# Aircraft Propulsion (Internet)

**Spring, 2012**

<table>
<thead>
<tr>
<th>Instructor</th>
<th>R. Parra</th>
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<tbody>
<tr>
<td>Phone</td>
<td>214-860-8763</td>
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<td>TBA</td>
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<tr>
<td>Office Number</td>
<td>W-105B</td>
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<tr>
<td>Course Number</td>
<td>AIRP 2355</td>
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<tr>
<td>Section Number</td>
<td>6400</td>
</tr>
<tr>
<td>Class Meeting Time</td>
<td>N/A</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>Three (3)</td>
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</table>

### Course Prerequisites:

None

### Required or Recommended Materials (ISBN for Textbook):

**Textbook:**

*Aircraft Powerplants*, 7th Edition by Kroes, Wild


### Description:

In-depth coverage of aircraft engine theory and principles of operation of various types of aircraft engines including reciprocating, turboprop, turbojet and
turbofan. Topics include propellers, superchargers engine accessories, controls and instrumentation

**Course Objectives/Learning Outcomes:**

The student will be able to:

A. **Reciprocating Engines:**
   1. Explain internal combustion engine classification by cylinder arrangement and displacement.
   2. Explain engine classification by cooling method.
   3. Identify the engines in room E-03 by the above methods.
   4. Describe the theory of diminishing returns in aircraft engines.
   5. Discuss basic fuel systems, carburetors, and fuel injection systems.
   6. Identify the fuel systems in the lab and others in the textbook.
   7. Identify and discuss the ignition and starting systems in the lab and others in the textbook.
   8. Identify all parts of an aircraft engine in the lab and state its name and its function.

B. **Turbines**
   1. Describe ignition and starting systems of gas-turbine engines.
   2. Explain and name the parts of a turbofan engine.
   3. Explain and name the parts of a turboprop engine.
   4. Explain and name the parts of a turbo shaft engine.

C. **Propellers and Accessories**
   1. Discuss propeller theory, nomenclature and operation.
   2. Identify propellers in the lab and others in the textbook.
   3. Describe instrumentation systems
   4. Outline fire detection and control systems

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**Attendance Policy:**

It has been the experience of the Instructors that the students who regularly check Ecampus and complete any reading and/or lab or written assignments on
time have an excellent chance of completing this course satisfactorily. We also
have a high failure and drop rate among students who do not check in with
Ecampus regularly. The choice is yours. We consider your compliance with
check in just as serious as an employer would.

We also view regular Ecampus check in and completion of assignments on
time as a very positive commitment on the part of the student toward
completion of the course. We are always ready to provide help as needed for
these students.

There is tutoring for Aviation students is W-110, please call 214 860-8566 to
schedule an appointment.

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**Grading Scale:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100</td>
</tr>
<tr>
<td>B</td>
<td>80-89</td>
</tr>
<tr>
<td>C</td>
<td>70-79</td>
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<tr>
<td>D</td>
<td>60-69</td>
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<tr>
<td>F</td>
<td>59 or less</td>
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**Testing:**

Taking of the tests by Internet is permitted; however, technical difficulties
encountered with your computer, browser, or Internet connection are not
acceptable as excuses.

If you are not sure of your Internet equipment or skills, you are to take the test
at the Testing Center or with an Aviation tutor. It is your responsibility to
complete all testing by the due dates and requests for a written test (which can
only be taken once and with a time limit) will be considered in view of technical
trouble. If you choose a written test, you must have it completed before it is
due. The testing site is at: [http://ecampus.dcccd.edu](http://ecampus.dcccd.edu)

All exams are open book and an individual effort. There is to be no outside
reference to any source while taking a test by computer.
All tests are time limited to 60 minutes and chapter checks are limited to 10 minutes. *For each minute over the allotted time limit, 10 points will be deducted from your grade.* The penalty to your score will be posted to your grade during the week of finals.

Only your last score will be used to calculate your grade average as a reset will cancel out any previous score. Prints outs of previous test will not be accepted. The tests will not be curve.

All testing issues will be resolved for tests given early in the semester. During the last 2 weeks of school, the only test for resets will be the last test assigned and the final exam. Please plan accordingly.

