**MONTGOMERY COLLEGE, ROCKVILLE**

**Department of Engineering and the Physical and Computer Sciences.**

**ENES 100 – Introduction to Engineering Design**

Syllabus

**COURSE DESCRIPTION: ES 100 - 3 Credits - Introduction to Engineering Design** involves an overview and application of the basic tools and techniques of engineering design and graphic communications, including CAD, engineering reports, cost analysis, and use of software tools. Group projects are assigned. Topics include three dimensional graphics, solid modeling and engineering design. *Prerequisite=* ***MA100 (Intermediate Algebra) or higher****.*

**INSTRUCTOR:** Dr. Uche Abanulo

**CLASS MEETINGS: Times:** TR, 11:00 am – 12:50 pm, 1pm – 2:50pm

**Course Locations:** SC 428

**OFFICE HOURS:** Courses: MW 11:00am – 12:30pm;

Advising Priority: MW 12:30pm – 1:30pm

**OFFICE LOCATION** Room 436j

**TELEPHONE** 240-567-4120;

**e-mail:**  [uche.abanulo@gmail.com](mailto:uche.abanulo@gmail.com) [Uchechukwu.Abanulo@montgomerycollege.edu](mailto:Uchechukwu.Abanulo@montgomerycollege.edu)

**WEBPAGE:** <http://myspace.montgomerycollege.edu/uchechukwu.abanulo>

**TEXT:** Introduction to Engineering Design, Montgomery College Engineering Faculty

**DEPT. WEBSITE:** http://www.mc.cc.md.us/Departments/phengrv/

**REFERENCES:** 1. Engineering Your Future: Brief Student’s Guide, by Oakes, Leone and Gunn, Great Lakes Press

2. EXCEL for Engineers and Scientists, by Sylvan Bloch, John Wiley & Sons, Inc.

3. 21 Things every Engineer Should Know, by Pat Remick and Frank Cook, Kaplan AEC Education

4. Parametric Modeling with Creo Parametric 1.0. Author: Randy Shih, publisher: SDC

**COURSE OBJECTIVES:**

Upon completion of this course, the successful student should be able to:

1. Engineer their future to become engineers in future
2. Design and assemble a machine or a structure to perform a specific task in a team effort.
3. Apply the basic laws of physics to the design project.
4. Translate the design equation into a computer spreadsheet (Excel) and perform a graphic analysis.
5. Select the most cost effective design solution which can be completed within the time constraint.
6. Understand the operation of a parametric computer-aided design system (Pro/Engineer) and use it to create parts, assemblies, and drawings.
7. Prepare a design report using a word processor (Word) and present the design project using a presentation tool (PowerPoint

**COURSE REQUIREMENTS AND GRADING PROCEDURES:**

|  |  |
| --- | --- |
| **Point distribution will be as follows.  Description** | **Total Points** |
| Labs (10) | 30 |
| Test (1) | 7 |
| Car Project | 5 |
| Academic Plan | 8 |
| Attendance and Participation | 10 |
| Final Project | 40 |
| Total | 100 |

Final grades will be assigned as follows:

A 90% - 100%

B 80% - 89%

C 70% - 79%

D 60% - 69%

F 0% - 59%

**Final Project:**

The final project will be carried out in teams of three or four. It will consist of several assignment constructive assignments which will aid each team in the design and manufacture of the final product. Students will be given handouts pertaining to each stage of the project.

**Withdrawal**

Please check MyMC for YOUR Specific Refund Deadlines

**ATTENDANCE:**

Attendance is Mandatory in this course. Repeated absences will adversely affect your grade and performance. Lateness exceeding 15minutes is considered absence.

**Labs:**

Labs involving Creo and Excel will be assigned. Penalties will be given for late submissions up to a given period.

**Students with Disabilities Statement:**

We are committed to accommodating students with disabilities. If you are a student with a disability and need reasonable accommodations, please contact the Office of Student Support Services.

#### EXAM MAKE-UP POLICY

1. Missing an exam is a very serious matter, and notice of the necessity to miss an exam must be discussed with the instructor and arrangements made for a make-up time.  **No make-up exams will be given without prior arrangements. Illness excuses need to be verified by a doctor’s note. An instructor is under no obligation to give a make-up exam or to give the exam missed as the scheduled make-up exam. Normally, make-up exams will be harder than the original.**
2. In special circumstances, such as a long-term illness, contact me to see about make-up arrangements.

#### Academic Dishonesty

Any student caught guilty of academics dishonesty fails this course automatically.

1. Examples of Academic Dishonesty:
   1. Exchanging information during an examination or copying from another’s paper.
   2. Exchanging a calculator during an examination or quiz.
   3. Using “crib sheets” or any other unauthorized aids or materials during an examination.
   4. Dishonesty obtaining, using or possessing copies of an examination or providing or receiving information contained therein.
   5. Completing an examination in the name of someone else.
   6. Plagiarizing, either by submitting another’s paper as one’s own work or by including in one’s work passages of another author without giving due credit, i.e., quoting or paraphrasing without proper citation of source.
   7. Submitting another’s project, written or otherwise, and passing it off as one’s own.
   8. Any other act of attempted deception or offer of property or favors designed to affect the evaluation of academic performance.

**Other Issues:**

* + 1. Please turn your cell phones off before entering the classroom. Students who disrupt the classroom with their cell phones will be penalized.
    2. Tardiness will not be tolerated in the classroom. If you are over 5 minutes late to class, please kindly sign the “Book of Excuses” before getting to your seat.
    3. NO EATING or DRINKING is allowed in CLASS. Please put away all your food or drinks before entering the classrooms.
    4. Disorderly students may be politely asked to leave the classroom.

**INCLEMENT WEATHER PROCEDURES:**

Check the college website. Do not assume that Montgomery College is closed if the county public schools are. Announcements will be made beginning at approximately 6:30 a.m. through 9:00 a.m. for day classes. Announcements for the closing of evening classes will be made beginning at approximately 4:00 p.m. or earlier if possible. When the College is closed, all activities will also be canceled unless an announcement is made to the contrary. Announcements will also be made on weekends if the college must be closed.