

CS 1371 – Programming for Engineers	Section C
Spring 2026	College of Computing
<b>Delivery:</b> In Person - Synchronous	Content Delivery via In Person Lecture

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See Canvas course page for additional information	

## General Course Information

### Description

This course is intended as an introduction to solving problems by coding solutions in the MATLAB programming environment. It assumes no prior knowledge of programming or coding skills. Students will develop a beginner's skill level for deriving algorithms. This will be complemented by them learning how to use the MATLAB language and integrated development environment in concert to code these algorithms as functions. The development of the students' skills and knowledge base will be done in the context of them encoding data; processing the data with respect to a given problem; and outputting a correct answer in the appropriate format.

The course begins with an introduction to the concepts of data encoding and the methodology of writing functions. There is also a good deal of time spent on getting the students familiar with the programming and evaluation environments. From that foundation, students are exposed to variables, functions, and scope. The course then expands the students' abilities to deal with data collections of vectors and arrays. Next, they learn the power of conditional and iteration statements. They then use these abilities to deal with the more complex data collections of cell arrays, spreadsheets, text files, structures, and directory information. The course also provides instruction on how to make plots of the results of their data analyses. It concludes by exposing students to images.

**Pre- &/or Co-Requisites:** None

### Course Level Objectives:

Upon successful completion of the course, you will be able to:

1. Use the MATLAB integrated development environment and programming language to write functions as solutions to basics problems involving numeric and character data.
2. Use a six-step process to develop an algorithmic solution to a problem.
3. Understand and utilize the fundamental concepts of coding
  - a. Comments
  - b. Variables
  - c. Data
  - d. Functions
  - e. Conditionals
  - f. Iterations
4. Translate a basic algorithm into code.
5. Test your coded solutions

6. Trace and debug your code and the code of others.

### **Course Materials:**

#### **MATLAB Programming Language & IDE**

MATLAB is an excellent first language for engineers. MATLAB is a registered trademark of The MathWorks, Inc. It is an interpreted language that provides students immediate feedback from their actions, and postpones many of the tedious details of correctness until a program is run. MATLAB has an interactive development environment (IDE) that is ideal for ordinary engineering computation. The course is conducted from the MATLAB programming environment.

MATLAB is available free of charge for students to install on their personal computers. Follow the instructions provided at this link (<https://matlab.gatech.edu/> (Links to an external site.)). Be careful to set your affiliation to Student and select the latest MATLAB version for students. MATLAB is also available on all the public computers on campus.

#### **Video Lectures (Suggested, Not Required)**

- This class has a video library of recorded lectures.
- The course calendar details which videos correspond to in-class lectures. [Video Index](#)

#### **Learning Management System (LMS) = Canvas**

- All course information and resources will be found on the class Canvas site.
- This includes, but is not limited to: Syllabus, Assignments, Submissions, Announcements, Grades & Feedback, Resources, etc.
- The files and slides that are covered in each lecture are provided by going to **Files > Forsyth's Files > Lecture Notes** on Canvas

### **This is a Core IMPACTS course that is part of the Institution area.**

Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help students master course content, and support students' broad academic and career goals.

This course should direct students toward a broad Orienting Question:

- How does my institution help me to navigate the world?

Completion of this course should enable students to meet the following Learning Outcome:

- Students will demonstrate the ability to think critically and solve problems related to academic priorities at their institution.

Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:

- Critical Thinking
- Teamwork
- Time Management

## Course Requirements, Assignments & Grading

There is no curve in this course. However, there are opportunities to earn extra credit. (See Homework, Lecture Quizzes, and Recitation). There are three possible grade distributions. We will calculate your grade for all three distributions. Your course grade will be the higher of the three.

