

## ELMT 1305

### Basic Fluid Power

**CLARENDON COLLEGE**  
**Division of Business and Technology**

**Course Name:** ELMT 1305 Basic Fluid Power  
**Credit Hours:** 3

**Instructor:** *C.Murdock*  
**Office Location:** *Childress*  
**Phone:** *940-937-2001*  
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**Classroom Location:** Childress Center Wind Room on Thursday 5:30 to 8:20 PM

**Office Hours:** Monday-Thursday (2:30-4:00)

#### **I. Course Description:**

Basic fluid power course covering pneumatic and hydraulic systems, fluid power symbols, operating theory, components, and basic electrical and manual controls.

#### **II. Course Goal**

To provide students with a comprehensive coverage of the fundamental principles of fluid power systems commonly used throughout industry, circuit analysis, problem solving and applications.

#### **III. End of Course Learning Outcomes and Key activities:**

**WECM:** Identify fluid power symbols; demonstrate knowledge of basic fluid power theory; demonstrate knowledge of component operation; generate basic fluid power circuits; and demonstrate fluid power circuits using electrical and manual controls.

#### **Key Activities from the Wind Turbine Technician Skill Standards:**

- (4.1) Operate and maintain hydraulic systems
- (4.2) Operate and maintain heating/cooling system

Recognized by the Texas Skill Standards Board: <http://www.tssb.org>

**IV. Tentative Course Content:**

Textbook(s) (Required):

1. Fluid Power, Hydraulics and Pneumatics. By James R. Daines, The Goodheart-Willcox Company, Inc., 2009  
ISBN 978-1-60525-081-6
2. Fluid Power, Hydraulics and Pneumatics Laboratory Manual. By James R. Daines, The Goodheart-Willcox Company, Inc., 2009  
ISBN 978-1-60525-082-3

Tentative Fall 2011 Course Schedule ELMT 1305 Basic Fluid Power	
<b>Week Of</b>	<b>Lecture Topics</b>
Thursday, September 1, 2011	Week 1: Introduction, course objectives, Review The Fluid Power Field
September 8, 2011	Fluid Power Systems
September 15, 2011	Basic Physical Principles
September 22, 2011	Fluid Power Standards and Symbols, Safety and Health
September 29, 2011	Hydraulic Fluid
October 6, 2011	Source of Hydraulic Power
October 13, 2011	Fluid Storage and Distribution
October 20, 2011	Actuators
October 27, 2011	Controlling the System, Accumulators
November 3, 2011	Conditioning the System Fluid
November 10, 2011	Applying hydraulic Power
November 17, 2011	Compressed Air, Source of Pneumatic Power
November 24, 2011	Thanksgiving Holiday
November 31, 2011	Controlling a Pneumatic System, Applying Pneumatic Power
December 6, 2011	Review for final
December 12, 2011	Final Exam

Final exam on date/time as posted on Final Exam Schedule on Clarendon College website

## V. Course Requirements

Course requirements include problems and exercises, unit tests and final examinations derived from lectures and labs. Assignments will be due one week from the day they are assigned unless special instruction is given by the instructor.

Methods and components of evaluation and grading are listed in the following:

Unit tests:	20%
Problems and exercises:	20%
Student Evaluations:	20%
Final:	40%
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Total:	100%

The final semester grades will be determined based upon the accumulated points you earn from the above categories:

(100-90) = A

(89-80) = B

(79-70) = C

(69-60) = D

Below 60 = F

Other Requirements:

- Regular class attendance is required. You will receive a daily attendance and participation grade between 90- 100 each day you are in class based on your active participation and the quality of your contribution. If you are not in class you will receive a zero. You may notify me if you know that you are going to miss class and you will be allowed to make up work for a grade of 70. Please contact me in person or through email. Proper business email contains a subject line, salutation (Hello Mr. Murdock), message, and closing. Do not leave voicemail nor ask me to return calls. All communication with me will be face to face or through my business email.
- No late homework will be accepted
- Personal tools and supplies include: a scientific calculator, pencils, paper (recommend graphing or engineering paper), etc...

A student's final grade will be made available through Student Portal, accessible through the Clarendon College website.

## **Classroom Policies:**

### *Classroom Conduct*

Failure to comply with lawful direction of a classroom instructor is a disruption for all students enrolled in the class. Cheating violations include, but are not limited to: (1) obtaining an examination, classroom activity, or laboratory exercise by stealing or collusion; (2) discovering the content of an examination, classroom activity, laboratory exercise, or homework assignment before it is given; (3) using an unauthorized source of information during an examination, classroom activity, laboratory exercise, or homework assignment; (4) entering an office or building to obtain unfair advantage; (5) taking an examination for another person; (6) completing a classroom activity, laboratory exercise, homework assignment, or research paper for another person; (7) altering grade records; (8) using any unauthorized form of electronic communication device during an examination, classroom activity, or laboratory exercise; (9) Plagiarism. Plagiarism is the using, stating, offering, or reporting as one's own, an idea, expression, or production of another person without proper credit.

Disciplinary actions for cheating in a course are at the discretion of the individual instructor. The instructor of that course will file a report with the Dean of Students when a student is caught cheating in the course, whether it be a workforce or academic course. The report shall include the course, instructor, student's name, and the type of cheating involved.

Students who are reported as cheating to the Dean of Students more than once shall be disciplined by the Dean. The Dean will notify all involved parties within fourteen days of any action taken.

### *American with Disabilities Act Statement:*

Clarendon College provides reasonable accommodations for persons with temporary or permanent disabilities. Should you require special accommodations, notify the Office of Student Services (806-874-3571 or 800-687- 9737). We will work with you to make whatever accommodations we need to make.

### *Dropping a Course:*

A student who is enrolled in a developmental course for TSI purposes may not drop his/her only developmental course unless the student completely withdraws from the college. A student may drop any other course with a grade of "W" any time after the census date for the semester and on or before the end of the 12<sup>th</sup> week of a long semester, or on or before the last day to drop a class of a term as designated in the college calendar. The request for permission to drop a course is initiated by the student by procuring a drop form from the Office of Student Services. (Refer to other policies concerning this issue in the current college catalog online.)

### *Withdrawal from College:*

When a student finds it necessary to withdraw from school before the end of the semester, he or she should obtain a withdrawal form from the Office of Student Services. Students may also withdraw from the college by sending a written request for such action to the Registrar's Office. The request must include the student's signature, the student's current address, social security

number and course information details. Students who withdraw after the census date for the semester and on or before the end of the 12<sup>th</sup> week of a long semester, or on or before the last day to drop a class of a term as designated in the college calendar will be assigned a grade of “W.”

*Classroom requirements:*

The operation of cell phones, MP3 type devices, personal computers, or any other such devices is strictly prohibited during class sessions. The result of such use will result in a zero grade for the event (quiz/test) for that day including final exam day. Cheating, plagiarism or other dishonest acts shall be dealt with to the extent of dismissal from the class permanently on a case by case basis. Under no circumstance will an individual be exonerated after a second incidence, but will be immediately dropped.

Any missed quizzes or exams must be taken within 1 week of the date missed. It is the student’s full responsibility to make arrangements to make up a quiz or exam at a time agreeable to the instructor. The Final exam will be taken on the prescribed day or arranged day prior to the final exam. No exceptions.