

<b>Course Number</b>	EAS 115
<b>Title</b>	Engineering Graphics ( for Civil Engineers)
<b>Section</b>	CE1
<b>CRN(s)</b>	66144
<b>Credits</b>	3
<b>Prerequisite(s)</b>	None
<b>Days/Time</b>	Lecture: Monday 4:00 PM to 5:50 PM, Lab: Monday 6:00 PM to 7:50 PM
<b>Location</b>	Lecture: NH341 , Lab: EB325
<b>Final Exam Day/Time</b>	Mon., June 8 1530-1720 NH 341
<b>Course Website</b>	<a href="http://www.cee.pdx.edu/~monserec/">www.cee.pdx.edu/~monserec/</a>
<b>Instructor</b>	Dr. Christopher M. Monsere, P.E.
<b>Office</b>	301B Engineering Building
<b>Phone</b>	503-725-9746
<b>E-mail</b>	monsere@pdx.edu
<b>Office Hours</b>	Tuesday and Thursday, 10-11AM, others by appointment
<b>Mailbox Location</b>	CEE Office, Engineering Building Room 200

#### **Required Text or Other Materials:**

Technical Drawing, 13th Edition By Frederick E. Giesecke, Alva Mitchell, Henry C. Spencer, Ivan Leroy Hill, John Thomas Dygdon, James E. Novak, Shawna D. Lockhart ISBN-10: 0-13-513527-3 ISBN-13: 978-0-13-513527-3

You should also obtain some basic engineering drafting supplies (available at the PSU Bookstore and online): A mechanical pencil, a plastic eraser, erasing shield, a large bow compass, a 180° protractor, a 45°/90° triangle, a 30°/60° triangle, and a 12" triangular engineer's scale , an architect's scale, a metric scale.

#### **Catalog Course Description**

The graphic language applied to engineering. Projection systems. Multiview and pictorial representation. Introduction to computer graphics. Lecture and laboratory.

This course will meet degree requirements of EAS115 for civil engineering majors. Other engineering majors should check with their department.

#### **Course Statement and Learning Objectives**

The ability to represent designs in a graphical format is an essential component of engineering. This course is intended as an introduction to the concepts of technical drawing. The course will cover the fundamental technical drawing skills but highlight civil drawing techniques and practices. The course will expose the student to software but it is not the sole learning objective. At the conclusion of this course, students must demonstrate the ability to:

1. Use and interpret scales, basic lettering, and do simple technical sketching .

2. Be able to transcribe a three dimensional object to a two-dimensional representation with complete details.
3. Have a working knowledge of common civil engineering drawings, nomenclature and plan sets.
4. Have a working knowledge of CAD and GIS software and the ability to do basic exercises.

#### **Course Evaluation**

The course grade will be determined with the following weight for class assignments:

Homework	50%
Mini Exams	20%
Design Project	15%
Final Exam	15%

I will drop your lowest homework grade when computing the final grade. Save all your returned work! A grade of incomplete "I" is granted by the instructor *only* with prior approval and consent. Criteria are outlined in the PSU Bulletin.

**Course Calendar – Tentative, Subject to Change**

#	D	Date	Lecture	Exam	Lab	Reading Assignment
1	M	30-Mar	Introduction, Layouts and Lettering		None	Chapter 1, 2
2	M	6-Apr	Technical Sketching, Orthographic Projection,		Hand Drawing	Chapter 3, 4
3	M	13-Apr	2D Drawing, Sections		AutoCAD	Chapter 5, 6
4	M	20-Apr	Aux Views, Dimensioning, Tolerancing	Mini-exam 1	AutoCAD	Chapter 7, 9, 10
5	M	27-Apr	Drawing Management, Guest Speaker, Design Project Introduction		AutoCAD	Chapter 13
6	M	4-May	Structural Drawings, Welding Representation		AutoCAD	Chapter 19, 22
7	M	11-May	Landform Drawings	Mini-exam 2	AutoCAD	Chapter 20
8	M	18-May	Using Geographic Information Systems, Guest Speaker		Using Geographic Information Systems	Supplemental Material
9	M	25-May	Holiday - No Class or Lab			
10	M	1-Jun	Class Wrap-Up		Design Project	
F	M	8-Jun	Mon., June 9 1530-1720 NH 341	Final Exam		

See class website for updates and details:

<http://web.cecs.pdx.edu/~monserec/courses/graphics/index.htm>

Write this down to obtain access to protected material on the class web

Username:

Password:

## **Expectations of the Student**

### *Professionalism*

All assignments and class participation should be conducted in a professional manner. Attention to detail on class assignments and communication is important and is part of student evaluation.

### *Late Work*

**Late work is not accepted.** The due date for each assignment is clearly indicated and the work must be turned in at the start of class unless indicated otherwise. Exceptions can only be granted in the most extenuating circumstances.

