



UNIVERSITY OF
CENTRAL FLORIDA

COT 3100C - INTRO TO DISCRETE STRUCTURES

Section: C001

College of Engineering and Computer Science

Department of Computer Science

Course Information

Term: Summer 2026

Class Meeting Days: TR

Class Meeting Time: 04:00PM - 05:45PM

Class Meeting Location: NSC O101

Modality: P

Credit Hours: 3.00

Instructor Information

Arup Guha

Title: Senior Instructor

Office Location: HEC-240

Office Hours:

<https://www.cs.ucf.edu/~dmarino/ucf/OH.html>

Email: dmarino@ucf.edu

Office Hours

<https://www.cs.ucf.edu/~dmarino/ucf/OH.html>

Teaching Assistants

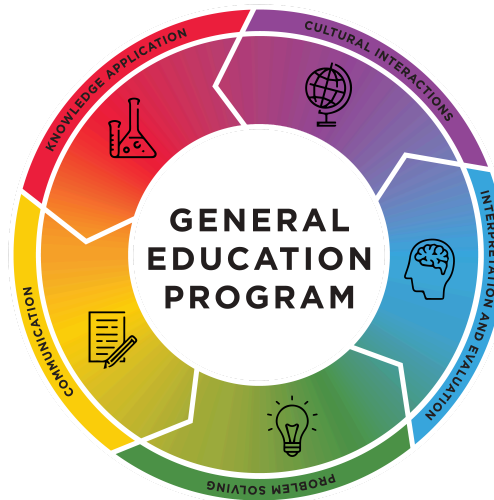
<https://www.cs.ucf.edu/courses/cot3100/sum2026/TAinfo.html>

Course Description

COT 3100C ENGR-COMP SCI 3(3,1)Introduction to Discrete Structures: CR: MAC2311C - Calculus with Analytic Geometry I (4). Logic, sets, functions, relations, combinatorics, graphics, Boolean algebras, finite-state machines, Turing machines, unsolvability, computational complexity. Fall, Spr, Sum

This course provides an introduction to discrete mathematics that is relevant to future computer science courses. Eight major topic areas will be covered: logic, sets, number theory, induction, counting, probability, functions and relations.

General Education Program (GEP)



UCF's General Education Program (GEP) provides a cohesive learning experience across five key areas. Each course is designed to help students build essential skills and knowledge that connect across disciplines, preparing them for success in their academic, civic, and professional lives. This foundation equips students to make informed decisions and navigate a rapidly changing world.

Specifically, the GEP is intentionally designed to:

- Introduce students to a broad range of foundational knowledge.
- Provide students the opportunity to explore potential academic majors, minors, and careers.
- Equip students with the analytic and expressive skills required to engage in chosen pursuits.
- Develop critical thinking skills.
- Encourage lifelong learning.

Student Learning Outcomes

After successful completion of this course, students will be able to:

1. Have students learn all of the relevant definitions, symbols, proof techniques and other mathematical tools that are necessary to understand proofs and related material in upper level Computer Science courses.
2. Have students recognize the beauty and creativity in mathematics and to provide a basis for understanding the "method behind the madness" in proofs that seemingly come from nowhere.
3. Have students realize that competency in mathematics is mostly based on hard work and practice, not innate talent.
4. Have students realize that although there are many truly creative steps in mathematical proofs, the general structure of direct proof, proof by cases, and proof by contradiction are NOT creative and can be reliably set up once a student understands the abstract general structure of these proof techniques.

Required Course Materials and Resources

No Required Course Materials

Recommended Course Materials

Title: Course webpage: <https://www.cs.ucf.edu/courses/cot3100/summer26>

Course Assessment and Grading Procedure

Grading Breakdown:

Pre-Test 0%

Exam 1 20%

Exam 2 20%

Final Exam 30%

Recitation Group Participation 12%

Recitation Quizzes (2) 5% each

Homework (8) 1% each

The dates for all of the exams, homework and quizzes are included on the schedule at the end of the syllabus.

This is a tentative grading policy only. It is subject to change. If a change is made, it will be announced in class.

Grading Scale

The grading scale will be based on the class average, standard deviation and overall difficulty of the assignments and exams. For further details, consult the grading philosophy posted on my web page (<http://www.cs.ucf.edu/~dmarino/ucf>). This webpage has a comprehensive explanation of my rationale (it's how all my undergraduate classes were graded) as well as a full history of how many of each letter grade I've given in every UCF class I've taught since 2003, when I started collecting and publicly posting that data.

Communication Expectations

Students are expected to read the syllabus in full and understand the original intended due dates for all graded assessments. Minor changes to assignments/quizzes/exams, etc. will only be discussed verbally in class. **(This means if students want to earn the maximal possible grade in the class, they need to attend class at all times.)** For all major changes, Webcourses announcements will be made.

