

Technical Drawing & Visualization
CGN 2328 Section EED1
Class Periods: 2-3 period (8:30 am -10:25 am)
Location: Nsc 520 (In-person)
Academic Term: Fall 2025

Instructor:

Name Dr Sarah Jayasekaran

Email Address: srajkumari@ufl.edu

Office Phone Number

Office Hours: Wednesday's 2:00 pm- 4:00 pm

Teaching Assistant/Peer Mentor/Supervised Teaching Student:

Please contact through the Canvas website

- NA

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.

Course Pre-Requisites / Co-Requisites

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.

Course 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
- Develop or improve spatial visualization skills

Materials and Supply Fees

NA

Required Textbooks and Software

NA

Recommended Materials

- NA

Course Schedule

Refer to a weekly schedule.

Topics covered

Intro, Syllabus, Goals, Getting Started w/ AutoCAD
Getting Started w/ AutoCAD, Selection Sets, Drawing Commands, Object Snaps
Text and Leaders, Drawing Commands continue, Object Tracking
Surveyor's Units, Intro to Modify Commands, continue Text
Modify commands ,Dimensions & Multileaders
Object Properties, Layers, Viewports,
Layer, Viewport continue, Print settings,Dimensions & Multileaders
Types of Engineering Drawings, Standard Drawing Scales and Linetypes
Blocks, Constraints and Block editing, Block Attributes
Perspective Views, Orthographic and Oblique Projections
Isometric Projection
Blocks, Constraints and Block editing, Block Attributes continue
Cross Sections and Offset Sections
Intro to 3D, UCS, 3D space, Visual Styles, shade plot
Extrude, Union, Subtract, Modeling Toolbar
3D navigation, Problem Solving in CAD,Solid-editing
Auxiliary Views , Problem Solving in CAD,Solid-editing
3D navigation, Problem Solving in CAD,Solid-editing
Section planes, Live sectioning, Flat shots

Class Expectations, and Make-Up Policy

PowerPoint lectures and videos are available on canvas , however, these types of lectures only comprise approximately 30% of the course. The other material presented will be done in AutoCAD without substantial supplement. I will post all videos necessary for this course

The office hours will be posted on canvas, if you cannot attend them, please contact the instructor and make an appointment to meet on zoom.

How to send an excuse: Email Dr. J at srajkumari@ufl.edu

Use the Following Subject line: CGN 2328: Absence Excuse

What constitutes a valid excuse?

Excused absences are consistent with university policies in the undergraduate catalog and require appropriate documentation. Absences will be excused under the following conditions:

- 24 hours ahead of time that you have a legitimate, unavoidable absence (such as an exam conflict for a higher-numbered academic course)
- A verifiable medical or family emergency
- Travel for a student conference—provided all excuse request prior to travel § Need to come to class late or leave early for a legitimate reason
- Email instructor at least 24 hours before missing class due to interview confirmation email; conference email; UF official sporting event

Attendance guidelines:

Excused absences must be consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation.

Basic Responsibilities Expected from You:

The material you will learn is invaluable. Watch the weekly videos and access supporting slides on Canvas.

- Don't be afraid to ask for help during office hours or through emails
- Be an active learner - ask yourself questions as you read, and as you attempt assignments.
- Study in advance and go to office hours. Don't wait until the day before the exam, forms, or Lab to get clarification on the material.
- Check Canvas for class updates, assignments, announcements, lessons, calendar, and resources.
- You need to notify your instructor if you need **accommodation from the Disability Resource Center**. I would love to help you out. Let me know within the first two weeks of the start of the semester.

Emails, Announcements, Feedback, and Communications

- Announcements will be shared periodically during class and on Canvas. Is your responsibility to watch the class videos and read the emails/announcements from Canvas.
- After each assignment is graded, you are responsible for reviewing your instructor's feedback.
- Emails, announcements, and feedback may occur outside business hours.
- Your instructor should respond within 24 hrs. during workdays (M-F). There is no guarantee of response during weekends. Plan accordingly.

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.

Quiz/exam policy:

There will be two 50-minute written examination and one 2hr Computer Exam will be given in class throughout the semester. The exams will be a combination of AutoCAD and Visualization material taught in the lectures and labs. The computer exam will test your skills using the AutoCAD software.

Exam dates are set and will be during specified hours. Make-up exams are only provided for legitimate reasons and you need to get a letter from the Dean of student office.

If you cannot make the exam, please reach out before the start of the exam, excuses received after the official start of the exam will not be accepted. If the exam is at 10:00 am, an emailed excuse at 10:01 am will not be accepted.

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).

If you cannot attend an exam, you must contact the instructor well in advance. Exam dates are set and will be during specified hours. Make-up exams are only provided for legitimate reasons and you need to get a letter from Dean of student office DSO.

