | | | x |  | | General education category: | | | | | |  |
|  | | Pass/No Pass option | | |  |  | | Major: | | | Aeronautics | | | |
|  | | Pass/No Pass only | | |  |  | |  | | |  | | | |
| (6)Basic Skills Prerequisites: | | | | | | (10)CSU: | | | | Baccalaureate: | | | | x |
| (11) Repeatable: (A course may be repeated  three times) | | | | | | | | 0 |
| Basic Skills Advisories:  Eligibility for English 125, English 126, and Math 101 | | | | | | For Office Use Only | | | | | | | | |
| New |  | | Mod | | | x | Effective Date: 08/01/2010 | |
| (7)Subject Prerequisites (requires C grade or better): | | | | | | SAM Priority: C | | | | | | | DATATEL ID: 4998 | |
| Unit Code: 272040 | | | | | | | TOPS Code: 0950.00 | |
| Reporting ID: 600992.00 | | | | | | | Date Reporting ID Assigned | |
| Subject Corequisites: | | | | | | Program Status: | | | | | | | Course LHE: 26.25 | |
| Subject Advisories: | | | | | | Replaced by:  Date: | | | | | | | | |
| (12)Catalog Description:  Aero 4 meets the FAA Airframe requirements including: Sheetmetal and Non-metallic Structures, Airframe Inspection, Communication and Navigation Systems, Aircraft Electrical Systems, Aircraft Instrument Systems, Engine Electrical Systems. The completion of Aero 1,2 and 4 qualifies the student for Licenser eligibility to maintain all aircraft Airframes. | | | | | | | | | | | | | | |

|  |  |  |
| --- | --- | --- |
| Course ID: AERO 4 |  | Course Title: Aviation Maintenance Technology |

**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:

A. Meet the Federal Aviation Administration requirements for the majority of the “Airframe” subjects as specified in the Approved Maintenance Technician School.

B. Adhere to ethical and legal maintenance standards as prescribed in the Federal Aviation Administration, Federal Aviation Regulations.

C. Complete assigned inspections, modifications, repairs, calculations, and/or troubleshooting procedures, while determining if provided documentation is valid.

D. Develop acceptable documentation for return to service certification of aircraft and/or related component parts.

E. Work successfully in a team atmosphere, alternately assuming the roles of leader and of team player.

F. 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:

1. Perform airframe conformity and airworthiness inspections (Level 3)

2. Install special rivets and fasteners (level 2)

3 Inspect and repair sheet metal structures (Level 3)

4 Install conventional rivets (Level 3)

5. Hand-form, lay out, and bend sheet metal (Level 3)

6. Inspect bonded structures (level 2)

7. Inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and secondary structures (level 2)

8 Inspect, check, service, and repair windows, doors, and interiors (level 2)

9. Inspect, check, service, troubleshoot, and repair electronic flight instrument systems and both mechanical and electrical

heading, speed, altitude, temperature, pressure, and position indicating systems to include the use of built-in test

equipment (level 1)

10 Install instruments and perform a static pressure system leak test (Level 2)

11. Inspect, check, and troubleshoot autopilot servos and approach control systems (level 1)

12. Inspect, check, and service aircraft electronic communication and navigation systems, including VHF passenger address

interphones and static discharge devices, aircraft VOR, ILS,LORAN, Radar beacon transponders, flight management

computers, and GPWS. (level 1)

13. Inspect and repair antenna and electronic equipment installations (level 2)

14. Repair engine electrical system components (level 2)

15. Install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices (Level 3)

16. Repair aircraft electrical system components; crimp and splice wiring to manufacturers’ specifications; and repair

pins and sockets of aircraft connectors (level 2)

17. Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devise (Level 3)

18. Inspect, check, troubleshoot, service, and repair alternating current and direct current electrical systems (Level 3)

19. Inspect, check, and troubleshoot constant speed and integrated speed drive generators (level 1)

Skill Levels (Federal Aviation Administration Format):

1. Knowledge/Skill Level 1 C requires comprehension of general principle, but no manipulative skill application.

2. Knowledge/Skill Level 2 C requires comprehension of general principles, limited practical application and development of limited manipulative skills to perform basic operations.

