

TECHNICAL DRAWING AND VISUALIZATION

CGN 2328

3 CREDIT HOURS

Spring 2020

Tues/Thurs 8-9 Period (3:00 PM – 4:55 PM)

INSTRUCTOR: *Dr. Sarah Jay, Ph. D.*

Office: NSc 520

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Class Details: CSE 231

Tues/Thurs 8-9 Period (3:00PM–4:55PM)

COURSE WEBSITE: *<http://elearning.ufl.edu>*

COURSE COMMUNICATIONS:

For general inquiries regarding the course please email the instructor. If you do not get a response within 48 hours, please talk to instructor in person. For questions regarding grading, please speak with your laboratory assigned TA; if the problem cannot be resolved, please speak with the instructor.

REQUIRED TEXT:

There is no required text. All information regarding the course will be provided through the course website and class lecture notes.

ADDITIONAL RESOURCES:

AutoCAD has a multitude of online resources (the help files in the program are very good as well for specific issues). If you wish to see a text book, you can access the UF library resources online

and search for books (I would suggest limiting your search to the previous 5 years) and view textbooks associated with AutoCAD.

COURSE DESCRIPTION:

Two- and three-dimensional graphical methods of visualizing and communicating features of projects for construction involving parcel boundaries, topography, drainage, site modeling, site development, structures, buildings and objects using both traditional and computer-aided drafting and design techniques.

PREREQUISITE KNOWLEDGE AND SKILLS:

Knowledge of construction and surveying would be a great benefit, but is not necessary. Building construction practices and processes will be explained as necessary. Working knowledge of arithmetic is strongly recommended.

PURPOSE OF COURSE:

The purpose of this course is to provide each student with the required tools to visualize a 3-D world and represent it in two dimensions using graphical methods. This is accomplished through the use of manual drawing techniques and Computer-Aided Drafting (CAD) whereby a student will prepare the necessary information in the form of standard engineering drawings. Learning AutoCAD will give students' abilities of using their skills in industry.

COURSE GOALS AND/OR OBJECTIVES:

By the end of this course, students will:

- Have a working knowledge of AutoCAD*
- Have a working knowledge of basic plans reading*
- Be able to use engineer's and architect's scales to interpret construction documents*
- Be able to create and compile an entire set of construction documents*

INSTRUCTIONAL METHODS:

The course is structured to teach students how to use AutoCAD software to prepare construction documents starting at the very beginning (setting up drawing units and drawing single lines) up through creating three-dimensional structures; including creating items that help convey information (dimensions, text, tables, etc.) Much like the process of constructing a building, creating a set of construction documents requires the student to understand the final goals of the project, along with every element along the way to make the goal successful. Working in AutoCAD is procedural; therefore, thinking procedurally (and thinking ahead) will help students succeed in this course. Do not be afraid to be wrong, being wrong is a requirement for learning.

COURSE POLICIES:

ATTENDANCE POLICY:

Attendance for lecture is mandatory. Attendance will not be recorded. PowerPoint lectures will be made available online (when available); however, these types of lectures only comprise approximately 30% of the course. The other material presented will be done in AutoCAD without substantial supplement.

Lab attendance IS mandatory. There will be a strict penalty of 15% off for EACH week you do not attend (25% off for midterm and final projects).

You cannot go to another lab without PRIOR WRITTEN permission from your normal lab TA and the TA who proctors the lab you wish to go to. Failure to do so will result in the standard penalty.

If you are sick, you MUST go to see a doctor and get a doctor's note; otherwise the absence will not be excused.

The TA's have limited availability outside of lab to help during office hours, if you are having an issue with the lab assignment, utilize your lab time to get help; do not rely on office hours.

QUIZ/EXAM POLICY:

There will be two 50-minute written examinations given in class throughout the semester. The exams will be a combination of AutoCAD and Visualization material taught in the lectures and labs.

MAKE-UP POLICY:

Make-ups will not be provided unless an acceptable excuse is furnished with documentation. Acceptable excuses include: illness (with doctor's note), jury duty (with documentation and prior notification), and military service (with documentation and prior notification).

ASSIGNMENT POLICY:

The course is comprised of two exams, two projects, nine lab assignments, and a series of hand drawing assignments.

COURSE TECHNOLOGY:

AutoCAD (and AutoDesk software) is used to prepare 65% of the course assignments. Downloading the program to your personal computer is recommended but not mandatory. All computer labs on campus have AutoCAD installed. This is a very resource-heavy program, and

older/less powerful computers may struggle with this program. You should download AutoCAD 2019 (NOT AutoCAD LT; AutoCAD for Mac is available, but the instructor cannot guarantee that they will be able to help you with it).

To download the software, you will need to go to the student AutoCAD website (<https://www.autodesk.com/education/free-software/autocad>) and create an account (do not download a free trial; that is a 30 day license whereas creating an account lets you use the software for 3 years). Then download AutoCAD 2019, on the course website, the instructor will upload several files that will help you customize/set up the program, and there will also be configuration files.

COURSE SUPPLIES:

This course requires the use of a few tools; the following are required for the hand-drawing assignments:

Engineer's Scale (6-sided ruler)
Architect's Scale (6-sided ruler)
30-60-90 triangle
45-45-90 triangle

For working at home on AutoCAD assignments, it would be in your best interest to get a mouse with scroll wheel. The scroll wheel provides a very large amount of flexibility in the program and using a trackpad is very cumbersome.

UF POLICIES:

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES:

Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

UF COUNSELING SERVICES:

Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

· *UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.*

· *Career Resource Center, Reitz Union, 392-1601, career and job search services.*

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT: *Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <http://www.dso.ufl.edu/students.php>. Students deemed to have conducted themselves in an academically dishonest manner will be reported to the Dean of Students Office.*

COMMITMENT TO A SAFE AND INCLUSIVE LEARNING ENVIRONMENT:

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination.

It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@ufl.edu

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

GETTING HELP:

For issues with technical difficulties for E-learning, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available at <http://www.distance.ufl.edu/getting-help> for:

- *Counseling and Wellness resources*
- *Disability resources*
- *Resources for handling student concerns and complaints*
- *Library Help Desk support*

COURSE EVALUATIONS:

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

GRADING POLICIES:

Any grading issues must be brought to the attention of the TAs within 3 business days of when the assignments are returned to the class. Do not ask for a grade curve without reason, or extra credit assignments. These requests will not be entertained; should there be a need for the entire class's grades be curved, a curve will be applied at the sole discretion of the instructor.

<u>Assignment</u>	<u>Points or percentage</u>
Hand drawn forms	10%
Lab Electronic files	15%
Lab Hardcopies (printouts)	25%
Midterm Project	12.5%
Midterm Exam	12.5%
Final Project	12.5%
Final Exam	12.5%

GRADING SCALE:

The grading scale is as follows (there will be no curving of grades unless I see fit, assume no curve):

A	89.995 and above
A-	86.995 – 89.994
B+	83.995 – 86.994
B	79.995 – 83.994
B-	76.995 – 79.994
C+	73.995 – 76.994
C	69.995 – 73.994
C-	66.995 – 69.994
D+	63.995 – 66.994
D	59.995 – 63.994
D-	56.995 – 59.994
E	<56.994

Lab assignments and hand drawings will not be accepted late without an acceptable excuse outlined above; late assignment will receive a grade of '0'.