If you cannot make the exam, please reach out before the start of exam, excuses received after the official start of the exam will not be accepted. **If the exam is at 10:00 am, an emailed excuse at 10:01 am will not be accepted.**

Submitting an exam, forms, labs late will result in a zero. Arrangements will be made for students on a case by case basis for excused reasons. Failure to contact the instructor prior to the exams will result in a zero. It is the student's responsibility to honor and respect the given deadlines posted on Canvas

Late policy:

Submitting an exam, form, assignments will result in a zero. Arrangements will be made for students on a case by case basis for excused reasons. Failure to contact the instructor prior to submissions (Incase of emergencies) will result in a zero. **You are allowed to submit labs up to 24 hours late with a penalty of 30 points.** This only applies to Labs and not the forms or any other assignments or exams. It is the student's responsibility to honor and respect the given deadlines posted on Canvas. Do not leave uploads until the last minute, computer/internet issues are not a valid excuse for late assignments! Time stamp on your computer after missing an assignment does not count as submission on time.

Please note the deadlines are strictly enforced and there are no dropped homework assignments. For example if the deadline is 11:00 am, any assignment submitted after this time is considered late. It is also your responsibility to submit the correct file and ensure the submission was successful before the deadline (please double check your Canvas submissions). If you are unable to submit your homework through Canvas, send a copy of your assignment to your instructor before the stated deadline!

Assignment policy:

The course comprises two exams, one computer exam, nine lab assignments, and a series of hand-drawing assignments.

See: Attendance Policy for valid excuse

No late submissions during exams will be accepted. All assignments, forms, Exams, Computer exams etc... need to be turned in within the allocated time frame, anything after the due time will not be accepted.

All assignments are individual projects.

Course technology:

AutoCAD (and AutoDesk software) is used to prepare 65% of the course assignments. Downloading the program to your personal computer is mandatory. This is a very resource-heavy program, and older/less powerful computers may struggle with this program. You should download **AutoCAD 2025/2026** (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 a year).

Then download **AutoCAD 2025**, 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.

Technical Issues:

Please adhere to the following submission guidelines:

- No late submissions will be accepted for exams, assignments, forms, or computer-based exams. All submissions must be made within the allocated time frame.

- Give yourself ample time to submit labs and assignments. For instance, if a lab or assignment is due at 11:59 pm, begin the submission process by 11:29 pm at the latest.
- If you encounter submission issues within the exam or assignment timeframe, promptly email the professor for assistance.
- In case of technical issues such as internet or computer crashes during exams, notify the professor within 5 minutes of the problem.

These guidelines ensure smooth submission processes and timely communication in case of any issues.

Course supplies:

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

- Functional Windows laptop/computer
- Mouse with scroll wheel
- 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 a scroll wheel. The scroll wheel provides a very large amount of flexibility in the program and using a trackpad is very cumbersome.

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade
Form (5)	10 each	10%
Labs (3)	100 each	40%
Midterm exam	100	12.5%
Final Exam	100	12.5%
Computer Exam	100	20%
Participation	5	5%
Project	100	3%
		103%

Grading Policy

The following is given as an example only.

Percent	Grade	Grade Points
93.4 - 100	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33
83.4 - 86.6	B	3.00
80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00

60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Grade Penalties (Note: Also see Course Activities & Deadlines in Section V)

1. Failure to submit any activity (labs, forms, exams) will result in a penalty of 3 points. This will be all submission points.
2. Failure to complete the syllabus agreement will cost you 2 points.
3. Failure to submit the labs on time will also cost points. Anything submitted within 24 hours will cost about 30 points and anything after 24hr will be assigned 0.
4. Failure to let the faculty know about exam conflicts and missing the exams will result in 0.

Course activities & deadlines

We expect you to adhere to the course flow plan (below). **You may work ahead; just do not procrastinate.**

Procrastinating will result in grade penalties, affect your ability to learn well, and you may have difficulty getting a test time *All deadlines are 11:59 pm.

Please follow the course flow plan outlined below. You have the option to work ahead but avoid procrastination.

Procrastinating may lead to grade penalties, impact your learning experience, and could affect scheduling your test time due to demand on Honorlock. All assignment (except exams) deadlines are at 11:59 pm.

Deadline*	Activities Due (Check canvas)
8/31	Syllabus contract & Research consent form
9/21	Lab 1
TBA	Form 1
TBA	Form 2
10/7	Midterm Exam
10/19	Lab 2
TBA	Form 3
TBA	Form 4
11/9	Lab 3
TBA	Form 5
11/18	Final exam
11/20	Computer exam

Participation:

Participation points are divided into two categories: syllabus agreement (2 point), and all submissions (3 points). The all-submissions points only apply to students who submit every assignment on time (including labs, forms, exams, attendance policy, and syllabus agreement). Late submissions of any sort disqualify you from receiving the all-submissions points. Computer or internet issues will not be accepted as excuses to receive these extra credit points. If a student is involved in any cheating, the all-submissions points will be assigned 0, and the student will be reported.