### *Computer and E-mail Accounts*

You should obtain a MCECS account as soon as possible to be able to use computer resources.

Email is a useful way for us to remain in contact and is the best way to reach me. If you send me an email, I ask that you include EAS115-CEE and topic of your message in the subject line (be as specific as possible, use proper grammar, spell check, and proof read your message. **Before you ask a question, please do due diligence and try to find the answer yourself.** Use proper grammar, spell check, and proof your message. Expect a response time of 2 working days (plan accordingly).

Please note that the CEE Department now requires communication by the MCECS supported email. If you send me email from other than a PSU account, you run the risk of it being captured by my SPAM filter or it being deleted. I strongly recommend forwarding your CECS e-mail to whatever e-mail address you use if you don't like it.

### *Ethics and Professionalism*

As future professional engineers you should plan to take the Fundamentals of Engineering and after the required experience, the Professional Engineering Exam (see the Oregon State Board of Examiners for Engineering and Land Surveying at [www.osbeels.org](http://www.osbeels.org)). You should also be familiar with the ASCE Code of Ethics ([www.asce.org/inside/codeofethics.cfm](http://www.asce.org/inside/codeofethics.cfm)), which includes the following:

***Engineers shall act in such a manner as to uphold and enhance the honor, integrity and dignity of the engineering profession.***

The PSU Student Conduct Code prohibits all forms of academic cheating, fraud, and dishonesty. Further details can be found in the PSU Bulletin. Allegations of academic dishonesty may be addressed by the instructor, and/or may be referred to the Office of Student Affairs for action. Acts of academic dishonesty may result a failing grade on the exam or assignment for which the dishonesty occurred, disciplinary probation, suspension or dismissal from the University. Questions about academic honesty may be directed to the Office of Student Affairs ([www.ess.pdx.edu/osa/](http://www.ess.pdx.edu/osa/)).

## **Resources**

### *Student Groups and Professional Organizations*

Participation in student and professional groups can be a valuable part of your education experience. Membership gives students opportunities to get to know fellow students better, meet and network with professionals, collaborate in solving real engineering problems, learn about internship or job possibilities, socialize and have fun. Your fellow students can be a great source of help and guidance in your academic endeavors. Consider becoming active with a student organization, such as the following:

- American Society of Civil Engineers Student Group (ASCE): [www.asce.pdx.edu](http://www.asce.pdx.edu)
- Students in Transportation Engineering And Planning (STEP): <http://www.step.groups.pdx.edu/>
- Engineers Without Borders <http://www.ewb.pdx.edu/>
- Student Water Resources Group <http://www.swrg.groups.pdx.edu/>

Most professional organizations have monthly meetings and encourage student participation by providing discounts for lunch and dinner meetings. These meetings provide opportunities to network with potential future employers, learn about scholarships, and increasing your technical knowledge. Take a look at these organizations as a starting point:

- American Society of Civil Engineers (ASCE) Oregon Section: [www.asceor.org](http://www.asceor.org)
- Institute of Transportation Engineers (ITE) Oregon Section: [www.oregonite.org](http://www.oregonite.org)
- Society of Women Engineers (SWE) Columbia River Section - [www.swe-columbia-river.org](http://www.swe-columbia-river.org)
- Structural Engineers Association of Oregon (SEAO): [www.seao.org](http://www.seao.org)
- Women's Transportation Seminar, Portland Section: [wtsinternational.org](http://wtsinternational.org)

### *Campus Help*

As a PSU student, you have numerous resources at your disposal. Please take advantage of them while you are here. A small sample is listed below:

- CEE Website (includes program info, job listings, etc.): [www.cee.pdx.edu](http://www.cee.pdx.edu)
- Career Center: [www.career.pdx.edu/](http://www.career.pdx.edu/)
- Center for Student Health & Counseling: [www.shac.pdx.edu/](http://www.shac.pdx.edu/)
- The Writing Center: [www.writingcenter.pdx.edu/](http://www.writingcenter.pdx.edu/)
- PSU Disability Resource Center: 435 Smith Memorial Union Note: The PSU Disability Resource Center is available to help students with academic accommodations. If you are a student who has need for test-taking, note-taking or other assistance, please visit the DRC and notify the instructor at the beginning of the term.

### *Campus Safety*

The University considers student safety paramount. The Campus Public Safety Office is open 24 hours a day to assist with personal safety, crime prevention and security escort services. Call 503-725-4407 for more information. For Campus emergencies call 503-725-4404.

### **Final Notes**

- The syllabus is subject to change at the discretion of the instructor as course or other circumstances requires.
- Students with documented disabilities are encouraged to discuss with me arrangements that will enhance their learning in this class.
- Please feel free to discuss with me problems/concerns with your other classes.