

I. COURSE DESCRIPTION:

Fluid power is used for power and control of many operations on aircraft. This course is intended to provide a fundamental understanding of fluid theory, fluid power, theory, component operations, circuit design and system troubleshooting.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. *Understand fundamental fluid principles.*

Potential Elements of the Performance:

Determine solutions to assorted fluid mechanics problems.

2. *Be familiar with terminology and schematics.*

Potential Elements of the Performance:

Develop with sketches and calculations, basic hydraulic circuits using proper symbols.

3. *Demonstrate knowledge of key components in fluid power systems.*

Potential Elements of the Performance:

Identify components and explain their function.

4. *Demonstrate knowledge of aircraft hydraulic systems.*

Potential Elements of the Performance:

Study schematics and manufacturers' literature.

5. *Understand basic aircraft control systems.*

Potential Elements of the Performance:

Explain sequence of operation using electrical over hydraulic schematics.

6. *Apply troubleshooting skills.*

Potential Elements of the Performance:

Solve hydraulic problems using simulated scenarios.

III. TOPICS:

1. Fluid properties statics, work and power
2. Terms and symbols
3. Components
4. Landing gear, brakes, flight control
5. Controls
6. Troubleshooting

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

“Fluid power with applications” Anthony Esposito sixth edition

V. EVALUATION PROCESS/GRADING SYSTEM:

Grading - Tests 70%

Quizzes, labs, assignments, attendance 30%

Attendance – Scheduled labs are mandatory

Tests- three tests are planned, one week notice will be given

Students who will be absent for a scheduled test must contact instructor in advance. Students absent without prior notification and a valid reason will be given a zero grade for the missed test.

Quizzes – quizzes can be held without notice, throughout the semester. Students who are absent, will receive a zero grade for that quiz

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

VI. SPECIAL NOTES:

Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. Students who engage in academic dishonesty will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.