Mac rules:

Students with apple computers or macbook must either partition or bootcamp the computer to use windows version of AutoCAD. The instructor uses Windows AutoCAD to teach the class and will be teaching AutoCAD for mac. The instructor will answer mac related AutoCAD question only during office hours.

Ppt for instructor/ take notes

The power points slides are for instructor use, but it is provided to the students to take notes during the class. If the student does not attend the class, the PowerPoint slides will not be useful. It's the student's responsibility to take notes during the class. The PowerPoint slides will only be beneficial if you are taking notes in class.

Grading Policies:

Please note the following policies regarding grading and assignments:

- Any grading concerns must be raised with the instructor within 3 business days of receiving the graded assignments. After this period, grades will be considered final and cannot be appealed.
- Requests for grade curves or extra credit assignments will not be accommodated. If a class-wide curve is necessary, it will be implemented at the instructor's discretion.
- Labs, exams, and assignments will be graded within 2 weeks or sooner. Late submissions are not permitted, except under exceptional circumstances determined by the instructor. These guidelines ensure fairness and clarity in the grading process. Thank you for your understanding and adherence to these policies.
- For late submissions exceeding 24 hours, grading may be delayed until after the rest of the class has been assessed. However, a grade of 0 will be assigned for late submissions. Feedback on how the assignment could have been improved will still be provided once grading is completed.

Policy on Grading Disputes:

Please note the following procedures for grading disputes:

- Any disputes regarding your assignment grade must be submitted to me (Dr. J) within 3 calendar days of the grade being posted.
- Once this period has elapsed, grades are considered final and cannot be appealed.
- Review the comments, solutions, and rubrics provided before contacting me with any legitimate grading concerns.
- If you believe your assignment requires regrading, submit a written justification via email. Acknowledge that your grade may either increase or decrease as a result.
- Contact me promptly within 3 working days of the grade being posted to address any grading issues.
- Grading will strictly adhere to the provided rubric. Specify any clarifications needed regarding the grading process in your email.
- When disputing a grade, ensure your argument is supported by valid justification and evidence. Merely demanding a specific grade without substantiation will not be considered valid grounds for dispute.

Thank you for your cooperation in adhering to these guidelines.

Technology, Course Materials, and Personal Scheduling Policy

Please note the following expectations regarding technology, materials, and time management:

- **You are responsible for ensuring the following are fully functional throughout the semester:**
 - Laptop

- Webcam
- Charger
- Any other required hardware or software
- **The following are *not valid* excuses for missed deadlines or extension requests:**
 - Computer crashing or freezing
 - Dropped or broken laptop
 - Malfunctioning charger or camera
 - Shipping delays or backorders
 - Missing engineering or architectural scale
 - Any other preventable technical or equipment issues
- **Course materials are listed in the syllabus and must be:**
 - Ordered promptly
 - Received **by the end of the first week of classes**

→ *Procrastination or shipping delays are not acceptable reasons for being unprepared.*

- **Personal trips are not valid reasons for extensions.**
 - You are encouraged to travel, celebrate, and live your life, but it is **your responsibility** to plan your coursework around these events.
 - If you choose to take a trip during the semester, make sure your assignments are submitted on time and exams are taken within the required window.
 - **Missing deadlines due to personal travel, poor planning, or overcommitment will not be excused.**
 - Simply put: **your lack of planning does not constitute an emergency on my part.**

Dropping of grades:

Because “things happen” all students are allowed to drop one Form

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>
- *Autodesk : Email Autodesk helpdesk if faculty is unable to resolve the issue*

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.

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation

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.bluer.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

In-Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://sccr.dso.ufl.edu/process/student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

All assignments (labs, forms, exams, projects, etc.) are individual activities. Sharing any files with fellow students constitutes a breach of our contract. This will be reported as cheating and sharing materials. Please do not share files or cheat in any of the classes.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values varied perspectives and lived experiences within our community and is committed to supporting the University’s core values, including the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information, and veteran status.

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
- HWCOC Human Resources, 352-392-0904, student-support-hr@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@eng.ufl.edu

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

Campus Resources:

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: <https://counseling.ufl.edu>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

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](mailto:title-ix@ufl.edu), located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
<https://lss.at.ufl.edu/help.shtml>.

Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling; <https://career.ufl.edu>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.
<https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
<https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>; <https://care.dso.ufl.edu>.

On-Line Students Complaints: <https://distance.ufl.edu/getting-help/>; <https://distance.ufl.edu/state-authorization-status/#student-complaint>.