3. Knowledge/Skill Level 3 C requires comprehension of general principles, performance of practical application and development of manipulative skills to minimum airworthiness standards.

|  |  |  |
| --- | --- | --- |
| Course ID: AERO 4 |  | Course Title: Aviation Maintenance Technology |

**IV. COURSE CONTENT OUTLINE**:

**Lecture;**

A. Sheet-metal and Non-metallic Structures

B. Airframe Inspection

C. Communication and Navigation Systems

D. Aircraft Electrical Systems

E. Aircraft Instrument Systems

F. Engine Electrical Systems

**Lab will give students the opportunity to apply concepts to practical applications**

A. Sheet-metal and Non-metallic Structures

B. Airframe Inspection

C. Communication and Navigation Systems

D. Aircraft Electrical Systems

E. Aircraft Instrument Systems

F. Engine Electrical Systems

Note: The Aero program courses are regulated by the Federal Aviation Administration to include approximately 50% lecture and 50% lab in all of the subjects.

|  |  |  |
| --- | --- | --- |
| Course ID: AERO 4 |  | Course Title: Aviation Maintenance Technology |

**V*.* APPROPRIATE READINGS**

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

A. Federal Aviation Regulations, Aviation Maintenance Technician, Jeppesen, 2010

B. Airframe and Powerplant Technician General Text Book, Jeppesen, 2009

C. Airframe and Powerplant Technician Airframe Textbook, Jeppesen, 2009

D. Airframe and Powerplant Technician Powerplant Textbook, Jeppesen, 2009

E. Aircraft Inspection and Repair (AC-43.13-1B &2B, FAA, supplied by Jeppesen, 2008

F. Dictionary of Aeronautical Terms, Crane, 2008

G. Aviation Mechanic Handbook, Crane, 2006

H. Aircraft Gas Turbine Powerplants, Jeppesen, 2002

I. Computer-Based-Training hardware and software

J. Aircraft and aircraft mock-up components

K. Microfiche Library, ATP, 2008

L. CD library, various

M. 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.

|  |  |  |
| --- | --- | --- |
| Course ID: AERO 4 |  | Course Title: Aviation Maintenance Technology |

**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) |  | d. written homework |
|  | b. term or other papers(s) |  | e. reading reports |
| x | c. laboratory reports |  | f. other (specify) |

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

Discrepancy reports

Laboratory reports

Log book entries

**Sample student prompt;**

Complete aircraft discrepancy reports and maintenance forms and records.

|  |  |  |  |
| --- | --- | --- | --- |
| **B. Problem Solving**  1. Computational or non-computational problem-solving demonstrations, including: | | | |
| x | a. exam(s) | x | d. laboratory reports |
| x | b. quizzes |  | e. field work |
| x | c. homework problems |  | f. other (specify) |

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

Quizzes

Lab reports

Lab projects

**Sample student prompt;**

Diagnose power supply problem on King NavCom

|  |  |  |
| --- | --- | --- |
| Course ID: AERO 4 |  | Course Title: Aviation Maintenance Technology |

|  |  |  |  |
| --- | --- | --- | --- |
| **C. Skill** demonstrations, including: | | | |
| x | a. class performance(s) | x | c. performance exam(s) |
|  | b. field work | x | d. other (specify) |

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

Lab project

Research project

Exam

**Sample student prompt;**

Repair to damaged rib using AC 43.13 1B per airworthy standards

|  |  |  |  |
| --- | --- | --- | --- |
| **D. Objective** examinations, including: | | | |
| x | a. multiple choice | x | d. completion |
| x | b. true/false | x | e. other (specify) |
| x | c. matching items |  | |

**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, ¼ short answer)

50% Lab Applications

**FOR DEGREE APPLICABLE COURSES**

|  |  |  |
| --- | --- | --- |
| Course ID: AERO 4 |  | Course Title: Aviation Maintenance Technology |

# VII. EDUCATIONAL MATERIALS

For degree applicable courses, the adopted texts, as listed in the college bookstore, or instructor-prepared materials have been certified to contain college-level materials.

