

# PHY 115: "Engineering Graphics 1" - Fall 2016

**Tuesdays 6-8 PM in MER 109 (or AND 1)**

**Course description:** This is an introductory course that focuses on engineering drawing, a necessary skill for communicating design ideas. We will start of learning the basics of hand-sketching in the first half of the semester, then move on to 3D computer aided design (CAD). For the latter, we'll use the software package Solidworks. To a lesser degree, we will talk about the practical side of engineering drawing and touch on engineering design in general, e.g., the design process, manufacturing methods, and material selection.

**Instructor: Dr. Robert Thornton**

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Office hrs: M 8:30-9:30, Tu 3:00-4:00, W 3:00-4:00, F 1:00-3:00

**Textbooks (required):**

*Engineering Graphics Essentials* by K. Plantenberg, (4<sup>th</sup> ed), SDC publications. Textbook should either (a) be NEW or (b) have no pages torn out and no writing/drawing on exercises.

*Engineering & Computer Graphics Workbook Using Solidworks 2013* by Barr, Krueger, Juricic, and Aanstoots.

**Other Required supplies (to be brought to every class):**

- Gridded paper, pencil, eraser, and ruler that has inches AND millimeters.
- A removable media storage device, such as a USB flash drive

**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:**

Quizzes - approx 3: 50%

Homework: 25%

Final Exam: 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 absence is allowed. After you miss more than one class, 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, but the absence will still be counted as your one allowed absence. 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 approximately 10 homework assignments throughout the semester. Homework assignments are due at the beginning of class (6:00 pm) on the specified due date. Assignments may consist of detailed hand sketches, computer exercises, or a design topic. Because of the unique structure of this class, no late assignments will be accepted unless you have already made a prior arrangement with me.

**Course Coverage** (\*\*might be revised as the semester progresses):

Week 1 (Aug 30)	Introduction, Syllabus, Orthographic projection & multi-views
Week 2 (Sep 6)	Fundamental orthographic projection (cont'd)
Week 3 (Sep 13)	Intermediate orthographic projection & auxiliary views
Week 4 (Sep 20)	Dimensioning I
Week 5 (Sep 27)	Quiz (material up to and including auxiliary views)
Week 6 (Oct 4)	Dimensioning II
Week 7 (Oct 11)	Fall break
Week 8 (Oct 18)	Section views
Week 9 (Oct 25)	Sketching in 3D
Week 10 (Nov 1)	Quiz (Dimensioning & section views)
Week 11 (Nov 8)	Intro to Solidworks
Week 12 (Nov 15)	Solidworks Lecture #2
Week 13 (Nov 22)	Solidworks Lecture #3
Week 14 (Nov 29)	Quiz (Solidworks)
Week 15 (Dec 8)	Review
Final Exam (Dec 13)	Final Exam 8:30 p.m. – 10:30 p.m.

**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.

**Other Policy:** For questions regarding 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 class.

**E-Mail and Communication:** 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.

**Intellectual Property Statement:** The instructor for this course utilizes copyrighted materials under the "Freedom and Innovation Revitalizing United States Entrepreneurship Act of 2007" (Fair Use Act). Apart from such copyrighted materials, all other intellectual property associated with this course is owned and copyright protected by the instructor, including, but not limited to, lectures, course discussions, course notes and supplementary materials posted or provided to students authored by the instructor, assessment instruments such as quizzes and exams, and Power Point presentations. No recording, copying, storage in a retrieval system, or dissemination in any form, whether electronic or other format, by any means of the intellectual property of the instructor, either in whole or in part, is permitted without the prior written permission of the instructor. When such permission is granted, it must specify the utilization of the intellectual property and all such permissions and waivers shall terminate on the last day of finals in the semester in which this course is held.

Links and references to on-line resources provided by the instructor may lead to other sites. The instructor does not sponsor, endorse or otherwise approve of any information appearing in those sites, nor is responsible for the availability of, or the content located on or through, external sites. Apart from materials used in accordance with the Fair Use Act, the instructor takes no responsibility for material that is otherwise offered at web sites and makes no warranty that such material does not infringe any third party rights. However, should any of this type of material be present and this fact is brought to the attention of the instructor, they will remove references to it from course materials.

**Public Safety:** All students are encouraged to sign up for the University's free WCU ALERT service, which delivers official WCU emergency text messages directly to your cell phone. For more information and to sign up, visit [www.wcupa.edu/wcualert](http://www.wcupa.edu/wcualert). To report an emergency, call the Department of Public Safety at 610-436-3311.