

# PHY 116: Engineering Graphics 2 Spring 2015

**Tuesdays 6-8 PM in AND 1 (unless otherwise announced)**

**Course description:** This is the second part of a two-semester course that focuses on engineering drawing & design. A requirement for enrolling in this course is satisfactory completion of PHY 115 “Engineering Graphics I.” This class will be similar in many ways to the first semester, but we will deal with slightly more advanced topics, for example simulations and assembly drawings. The majority of the class will focus on working with the Solidworks CAD software.

**Instructor: Dr. Robert Thornton**

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Office hours: MW 10:00-11:30 a.m.; Tu/Th 1:00 - 2:00 PM; also by appointment

## **Textbooks:**

*Engineering Graphics Essentials* by K. Plantenberg, (4<sup>th</sup> ed), SDC publications.

*Engineering & Computer Graphics Workbook Using Solidworks 2012* by Barr, Krueger, Juricic, and Aanstoos.

## **Required course materials (to be brought to every class):**

- Blank engineering (gridded) paper, pencil, eraser, ruler.
- A removable media storage device, such as a USB flash drive
- All of the solidworks parts you made last semester!!

**Course Web page:** Most of the necessary course documents (syllabus, homework assignments, solutions, etc.) will be posted on D2L. Remote access to Solidworks is available at <http://access.wcupa.edu>.

## **Grading:**

Quiz 1: 25%; Quiz 2: 25%

Homework: 25%

Design Project: 25%

**Attendance:** Since the course only meets once a week, attendance is crucial. Attendance will be taken at each lecture. If you are not there for the *entire* lecture, you will be marked absent. One unexcused absence is allowed. After you miss more than one with no excuse, each additional unexcused absence will result in your course grade going down 1/3 of a letter grade (e.g., B to B-). If you have good reason to miss class, your absence will be considered an excused absence and will not lower your grade. Excused absences are limited to those due to participation in university sanction events (see policy in the WCU undergraduate catalog) or those accompanied by written confirmation from a doctor, the Dean of Students, etc. An unexcused absence on the day of a quiz or exam will result of a grade of zero for that

quiz or exam. Finally, whether your absence is excused or unexcused (or if you are late to class), you will be responsible for any material covered and any announcements that were made in class that day.

**Homework:** There will be weekly assignments over the majority of the semester. Most of these assignments will be done individually by all students. After the design projects have started, assignments will be done as groups and will be more subjective. Assignments are due at the beginning of class on the specified due date. Because of the unique structure of this class, no late assignments will be accepted unless you have already made a prior arrangement with me.

**Tentative list of topics covered:**

- Advanced SW part modeling
- Assemblies in Solidworks
- Drafting standards (review) & part drawings on Solidworks
- Assembly drawings
- Design tables and mass properties
- Simulation & Motion studies
- Fasteners
- High resolution rendering with PhotoWorks
- Design projects

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**Disability**: West Chester University is committed to making accommodations for persons with disabilities. Please make your needs known by contacting your instructor and the Office of Students with Disabilities. Sufficient notice is needed in order to make the accommodations possible. The University desires to comply with the ADA of 1990.