

syllabus

EAS 585: Seminar on CAD

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Office Hours: By appointment

Fall 2019
Tuesdays 6-8p
Room 3325, Dana Building

Computer-Aided Design (CAD) *n.* the use of computer systems to create, modify, and analyze a design; the process of creating a technical drawing with the use of computer software

Overview:

CAD is extensively used in a wide range of disciplines, ranging from the automotive, shipbuilding, and aerospace industries, filmmaking and graphic design, to industrial and architectural design. CAD software is used to increase the productivity of designers and drafters, improve the quality and accuracy of design, and to improve communications between the designer and the builder or manufacturer.

AutoCAD, created by Autodesk, is a software application for CAD, supporting both 2-D and 3-D formats. This course will focus on using AutoCAD to make 2-D drawings and will also introduce students to SketchUp. This course will be based on landscape architecture work, as it is a first-year requirement for the masters of landscape architecture program, but will be very beneficial to students seeking to learn basic principles of AutoCAD and related software to create technical and illustrative computer graphics.

Learning Objectives:

Students will learn the basic functions of AutoCAD and gain the ability to accurately and efficiently draft work in academic and professional settings. Components of construction documents will be introduced, as these technical drawings form the backbone of coursework. Throughout the term, class topics will be related to a real-world work setting, so that students learn early on how AutoCAD is used efficiently in the workplace. In final weeks of term, students will learn how AutoCAD is used with SketchUp to create 3-D graphics.

Term Project and Weekly Assignments:

Coursework is structured to reflect a professional office environment, in which there are small interim tasks, leading to larger deadlines. The course will consist of one term project, broken up into smaller weekly assignments with two larger deadlines. The project will require students to create a simple set of construction documents and for a new athletic campus near Ann Arbor. We will work on the project each week, adding to it and making modifications as computer and graphic skills are gained. Lecture topics and small weekly assignments build upon each other so that students can meet each deadline for the project.

All weekly assignments are due before class on Mondays at 5:00pm to your assigned folder in Google Drive. Specific instructions on submission will be included with weekly assignments. Assignments will be returned at the beginning of class on Tuesday. It is expected that all comments will be addressed in the following week's assignment, which builds on the previous week's work. Weekly assignments will be graded primarily on completion, but it is expected all modifications be made for the project deadlines. Late assignments will not be accepted. Late submission for project deadlines will be deducted five points for every day late.

Grading:

Deadline 1: Site Plan	30 points
Deadline 2: Construction Document Set	30 points
Weekly Assignments (10 assignments @ 3 points each)	30 points
Participation	<u>10 points</u>
Total:	100 points

Attendance:

Attendance for each class is mandatory and will be factored into the participation grade. Students are expected to be on time for each class; failure to do so will result in a lower participation grade. Please inform the instructor in advance if you are unable to attend class.

LinkedIn Learning:

There is no required text book for this course, although students are asked to use LinkedIn Learning (with Lynda.com content) if needed to support lecture material. Here, you can watch and follow along with video tutorials in AutoCAD and SketchUp, along with other design software used by landscape architects.

In addition to LinkedIn Learning, the following are recommended books that are not required, but will likely be useful to students in the MLA program:

Digital Drawing for Landscape Architects by Bradley Cantrell and Wes Michaels

Google SketchUp for Site Design by Daniel Tal

Academic Dishonesty:

All work submitted in this course must be your own and originally produced for this course. While there will be times when students are encouraged to work together and assist one another, unless specifically assigned as a group project, each student is expected to complete their own work individually. For the consequences of academic dishonesty, please refer to: http://www.rackham.umich.edu/policies/academic_and_professional_integrity/ for more information.

Students with Disabilities:

If you have a documented disability and anticipate needing accommodations in this course, please meet with me soon so that we can make any necessary arrangements. Please contact Services for Students with Disabilities if you have any questions or concerns, or visit: <http://www.umich.edu/~sswd/> for more information.

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Date	Topic	Assignment	Due Date
9.3	Course Introduction and Getting Started	-	-
9.10	Basic Drawing Commands	Site Plan Elements I	9.16
9.17	Modifying Drawings	Site Plan Elements II	9.23
9.24	Organizing Drawings	Creating and Managing Layers	9.30
10.1	Layout, Paper Space, and Text	Page Layout and Title Blocks	10.7
10.8	Annotative Text and Leaders	Adding Labels	10.21
10.15	Fall Study Break		
10.22	Plotting	Deadline #1	10.28
10.29	External References	Existing Conditions	11.4
11.5	Blocks and Hatches	Landscape Plan	11.18
11.12	Additional Sheet Set Components	Cover Sheet, Notes, and Legends	11.25
11.19	Details	Details and Dimensions	11.25
11.26	Introduction to SketchUp	Presentation Graphic	12.2
12.3	Project Workday	Deadline #2	12.9