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save you TIME AND MONEY!

Iowa Central Community College
Industrial Technology Department



Course Syllabus

Course Name: Principles of Engineering	
Course Number: EGT-410	
Class Location and Time:	
Room: Science 302	Day: TR Time: 9:10am-12:30pm
Room:	Day: Time:
Course Start Date: 1/16/2009	Course End Date: 5/7/2009
Instructor: Carl Gross	Office Location: SC-301A
E-mail Address: gross_c@iowacentral.edu	Office Hours: Days: MW Times: 1:50-2:50
Phone: (515) 574-1227, x or 800 362-2793, x 1227	Days: Times: Days: Times:
Final Exam: Day: Wednesday Date: 5/5/2010 Time: 1:10-2:40 pm	
Departmental Assistance: For help with course selection, class registration, transfer information, and other academic assistance, please contact the department associate, Phyllis Minnihan in AST 117 at 515-574-1903 or by email to Minnihan@iowacentral.edu	

1. Total Semester Hour Credit: 3
2. Total Contact Hours per Semester: Lecture: 36 Lab: 36 Clinical:
3. Catalog Description:
This course is an introduction to the opportunities and responsibilities of Engineering. Students will learn the fields of Engineering, and explore Engineering Careers. They will complete projects from areas such as Design, Engineering Systems, Thermodynamics, Fluid Systems, Electrical and Control Systems, Strength and Properties of Materials, and Production Process and Quality Control.
4. Prerequisites and/or Co-requisites: None
5. Textbook Required: None
6. Supplemental Materials Required:
 - Ti-92 calculator or equivalent is highly recommended
 - Engineer Notebook – may be any notebook with permanent pages
 - USB flash drive

7. College Procedures:

- **Children in the Classroom:**

- Students are not allowed to bring children into the classrooms, labs, shops, or hallways during class times.
- **Electronic Devices in the Classroom:**
 - Cell phones, pagers, timers and similar devices are not to be operational during classroom, lab, and clinical times.
- **Inclement Weather Statement:**
 - The final decision to attend college classes can only be made by the individual based on their specific extenuating circumstances that may make it hazardous for them to travel.

8. Additional Course Information:

- Attendance
 - Attendance is required for success. Please be sure to attend class regularly. Refer to your student handbook for college attendance policy.
- Late Work
 - Is **NOT** accepted unless arrangements are made with the instructor **prior to the due date.**
- Make-up Work
 - Arrangements must be made with the instructor **prior to due date** if possible.
 - At minimum a phone call, e-mail, or Facebook message must be received by the end of the day to be eligible for make-up work.
 - When available, make-up work will likely be different from in-class versions.
 - Make-up work will be evaluated on a case-by-case basis.

9. Grading Policy:

Letter Grade	Minimum Percent
A	>90
B	>80
C	>70
D	>60
F	<60

Grade Weighting	
Homework	40
Quiz	20
Notebook	10
Midterm	15
Final	15

10. Course (Student) Outcomes:

- Students will demonstrate the ability to use critical thinking skills
- Students will demonstrate the ability to communicate effectively.
- Students will demonstrate personal responsibility.
- to explain the different types of engineering and careers in engineering.

- to explore the basic tools and functions of each engineering field.
- to learn and utilize engineering technical writing and oral data presentation.
- to analyze the legal, social and ethical issues related to engineering.

Expected performance outcomes (measurable): a, b, c,

- a. The student will demonstrate knowledge of the definition and types of Engineering, the workings of the engineering team and careers in Engineering.
- b. The student will plan and compose a written technical report about a career field in engineering.
- c. Students will design and deliver a presentation utilizing appropriate support materials about research they have conducted.
- d. Students conduct an energy analysis on a section of their home.
- e. Students will design, diagram and implement a program using robotic systems, and defend their design solution in an oral presentation.
- f. Students will prepare and present a mathematical analysis of a truss design as part of a 5 minute oral presentation about their bridge design.
- g. Students will give an oral presentation on the production processes used to create products from a category of materials and a demonstration about one of the processes.
- h. Students will prepare and defend a position on an ethical engineering dilemma.
- i. Students will design and build a device for the purpose of conducting experiments of acceleration, displacement, and velocity.

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11. Learning Strategies (Instructional Methods):

- Lecture, hands-on lab exercises, videotapes, guest speakers, team exercises, unit problems, worksheets, computer-based problem solving.