If students want to communicate with the course staff, they should either do so verbally in person or via official UCF email. For the course instructor, that email address is dmarino@ucf.edu. The TA emails will be shared on the course web page. **Do NOT use Webcourses email for any communication.**

Policies for Course Grade

Pre-Test

A pre-test on the second class of day (Tuesday May 19, 2026) will be given based on high school mathematics topics. While it does not contribute to the class grade, the results from it will be used to form study groups in lab/recitation. In order for these groups to be formed well, it's critical that students take the pre-test seriously, so that the results are reflective of students' actual knowledge and problem-solving skills.

Exams

The specific format of exams and the allowable aids may vary from exam to exam and will be specified in class the class meeting right before each exam. All of the exams will take place during regularly scheduled class times as noted on the schedule in the syllabus. For both Exam 1 and Exam 2, there will be a short lecture before the exam. For the Final Exam, students will have the full class time to work on the exam.

Recitation Group Participation

Attending class and doing practice problems correlate with success in this course. To that end, to encourage attendance, a portion of the course grade will be based on attending recitation and participating in group meetings both in and out of recitation. In recitation, on most weeks, students will work on practice problems in their assigned study groups. The TA will take attendance when he or she sees fit. **If a student comes to recitation, but doesn't respond when the TA is taking roll, then for grading purposes, the student will be treated as absent.** Since there are many recitations and students have various valid reasons to miss recitation (work, club activity, sick), and it's a headache to administratively "excuse" absences in a large class, students will simply have to attend and work actively in their groups a total of 8 times over the semester. Thus, each recitation attended (up to 8) will be worth 1% of the course grade. The remaining 4% of the course grade related to recitation will be based on group reports submitted entailing study sessions for the course (with your assigned group) both in and out of recitation.

Recitation Quizzes

Two quizzes will be given in recitation based on recitation practice problems. Each of these quizzes will be worth 5% of the course grade.

Homework Assignments

Homework assignments must be submitted electronically as a **.pdf** file over Webcourses. It is preferred that students produce the .pdf electronically via Word or LaTeX, but scans of written work will be accepted this semester. The goal of the homework is for students to learn how to solve novel problems on their own so that they can solve these problems on their own on exams. The homework may have both written mathematics problems and some small programs written in either C or Python (to help students see the connection between mathematics and computer science.)

Unlike past semesters, I'll allow students to use any aids or collaboration they see fit in completing the problems to help them understand the material. (Note: So for homework only, you may use AI. My intuition leads me to believe using AI will lower students grades on exams, but you all are welcome to prove me wrong ==))

Community Service Opportunity

If you would like to get automatic full credit for 25 points (out of 150) on the Final Exam), you can do 5 (or more) hours of community service with a registered 501(c)(3) organization **BEFORE July 23, 2026** and turn in a physical copy of the required signed form and activity summary (more details on the course web page) by the **4 pm on July 23, 2026**. The form and requisite write up **must be submitted by hand to me by that date and time**. My preference is that you hand it to me in class on July 16th or earlier so that you don't cut it so close. Every semester, a couple students are just a couple minutes late and I don't count their forms. **Please do the community service early and submit the forms to me way in advance, so that this doesn't happen to you.**

Regrade Policy

Only I (course instructor) can do regrades. **Regrade requests can only be made on Exams 1 and 2.** All regrade requests must be made in person. When doing so, you must bring **the physical exam in question** and show the question(s) you felt were graded incorrectly.

All requests **MUST BE MADE** within one week of when the exam grade is returned for the first time in class. I will consider each request when it is presented to me and make a decision, which will then be final. Keep in mind that many times, I can't change a grade because the TA simply followed the grading criteria I provided, so please make sure you consult the grading criteria and posted solutions before making a request.

Homework WILL not be regraded. Each assignment is only worth 1% of the course grade, making individual points on homework assignments worth very, very little. The amount of time to deal with a regrade on these small, small stakes isn't worth the change in grade that they may amount to.

Note: Fixing a clerical error is not a regrade. Please bring to our attention ALL clerical errors (wrong grade recorded in Webcourses). These will be processed all the way until the end of the course.