**MAKEUP WORK/RETESTS:**

All tests are due no later than 11:55 p.m., the date it is due; the final is due on the last day of finals, at 11:55 p.m. Of course, uncompleted work has a value of zero (0) points.

Retests are at the discretion of the professor and allowance for work schedule, technical difficulty, child care and other issues related to last minute testing or work turn in *will not be accepted.* Others will have planned to complete their assignments and so should you. Deadlines and timeliness are considered here just as serious as they are with your present or future employer.

If you feel you have an emergency excuse that meet the criteria of the MVC Student Code of Conduct, then please request an excuse form from your Instructor. Complete the form and then submit it to your Instructor as soon as possible for evaluation, validation and consideration. Contact your Instructor to see if the excuse was accepted and what retake procedures will be used, if any.

**Evaluation Procedures:**

Semester Grade Determination:
Your grade will be based on the percentage of questions you get right.

Points will be accumulated from the completion of 4 tests and a final.

The tests are open book and an individual effort. You can take a different exam as many times as you want. There will only be a score given and no answers. The Final Exam will have a score, answers will be given, and you can take it a maximum of two times. A one time written paper and pencil test will be given if you desire one in lieu of the above procedure. You will get the last test score only, not the highest score.

Chapter checks are for your benefit and not counted towards your final grade.

You are responsible for all materials presented in the books, lectures, PowerPoint’s (if available) and videos.

Testing:

For feedback, test scores are provided for all exams. This is done because the tests are open book and you are responsible for researching and providing the correct answer. Except for Part 141 courses, you are permitted to take the exams as many times as possible during the allowed time to take the test. Your grade will be posted immediately in Ecampus as you complete it. You can access your progress in the course at any time. Only the final exam will provide the answers to the questions. Final course grades will be posted several business days after the last day of finals.

<table>
<thead>
<tr>
<th>Course Outline:</th>
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<tbody>
<tr>
<td>Subject Covered</td>
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<tr>
<td>Reciprocating Engines</td>
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</table>
Gas-Turbine Engines 2 6-10 2nd - 8 weeks
Turboprop, Shaft, and Fan Engines 3 11-18 3rd - 12 weeks
Propeller Theory and Operation/
Accessories 4 19-22 4th - 16 weeks

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Exams and Assignments:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Phase</th>
<th>Chapter</th>
<th>Test/Quiz</th>
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<tbody>
<tr>
<td>Reciprocating Engines</td>
<td>1</td>
<td>1-5</td>
<td>Feb 10</td>
</tr>
<tr>
<td>(Test 1)</td>
<td></td>
<td></td>
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<tr>
<td>Gas-Turbine Engines</td>
<td>2</td>
<td>6-10</td>
<td>Mar 09</td>
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<tr>
<td>(Test 2)</td>
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<tr>
<td>Turboprop, Shaft, and Fan Engines</td>
<td>3</td>
<td>11-18</td>
<td>Apl 06</td>
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<tr>
<td>(Test 3)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Propeller Theory and Operation/Accessories</td>
<td>4</td>
<td>19-22</td>
<td>May 04</td>
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<tr>
<td>(Test 4)</td>
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<tr>
<td>(Final)</td>
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<td>May 10</td>
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The calendar is tentative and subject to revision during the semester.

Tests and the Final Exam are weighed at 20% each. Chapter Checks are for your benefit only and not graded or weighed towards your final grade.

Institutional Policies:

Withdrawal Policy (with drop date):

If you are unable to complete this course, it is your responsibility to withdraw formally. The withdrawal request must be received in the Registrar’s Office by Apl12, Thursday. Failure to do so will result in your receiving a performance grade, usually an "F."

If you drop a class or withdraw from the college before the official drop/withdrawal deadline, you will receive a "W" (Withdraw) in each class dropped.
STOP BEFORE YOU DROP

For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions.

Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access:
https://www1.dcccd.edu/coursedrops

Repeating This Course:

Effective for Fall Semester 2005, the Dallas County Community Colleges will charge additional tuition to students registering the third or subsequent time for a course. This class may not be repeated for the third or subsequent time without paying the additional tuition. Third attempts include courses taken at any of the Dallas County Community Colleges since the Fall 2002 semester. More information is available at:
https://www1.dcccd.edu/cat0506/ss/oep/third_attempt.cfm

Financial Aid:

If you are receiving financial aid grants or loans, you must begin attendance in all classes. Do not drop or stop attending any class without consulting the Financial Aid Office. Changes in your enrollment level and failing grades may require that you repay financial aid funds.