|  |  |  |
| --- | --- | --- |
| Validation Language Level (check where applicable): | College-Level  Criteria Met | |
|  | Yes | No |
| Textbook | x |  |
| Reference materials | x |  |
| Instructor-prepared materials | x |  |
| Audio-visual materials | x |  |

|  |  |
| --- | --- |
| Indicate method of evaluation: | |
| Used readability formulae (grade level 10 or higher) |  |
| Text is used in a college-level course | x |
| Used grading provided by publisher |  |
| Other: (please explain; relate to Skills Levels) |  |

|  |  |  |  |
| --- | --- | --- | --- |
| ***Computation Level*** (Eligible for MATH 101 level or higher where applicable) | | x |  |
| Content | | | |
| Breadth of ideas covered clearly meets college-level learning objectives of this course | | x |  |
| Presentation of content and/or exercises/projects: | | | |
| Requires a variety of problem-solving strategies including inductive and deductive reasoning. | | x |  |
| Requires independent thought and study | | x |  |
| Applies transferring knowledge and skills appropriately and efficiently to new situations or  problems. | | x |  |
| **List of Reading/Educational Materials**  A. Federal Aviation Regulations, Aviation Maintenance Technician, Jeppesen, 2010  B. Airframe and Powerplant Technician General Text Book, Jeppesen, 2009  C. Airframe and Powerplant Technician Airframe Textbook, Jeppesen, 2009  D. Airframe and Powerplant Technician Powerplant Textbook, Jeppesen, 2009  E. Aircraft Inspection and Repair (AC-43.13-1B &2B, FAA, supplied by Jeppesen, 2008  F. Dictionary of Aeronautical Terms, Crane, 2008  G. Aviation Mechanic Handbook, Crane, 2006  H. Aircraft Gas Turbine Powerplants, Jeppesen, 2002  I. Computer-Based-Training hardware and software  J. Aircraft and aircraft mock-up components  K. Microfiche Library, ATP, 2008  L. CD library, various  M. Hard-copy Service Manuals, Maintenance Manuals, Parts Manuals; various | | | |
| **Comments:** | | | |
|  | This course requires special or additional library materials (list attached). | | |
| x | This course requires special facilities: Aero Lab | | |

**FORM A**

|  |  |  |  |
| --- | --- | --- | --- |
| **TARGET COURSE** | **AERO 4** |  | Aviation Maintenance Technology |
|  | Number |  | Title |

BASIC SKILLS ADVISORIES PAGE The skills listed are those needed for eligibility for English 125, 126, and Math 101. These skills are listed as the outcomes from English 252, 262, and Math 250. In the right hand column, list at least three major basic skills needed at the beginning of the target course and check off the corresponding basic skills listed at the left.

|  |  |
| --- | --- |
| Math Skills (eligibility for Math 101)  (as outcomes for Math 250)  x Performing the four arithmetic operations on whole numbers, arithmetic fractions, and decimal fractions.  x Making the conversions from arithmetic fractions to decimal fractions, from decimal fractions to percents, and then reversing the process.  Applying the concepts listed above to proportions, percents, simple interest, markup and discount.  x Applying the operations of integers in solving simple equations.  Converting between the metric and English measurement systems | 1. Perform the four arithmetic operations on whole numbers and fractions.  2. Convert fractions to decimals  3. Perform mathematical calculations |
| Reading Skills (eligibility for English 126)  (as outcomes for English 262)  x Using phonetic, structural, contextual, and dictionary skills to attack and understand words.  Applying word analysis skills to reading in context.  x Using adequate basic functional vocabulary skills.  x Using textbook study skills and outlining skills.  Using a full range of literal comprehension skills and basic analytical skills such as predicting, inferring, concluding, and evaluating. | 1. Read college level textbooks.  2. Federal Aviation Requirement to read, write, and speak the English language  3. Read lab job sheets |
| Writing Skills (eligibility for English 125)  (as outcomes for English 252)  x Writing complete English sentences and avoiding errors most of the time.  x Using the conventions of English writing: capitalization, punctuation, spelling, etc.  x Using verbs correctly in present, past, future, and present perfect tenses, and using the correct forms of common irregular verbs.  Expanding and developing basic sentence structure with appropriate modification.  ­ Combining sentences using coordination, subordination, and phrases.  Expressing the writer's ideas in short personal papers utilizing the writing process in their development. | 1. Complete aircraft discrepancy reports and maintenance forms and records.  2. Federal Aviation Requirement to read, write, and speak the English language.  3. Write discrepancy reports and maintenance records |

Check the appropriate spaces.

x Eligibility for Math 101 is **advisory** for the target course.

x Eligibility for English 126 is **advisory** for the target course.

x Eligibility for English 125 is **advisory** for the target course.