Course: MECH 250                Fluid Power with Controls

Credits: 2

Contacts: 1 Lecture Hour and 2 Lab Hours per Week

Course Description: Lecture---lab course, which introduces the student to fluid power. Emphasis is placed on hydraulics. Included are fluid power components, elementary controls, systems, troubleshooting, and fundamental fluid science principles.

Course Prerequisites: None

Required Textbooks: Introduction to Fluid Power, Johnson, Delmar, 2002

Course Web Site: Reference materials, handouts, assignments, instructor messages and other information are provided through the FerrisConnect site for this course.

Required Materials: • Scientific calculator with trig functions
                   • Safety glasses
                   • Engineering tablet or grid paper (note spiral bound notebook paper)

Reference Materials: FerrisConnect website for course

Other suggested or supplemental materials Fluid Power Template (46R)

Instructor: Travis Raspotnik

Office: KCTC C310A
Phone: 616-364-8421 Ext: 2689
Email: travirsaspotnik@kentisd.org          Alt. Email: travirsaspotnik@kentisd.net

Office Hours:

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<th>Day</th>
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<tr>
<td>Monday</td>
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Student Learning Outcomes

Students satisfactorily completing this course will achieve/complete/demonstrate:

- Set up and run hydraulic and pneumatic circuits with and without elementary electrical control
- Identify physical fluid power components and understand their function within a system
- Create and interpret the function of fluid power schematics

Course Assessments

The student’s progress will be assessed through the completion of weekly lab assignments where the students will work in small teams on hydraulic and pneumatic trainers. The labs will include setting up and running a variety of fluid power circuits. Regular quizzes (administered via FerrisConnect) plus midterm and final exams will be used to gauge the student’s understanding of fundamental fluid power concepts and knowledge of each component type and how they fit into fluid power systems.

- FerrisConnect Quizzes (homework) 15% of final grade
- Lab Write---ups 50% of final grade
- Mid---term Exam 15% of final grade
- Final Exam 20% of final grade

Course Policies

| Attendance: | At Ferris and many places of employment, tardiness and absenteeism communicates lack of interest and lack of dependability. Attendance is expected for this class, as it would be in the student’s place of work. As such, missing a lab will result in forfeiture of the points available for that lab assignment. Exceptions to this policy will be granted for extenuating and/or important circumstances only if prior notice is given to the instructor. (Work is not considered an excuse for missing class). If, for any reason, you cannot attend class, it is your responsibility to obtain all pertinent class information. |
| Assignment: | All lab write---ups are due when at the end of each week’s lab meeting unless notified by the instructor during the lab session. When additional time is granted, the assignment will be due at the time specified by the instructor. |
| Behavior: | Learning happens when you are present in mind, body and spirit. University students are expected to engage in thoughtful discussions in class. You are expected to bring content related issues to class for discussion. It is expected that you will have read assigned materials before attending class so that you will have a knowledge base from which to draw for those discussions. Disruptive behavior, vulgar language, sexual innuendo and/or harassment, safety violations, horseplay, etc. will not be tolerated in the classroom or laboratory. All cell phone ringers must be silenced during lecture and lab periods |
### Exams and quizzes:
Quizzes taken on FerrisConnect are open book and meant to gauge the students understanding of each chapter’s material. Tests are closed book, but formula sheets or notes may be allowed for some/all of the tests at the instructor’s discretion. Tests are meant to challenge the students in order to assess what they have learned and can put into practice.

### Ferris Connect and e-mail:
All Students have e-mail accounts via the campus email system (MyFSU). You should check your email regularly. The campus email system may be used to send out classroom information and/or assignments. If you cannot access your Ferris e-mail account, please see me and I will be glad to help you get started. Also, FerrisConnect will be used to deliver all handouts and to administer regular quizzes. Students will be given basic instruction on the use of FerrisConnect and will be expected to check regularly for additional material.

### Grading Percentage:
- A = 93 – 100, A− = 90 – 92
- B+ = 87 – 89, B = 83 – 86, B− = 80 – 82
- C+ = 77 – 79, C = 73 – 76, C− = 70 – 72
- D+ = 67 – 69, D = 63 – 66, D− = 60 – 62
- F = 0 – 59

Final percentages are rounded to the nearest whole percent to determine the final letter grade.

### Integrity:
All of your assignments must be developed independently or with your assigned team. Cheating of any type will result in loss of credit or more serious consequences.

### Student Responsibilities:
Assistance in this course is available to help you with academic and other difficulties you may be experiencing. It is your responsibility to seek help.

1. Office hours – I will be happy to work with you during regularly scheduled office hours.
2. Pre-scheduled assistance outside of normal office hours (as my schedule permits).
3. Meet with your Academic advisor.
4. Meet with an educational counselor.
5. The ACADEMIC SUPPORT SERVICES CENTER offers free tutoring and assistance for test anxiety, study skills, writing skills, exam preparation, content reading, personal growth, and classroom skills. The Center is located in Room 1017 of the Arts and Sciences Commons Buildings and they can be reached at 591-3543.

### Disability Services:
Students with a documented disability (physical, learning, mental, emotional) requiring a classroom accommodation should contact the Disabilities services Office, located in Starr 317, ext. 3772 or STR 310, ext. 3772.

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**Course Schedule**

Refer to the semester plan handed out to you for the schedule of topics and homework assignments.

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