SURP 882 – Land Development and Planning Using CAD Software
Fall Term, 2024

Location: GIS Lab, Mackintosh-Corry Hall Room E223

Day/time: Wednesdays, 6 p.m. to 8:50 p.m.

Instructor: Sukriti Agarwal, MCIP, RPP, AICP
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Overview

This graduate-level course intends to introduce students to the fundamentals of computer-aided design and its use in the field of urban planning. The course features hands-on use of the software for graphic presentations. Lab sessions use AutoCAD by Autodesk Inc.* Although students will not be AutoCAD experts by the end of the course, they will have gained the necessary skills and knowledge to create vector-based drawings which can help them, as planners, to communicate their ideas, designs and plans.

* Please note this class solely focuses on AutoCAD for Windows and does not cover AutoCAD for Mac.

Course Structure

Classes will consist of a mixture of lectures on the principles of AutoCAD, demonstrations of AutoCAD processes, and in-class lab exercises.

Below is a ***tentative*** course outline and will likely change based on the skills and abilities of the students enrolled in the course.

Week	Topic	Assignment
Week 1: September 9 **Overview of the Course**	– What is AutoCAD – AutoCAD interface – Navigating a drawing – Basic drawing commands	Lab: Hands-on practice to build familiarity with AutoCAD
Week 2: September 16 **AutoCAD Basics**	– Drawing limits – Coordinate system – Units – Drawing commands – Using layers	Lab: Preparing your first plan (Assignment 1)
Week 3: September 23 **Navigation and Control**	– Zoom and pan – Layer properties – Snapping – Colours – Line Types – Hatches and fills – Using raster images	Lab: Figure-ground and land use maps (Assignment 2)

Week	Topic	Assignment
Week 4: September 30	**National Day for Truth and Reconciliation – Classes Cancelled**	
Week 5: October 7 **Editing**	– Editing commands – Scaling objects	Lab: Figure-ground and land use maps (continued from previous lab)
Week 6: October 14	**Thanksgiving / Fall Term Break – No Class**	
Week 7: October 21 **Power Tools**	– Grouping objects into blocks – Model and Layout Space – Using External References (Xrefs) – Line weights – Inquiry tools	Lab: Street cross-sections (Assignment 3)
Week 8: October 28 **Annotating a Drawing**	– Text tools – Dimensioning a drawing – Leaders	Lab: Street cross-sections (continued from previous lab)
Week 9: November 4 **Printing a drawing**	– Viewports – Page Setup – Layouts – Plotting	Lab: Design a subdivision (Assignment 4)
Week 10: November 11 **AutoCAD 3D**	– Working in three dimensions – 3D Basics	Lab: Design a subdivision (continued from previous lab)
Week 11: November 18 **AutoCAD 3D**	– 3D (continued)	Lab: In-class quiz/test
Week 12: November 25	– Course project	Lab: In-class course project work
Week 13: December 2	– Course project	Lab: In-class course project work
Friday, December 13	**Course project due, 4 p.m.**	

Grading

Course progress will be evaluated using the following criteria:

Participation in discussions and in-class lab work	10%
Evaluation of assignments (4)	50%
In class quiz/test	10%
Project demonstrating an understanding of the course	30%

Policy on late Assignments

It is very important that students keep up with the pace of course assignments. If, for some reason, you must turn in an assignment late, notify the instructor immediately by email. The penalty for late assignments is set at 10% for the first day, 20% for days 2-5. They will

not be accepted after Friday of the following week and students will forfeit the grade for the assignment.

Resources

Students are not required to purchase a textbook, but the following is recommended for those who may wish to have a reference manual:

- *Mastering AutoCAD 2021 and AutoCAD LT 2021*, by George Omura & Brian C. Benton

Additional reading material, web-based tutorials and supplementary material may be suggested by the instructor to augment the classroom work.