Students who are receiving any form of financial aids should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate after the drop date are also subject to this policy.
The Texas Success Initiative (TSI)

The Texas Success Initiative (TSI) is a statewide program designed to ensure that students enrolled in Texas public colleges and universities have the basic academic skills needed to be successful in college-level course work. The TSI requires assessment, remediation (if necessary), and advising of students who attend a public college or university in the state of Texas. The program assesses a student's basic academic skills in reading, writing, and math. Passing the assessment is a prerequisite for enrollment in many college level classes. Students who do not meet assessment standards may complete prerequisite requirements by taking developmental courses in the deficient area and passing them with a grade of C or higher. Additional information is available at https://www1.dcccd.edu/cat0506/admiss/tsi_requirements.cfm.

Academic Honesty:

Academic honesty is expected, and integrity is valued in the Dallas County Community Colleges. Scholastic dishonesty is a violation of the Code of Student Conduct. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion. As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct published in the DCCCD Catalog. More information is available at https://www1.dcccd.edu/cat0406/ss/code.cfm.

ADA Statement:

If you are a student with a disability and/or special needs who requires accommodations, please contact the college Disability Services Office.

Religious Holidays:

Absences for observance of a religious holy day are excused. A student whose absence is excused to observe a religious holy day is allowed to take a make-up examination or complete an assignment within a reasonable time after the absence.

Disclaimer Reserving Right to Change Syllabus:
The Instructor reserves the right to amend this syllabus as necessary.

Classroom Policies:

Communication:

If you need to email the Instructor for any reason ensure that the subject line of your email contains the course name and number otherwise your email will be deleted.

It is your responsibility to ensure that communication with the Instructor is made and completed with the Instructor replying to your message. Leaving an email, telephone message, fax, note, etc., without the Instructor responding, is not communication, and any request made this way will not be considered. Please make sure that your phone does not block *67 calls.

Please ensure that your Personal Contact information (name, address, telephone number, etc.) is current and updated as needed in both Colleague and Ecampus (they work independently of each other and updating one does not update the other). If you fail to do this, you will still be responsible for any information sent to you by the Instructor that you do not receive in a timely manner. The instructor may choose to contact you in either of the above methods or by phone.

Your messages will usually be returned with 24 to 48 hours during the Monday thru Thursday office hours. Your messages left on Friday, the weekend and holidays, will be returned during the following weekday office hour. Phone calls and emails will be returned up until the day after finals. If you have questions or issues to address after that date, please wait until the beginning of the next semester as we will be on break.

Conduct: (Not Applicable in Internet Classes)

Students will be expelled from the classroom for disruptive or distractive behaviors. These behaviors would include: sleeping in class, chewing tobacco, talking, whispering, cell phone ringing, answering emails, feet on the
table, chair or other students, etc. Children and visitors are not allowed in the classroom. You will be asked to leave for any disruptive or distractive behaviors.

If you feel tired, ill, sleepy, etc., or feel the need to put your feet on the nearest, chair, table or person, please quietly excuse yourself from the classroom as you are not ready for classroom activities. You will be asked to leave. If you recover in a few minutes and return quietly to your seat, you will not be penalized for the brief absence. So take the initiative to correct whatever is wrong quietly and outside the classroom.

Laptops or computers may be used in class as long as they are not distracting in terms of noise, size or sight. Recording is not permitted. All cell phones and other communication devices will be turned off upon entering class and remain off during class until you leave. Under no circumstances are texting or emailing or other off subject activities permitted during class otherwise you will be asked to leave. If you feel the need to so, please quietly excuse yourself from class as you have business to attend to.

Register Early!

Otherwise classes are cancelled during enrollment week for low enrollment.

Earn the Gold!

“As you know from your own experience, a student cannot master the material covered in a course without some hard work, no matter how good the teacher and the textbook are. You must take the time to study, memorize the vocabulary and learn the
concepts. Nobody else can do that for you. If you choose to put in the effort, you’ll succeed; if you don’t you’ll fail. The responsibility is primarily yours.”

Essential of Understanding Psychology, Robert Feldman.