Other Important Course Policies:

1. Cheating on quizzes or exams will not be tolerated. If a student is found looking off of someone else's paper or trying to access any electronic device during a quiz or exam, they will be given an automatic 0 on the quiz/exam and be reported to the Office of Student Conduct at UCF.
2. In order to take a make-up quiz or exam, you must request one from the instructor **BEFORE THE QUIZ/EXAM**. The instructor will grant requests using his own judgment by applying the following general rule: "Make-up quizzes exams will only be given if the reason for missing the exam was out of the student's control." For example, being hospitalized unexpectedly is out of a student's control, but oversleeping or going to happy hour is not out of a student's control.
3. No late assignments will be accepted unless previous arrangements are made with the course instructor. In the case of an emergency when this is not possible, contact the instructor as soon as it is convenient to do so. The instructor has final say in granting extensions on homework assignments. In general, the same sort of rule will be followed for these extensions as for granting make-up exams as stated above. ***TAs are NOT allowed to give extensions for assignments under any circumstances, only the instructor can.***
4. Both the course web page and WebCourses will be crucial elements of the course. **It is your responsibility to check both of these before every class meeting for any updates that may be posted.** WebCourses will primarily be used for keeping track of grades, making announcements and submitting homework assignments. The course web page will have all lecture notes, assignments, solutions, and other helpful links and material.

Furthermore, some clarifications may only be given in class, so make sure you keep up with announcements in class.

Make-up Assignments for Authorized University Event or Co-curricular Activities

Students who represent the university at an authorized event or activity (for example, student athletes) and who are unable to meet a course deadline due to a conflict with that event must provide the instructor with documentation in advance to arrange a make-up. No penalty will be applied if the student gives advance notice and communicates with the instructor following UCF policy. In the case of an authorized university activity, it is your responsibility to show the instructor a signed copy of the Program Verification Form for which you will be absent, prior to the class in which the absence occurs or due date you need extended. For more information, see [UCF Policy 4-401](#).

Make-up Assignments for Religious Observances

A student who desires to observe a religious holy day of his or her religious faith must notify their instructor as soon as practicable prior to the observance. Students who are absent because of religious observances will be permitted a reasonable amount of time to complete any missed work. For more information, see [UCF Regulation 5-020](#).

Artificial Intelligence (AI) Use Policy

You may only use AI for the homework assignments and to study. I suspect that AI is an inferior study tool to talking to people who understand the material and doing practice problems. I strongly believe it's the primary reason that Foundation Exam pass rates and average scores have dropped in since the summer of 2024.

Disability Access & Accommodations

The University of Central Florida is committed to providing equal access to all students with disabilities (ADHD, learning disabilities, Autism, chronic medical conditions, physical disabilities, etc.). To receive consideration for reasonable disability-related course accommodations, disabled students must contact Student Accessibility Services (SAS) and complete the steps required for SAS to review accommodation requests. More information can be found on the UCF [Student Accessibility Services](#) website under the Start Here tab or by contacting SAS directly (Ferrell Commons 185; sas@ucf.edu; Phone - 407-823-2371).

Approved accommodations are shared with course instructors via the SAS Course Accessibility Letter. Implementing certain accommodations may require discussion and specific considerations of the course design, course learning objectives, and the individual academic and course challenges experienced by the student. While students with disabilities or chronic health needs are also encouraged to discuss any course concerns with professors in addition to contacting SAS, professors are not required to facilitate disability-related adjustments to the course unless the professor has received a Course Accessibility Letter from SAS that outlines approved accommodations.

Academic Integrity

Students should familiarize themselves with UCF's Code of Conduct at [Student Conduct and Integrity Office](#).

According to Section 1, "Academic Misconduct," students are prohibited from engaging in:

- a. Academic misconduct is defined as any submitted work or behavior that obstructs the instructor of record's ability to accurately assess the student's understanding or completion of the course materials or degree requirements (e.g., assignment, quiz, and/or exam). Examples of academic misconduct include but are not limited to: plagiarism, unauthorized assistance to complete an academic exercise; unauthorized communication with others during an examination, course assignment, or project; falsifying or misrepresenting academic work; providing misleading information to create a personal advantage to complete course/degree requirements; or multiple submission(s) of academic work without permission of the instructor of record.
- b. Any student who knowingly helps another violate academic behavior standards is also in violation of the standards.
- c. Commercial Use of Academic Material. Selling of course material to another person and/or uploading course material to a third-party vendor without authorization or without the express written permission of the University and the instructor of record. Course materials include but are not limited to class notes, the instructor of record's slide deck, tests, quizzes, labs, instruction sheets, homework, study guides, and handouts.
- d. Soliciting assistance with academic coursework and/or degree requirements. The solicitation of assistance with an assignment, lab, quiz, test, paper, etc., without authorization of the instructor of record or designee is prohibited. This includes but is not limited to asking for answers to a quiz, trading answers, or offering to pay another to complete an assignment. It is considered Academic Misconduct to solicit assistance with academic coursework and/or degree requirements, even if the solicitation did not yield actual assistance (for example, if there was no response to the solicitation).

