Fluids Systems

CLASS TIME: Mondays 9AM-12:45PM
CLASSROOM: CCAFS Campus
INSTRUCTOR:
CONTACT DATA:

Textbook: "Fluid Power" - James R Daines

COURSE DESCRIPTION:
This course includes a familiarization of fluid system components, characteristics, and applications. Cryogenic and hypergolic materials and high-pressure systems are also covered.

COURSE COMPETENCIES:

Upon completion of this course the student will be able to:

1. Identify various mechanical connections
2. Demonstrate knowledge of the function of regulators, valves, and gauges
3. Identify unique safety requirements and hazards involved with various fluid systems
4. Identify and inspect components and conduits for compatibility with commodities
5. Differentiate between dedicated and multi-purpose components and conduits
6. Assemble, operate, inspect, and test fluid systems by class written instructions/procedures consistent with aerospace documentation @ KSC/CCAFS.

LAB PROJECTS: Various lab projects will be assigned and will be due on the dates indicated

TERM PROJECT :

A term project is required as part of this course. The project will consist of the design and construction of an functional pneumatic power system that might be used in the aerospace industry. The project must be functional and a presentation must be made on the use.

GRADING PROCEDURE:
The course grade will be a combination of the following components

Classroom Performance (Participation, Attentiveness, Professionalism, Teamwork)	10 pts
Mid-Term	20 pts
Lab and Term Projects	25 pts
Quizes	20 pts
Final Exam (One 2-Hour Written Examination)	25 pts
	100 pts

Grades	90 to 100 pts	A
	80 to 89 pts	B
	70 to 79 pts	C
	60 to 69 pts	D
	Below 60	F

ADDITIONAL INFORMATION:

Each Class will be a combination of lecture and "hands on" work

The Majority of the lecture notes will closely follow the book; therefore no lecture notes will be passed out for material taken from the text.

You are responsible for all notes and materials presented in class. If you miss a class, make sure that you have the class notes and any assignments or handouts.

Class material will be posted on Angel; you are responsible for checking Angel regularly to get class announcements and notes.

Attendance will be closely monitored. Irregular attendance would make it impossible to keep up with the material.

Make-up exams and incompletes will not be given. Contact instructor in advance for assistance, if you absolutely must miss a test.

Assignments turned in late will not be graded

Post exam reviews are mandatory and will start at the beginning of the next class session. It is very important to review the examination material for any mistakes that you might have made. Please notify the instructor if you will not be able to attend the exam review.

GRADING, ATTENDANCE POLICY AND WITHDRAWAL POLICY WILL BE IN ACCORDANCE WITH THE STUDENT HANDBOOK AND COLLEGE CATALOG

Fluid Systems

GENERAL SCHEDULE

Spring 2010

SUBJECT TO CHANGE

Week	Date	Content	Text (chapter)
1	1/11/200	Introduction to Fluid Power and Fluid Power Systems	1, 2
2	1/25/2010	Basic Physical Principles of Fluid Power	3
3	2/1/2010	Fluid Power Standards and Symbols (Drawing Reading)	4
4	2/8/2010	Hydraulic Power	6-13
5	2/15/2010	Hydraulic Power	6-13
6	2/22/2010	Hydraulic Power	6-13
7	3/1/2010	**Mid Term Exam**	
8	3/8/2010	Pneumatic Power	15-19
9	3/15/2010	Pneumatic Power	15-19
10	3/22/2010	Pneumatic Power	15-19
11	4/5/2010	Hypergolic and Cryogenic Flight Systems Hypergolic/Cryogenic Safety	
12	4/12/2010	Cryogenic and Hypergolic Systems Ground Support Equipment OMI Review	
13	4/19/2010	Practice Hypergolic Loading	
14	4/26/2010	**Presentation of Class Project(s)** Final Review	
15	5/3/2010	**Final Written Exam**	