Physics 115 (Engineering Graphics)

COURSE AND INSTRUCTOR INFORMATION:

Section: 01
Meeting Time: Tuesday 6:00 pm – 7:55 pm
Location: Anderson 1 (alt. Merion 109)
Instructor: Dr. Albert Koenig
Office Location: Schmucker Science South, 4th Flr. by Dr. Chyba's office
Office Telephone: 610-436-6992
Email: akoenig@wcupa.edu
Office Hours: Tuesday: 8:00 pm – 8:45 pm
           or by appointment

COURSE DESCRIPTION

PHY115 Eng. Graphics is a practicum covering the development of engineering graphical skills based on the use of SolidWorks software accessed from the WCU computer terminals. In its fullness, it is a two semester course that will cover the entire book and include student projects. The beginning of the course will utilize SketchUp 8 freeware as a convenient starting point. All work is to be saved to the student's personal account.

EXPECTATIONS

You have two hours to work through the assigned activity. The instructor will demonstrate the particular approach to sketching and use of tool bars highlighted in the exercises. It will be helpful if you can **read the exercises for the day ahead of class, so that you can work efficiently.** A hardcopy of your work shall be turned-in to the instructor at the conclusion of each class, unless the assignment is for a longer duration.

REQUIRED COURSE MATERIALS

- Engineering & Computer Graphics Workbook Using SolidWorks 2014 (sold at WCU bookstore)
- Calculator and a USB-Thumb drive

SPECIFIC PRACTICUM OBJECTIVES

Goals are:
- To get a hands-on experience with engineering sketching tools
  - To learn the proper techniques for efficient sketching, including selection of views, dimensioning, manipulating and creating a 3D object.
  - To develop an ease with finding tool bars, extruding an object and changing its features.
  - To render a complete 3D object that is accurate and properly depicts the design intent of its creator.
- To gain valuable engineering skills that can be carried over to the work world.

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CONTACT POLICY

Please include **PHY115 and our meeting time** in the subject line of any e-mail. I will try to respond to an e-mail by the end of the next business day.

ASSESSMENT

The grade assessment of your work will be based on the following:

- Sketch-Up Assignments………… 30%
- SolidWorks Exercises ………… 56%
- Student Project ………………… 14%

ASSIGNMENTS, EXERCISES & STUDENT PROJECT

The discussion below addresses the format for the submission of assignments, exercises and student project.

i. Assignments:

Under Sketch-Up activities, there will be a total of (3) assignments, which may include designing shelving, a pavilion, and a geothermal pipe field layout. Each of these assignments will be demonstrated, but left to the student to customize and print onto the Project Sheet as a submission. The submissions will be reviewed by both the instructor and by student peers for their comments, forming the basis for the assignment grade.

ii. Exercises:

Under SolidWorks activities, the submission of each Exercise will count 4% of the grade, for a total of 56%. This insures that students are progressing through the Workbook and learning proper graphical techniques along the way. Each submission will be on a Project Sheet properly identifying that particular exercise.

iii. Student Project:

For a student project, the instructor will allow the student the freedom to take-on his/her particular design challenge using either Sketch-Up or SolidWorks software. Students must submit their project design challenge to the instructor by Wk. 11 for approval by the Instructor. The final submission is scheduled by Wk. 14. This original work will merit 14% of the grade.

ATTENDANCE POLICY

You must strive to be on-time for the beginning of class to avoid having to repeat critical information and wasting precious class time. With that said, I am mindful of traffic congestion around rush hour and other extenuating circumstances that may warrant excuse for being late. Do your best to be on-time.

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WEATHER POLICY

Should the university close due to weather during a class period, the class will be continued the following week.

E-MAIL POLICY STATEMENT

It is expected that faculty, staff, and students activate and maintain regular access to University provided e-mail accounts. Official university communications, including those from your instructor, will be sent through your university e-mail account. You are responsible for accessing that mail to be sure to obtain official University communications. Failure to access will not exempt individuals from the responsibilities associated with this course.

ELECTRONIC DEVICES POLICY

In order to create an environment conducive to learning, please arrange for all electronic devices to be set in silent/vibrate mode and put away. If you need to use a device to accommodate a disability, please see below. Please observe that students may not **text or use their cell phones** during the class, unless it's an emergency.

DISABILITY STATEMENT

If you have a disability that requires special accommodations under the Americans with Disabilities Act (ADA), please present your letter of accommodation and meet with me as soon as possible so that I can support your success in an informed manner. Also, contact the Office of Services for Students with Disabilities (OSSD) at (610) 436-2564, their email address is ossd@wcupa.edu, and their website is www.wcupa.edu/ussss/ossd. Sufficient notice is needed in order to make the accommodations possible. Both the WCU and I desire to comply with the ADA of 1990.

LAB SCHEDULE

Week #		Laboratory Experiment
1	August 25	Introduction & Download of SketchUp 8
2	September 1	Demonstration of SketchUp & Assignment 1
3	September 8	SketchUp Review & Assignment 2
4	September 15	SketchUp Review & Assignment 3
5	September 22	Collection of Assignments & Review
6	September 29	Introduction to SolidWorks
7	October 6	**NO CLASS (FALL BREAK)**
8	October 13	SolidWorks Ex. 1.1 – 1.2
9	October 20	SolidWorks Ex. 1.3 – 1.4

10	October 27	SolidWorks Ex. 2.1 – 2.2
11	November 3	SolidWorks Ex. 2.3 – 2.4
12	November 10	SolidWorks Ex. 3.1 – 3.2
13	November 17	SolidWorks Ex. 3.3 – 3.4
14	November 24	**NO CLASS (Student Project)**
15	November 30	SolidWorks Ex. 4.1 – 4.2

ACADEMIC INTEGRITY & CONDUCT

I have a zero tolerance policy for breaches of academic integrity. Breaches of academic integrity will be investigated and sanctions imposed to the full extent available under University policy. For questions regarding the university Academic Dishonesty, the No-Grade Policy, Sexual Harassment, or the Student Code of Conduct, students are encouraged to refer to their major department's handbook, the Undergraduate Course Catalogue, the Rams Eye View, or the University Web Site. Please understand that improper conduct in any of these areas will not be tolerated and may result in immediate ejection from the class.

UNIVERSITY SANCTIONED EVENTS

If you are participating in a University sanctioned event during one of the labs you must notify me in advance. You must provide some form of documentation. For details please see the discussion of University Sanctioned Events in the WCU undergraduate catalog.

PUBLIC SAFETY

The Emergency Communications Committee recommends that the number of WCU's Department of public safety be available on every course syllabi. WCU Department of Public Safety: **(610) 436-3311**.