Responses to Academic Dishonesty, Plagiarism, or Cheating

Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, [The Golden Rule](#). UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and respond to academic misconduct when necessary. Penalties for violating rules, policies, and instructions within this course can range from a zero on the exercise to an "F" letter grade in the course. In addition, an Academic Misconduct report could be filed with the Office of Student Conduct and Academic Integrity, which could lead to disciplinary warning, disciplinary probation, or deferred suspension or separation from the University through suspension, dismissal, or expulsion with the addition of a "Z" designation on one's transcript.

Being found in violation of academic conduct standards could result in a student having to disclose such behavior on a graduate school application, being removed from a leadership position within a student organization, the recipient of scholarships, participation in University activities such as study abroad, internships, etc.

Title IX

Title IX prohibits sex discrimination, including sexual misconduct, sexual violence, sexual harassment, and retaliation. If you or someone you know has been harassed or assaulted, you can find resources available to support the victim, including confidential resources and information concerning reporting options at [Let's Be Clear](#) and [UCF Cares](#).

For more information on access and community engagement, Title IX, accessibility, or UCF's complaint processes contact:

- Title IX – ONAC – [Office of Nondiscrimination & Accommodations Compliance](#) & askanadvocate@ucf.edu
- Disability Accommodation – Student Accessibility Services – [Student Accessibility Services](#) & sas@ucf.edu
- [Access and Community Engagement](#) (including the Ginsberg Center for Inclusion and Community Engagement, Military and Veteran Student Success, and HSI Initiatives)
- UCF Compliance and Ethics Office – [Compliance, Ethics, and Risk Office](#) & complianceandethics@ucf.edu
- The [Ombuds Office](#) is a safe place to discuss concerns.

Reporting an Incident or Issue

If you believe you have experienced discrimination by any faculty or staff member, contact the Office of Nondiscrimination & Accommodations Compliance via the [ONAC website](#) or at 407-823-1336. You can also choose to report using the UCF Integrity Line either anonymously or as yourself at 1-855-877-6049 or by using the [online form](#). UCF cares about you and takes every report seriously. For more information see the [Reporting an Incident or Issue Webpage](#).

Deployed Active-Duty Military Students

Students who are deployed active duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.

Campus Safety

At UCF Public Safety and Police, safety is the top priority. Emergencies on campus are rare, but if one should arise, it's important to be familiar with some basic safety and security concepts.

- In an emergency, always dial 911.
- Every UCF classroom has an **Emergency Procedure Guide** posted on a wall near the door, which will show you how to respond to a variety of situations. This guide can also be found online [here](#).
- In the event of an active threat, remember **AVOID, DENY, DEFEND**. Choose the best course of action and act immediately. Watch the video [here](#) to learn more.
 - **AVOID**. Pay attention to your surroundings and have an exit plan. Get as much distance and as many barriers between you and the threat as quickly as possible.

- **DENY.** When avoiding is difficult or impossible, deny the threat access to you and your space. Lockdown by creating barriers, turning the lights off and remaining quiet and out of sight. Make sure your cell phone is silenced, but do not turn it off.
- **DEFEND.** When you are unable to put distance between yourself and the threat, be prepared to protect yourself. Commit to your actions, be aggressive and do not fight fairly. Do whatever it takes to survive.
- For emergencies on campus, UCF will utilize the [UCF Alert](#) system. All UCF students, faculty and staff are automatically enrolled to receive these email and text alerts, however, it's a good idea to frequently ensure your [contact information is up to date](#).

Financial Aid Accountability

All instructors/faculty are required to document students' academic activity at the beginning of each course. In order to document that you began this course, please complete this activity by the end of the first week of classes or as soon as possible after adding the course. Failure to do so may result in a delay in the disbursement of your financial aid.

Class Schedule

Tentative Class Schedule

| Week | Tuesday Class | Thursday Class | Lab/Recitation | Sunday |
|----------------|---------------------------------|------------------------------------|----------------------|------------------|
| May 13-15 | NO CLASS BEFORE SEMESTER | GUEST LECTURE - Dr. Pittman | LAB CANCELLED | |
| May 18-22 | Logic | Logic | Logic Problems | HW #1 Due |
| May 26-29 | Sets | Sets | Set Problems | HW #2 Due |
| June 1-5 | Exam #1 | Num Theory | NT Problems | |
| June 8-12 | Num Theory | Num Theory | Quiz #1 | HW #3 Due |
| June 15-19 | Induction Prep | Induction | Ind. Prep Probs | |
| June 22-26 | Induction | Induction | Induction Probs | HW #4 Due |
| June 29-July 3 | Exam #2 | Counting - Zoom Lecture | LAB CANCELLED | HW #5 Due |
| July 6-10 | Counting | Counting/Probability | Quiz #2 | HW #6 Due |
| July 13-17 | Probability | Probability | Prob Probs | HW #7 Due |
| July 20-24 | Relations | Functions | Rel/Func Probs | HW #8 Due |
| July 27-31 | FE Review | Final Exam | | |