### Grade distribution 1: (Basic)

- 15% Homework (10 Assignments worth 1.5% each)
- 15% Lecture Quizzes (24 Quizzes, Highest 18 worth ~ 0.833% each)
- 40% 3 Midterm Exams ○ 13% Exam 1 ○ 13% Exam 2 ○ 14% Exam 3
- 30% Final Exam

### Grade distribution 2: (Final Exam Replaces Lowest Exam Grade)

- 15% Homework (10 Assignments worth 1.5% each)
- 15% Lecture Quizzes (24 Quizzes, Highest 18 worth ~ 0.833% each)
- 26% 3 Midterm Exams ○ 13% Exam 1 ○ 13% Exam 2
- 44% Final Exam

### Grade distribution 3: (Final Exam Dropped)

- 15% Homework (10 Assignments worth 1.5% each)
- 15% Lecture Quizzes (24 Quizzes, Highest 18 worth ~ 0.833% each)
- 70% 3 Midterm Exams ○ 23% Exam 1 ○ 23% Exam 2 ○ 24% Exam 3
- 0% Final Exam

### Extra Credit can be earned in the following ways:

- Extra Credit points are added to your class average.
- A total of 2.5% of Extra Credit can be earned in the following ways
  - 1.25% from Homework (see the Homework section below)
  - 1.25% from Recitation (see Recitation section below)

## Homework

This first homework assignment may seem a little overwhelming if this is your first experience coding, but don't worry! The process for completing homework assignments will be consistent throughout the semester and you will get the hang of it quickly. Each homework assignment will consist of problems on each of the levels below.

All of your homework submission will be compared to those of your classmates, online resources such as Chegg, and responses from AI services such as Chat GPT. If your solution is found to be identical or reasonably similar to that of another student, online resource, or an AI service, you will receive a score of zero on the entire homework assignment and be asked to meet with the Instructor during office hours. This will also count as an academic misconduct offense.

### Level 0 Problems

- Warm up problems to get you used to using the concepts covered in the homework.

## Exams

- Exams will all be administered in person, during your regularly scheduled lecture.
- You will have **60 minutes** to complete the Exam unless you have been granted additional time.
- Exams will be completed **on a laptop**.
- As you walk into the exam, you **MUST** scan your Buzzcard to check in and receive your reference sheet and scratch paper. If you do not, you will receive a zero.
- If you leave the room during the exam, you **MUST** leave and return via the indicated doorway. You **MUST** also leave your cell phone and Buzzcard with the teaching assistant who is monitoring the doorway. Nothing else may leave the room with you. Your cell phone and Buzzcard will be returned to you when you reenter the exam room.
- You will be provided scratch paper and a reference sheet to be used during each exam. These are the only two items that you may have on your desk besides a writing utensil, your computer, or a paper copy of the exam if deemed necessary.
- If you have question or a technical difficulty during the exam, please raise your hand immediately so that we may deal with the issue quickly. • Your cell phone and Buzzcard must be placed face up on your desk while taking the exam. (Other instructions will be given if this is not possible.)
- At the end of the Exam, you **MUST** scan your Buzzcard to terminate your attendance. If you do not, you will receive a zero.
- Exams will require you to answer a variety of problems, including but not limited to tracing, fill-in-the-blank, coding, etc.
- Partial credit will be granted.
- All exams, including the **final exam**, are cumulative and cover all previous material.

**Submitting Assignments: See the assignment schedule.**

### Assignment Due Dates

All assignments will be due at the times listed in the assignment. Any changes will be announced at least a week in advance of the due date.

### Assignment Deadlines and Policies

The leadership within the School of Computing Instruction has recommended that the first few CS Major courses adopt a policy regarding makeup assignments, assessments, and exams to address the limitations of scale by which our large courses are affected.

Starting with Spring 2023, there will be **NO makeups** offered for exams, quizzes, or homework missed without an Institute-approved absence.

If you miss any assignment without a valid excuse, then you will receive a **ZERO** for that assignment.

Any request for an exception to this policy **MUST** be received **PRIOR** to the assignment due date. Documentation is required for **ALL** valid excuses to be considered.

Some examples of valid excuses are:

- Incapacitating illness
- Death in the family

- Judicial procedures
- Military service
- Official school functions
- Physical accident
- Other serious circumstances

To be considered as a valid Institute Approved Absence (IAA), an official letter must be obtained from the Dean of Students and provided to your Instructor. The Dean of Students Office will make the decision on the excuse and contact your Instructor directly stating what (if any) accommodations will be provided. <https://studentlife.gatech.edu/> \*\*\* Click on Request Assistance \*\*\*

#### For **homework assignments**,

- An excuse may allow for an extension of no more than 72 hours, or the assignment may be excused.

#### For **assessments and exams**,

- If you miss an exam without an IAA, that exam receives a 0.
- If you miss an exam with an IAA absence:
  - You will be allowed to take a makeup exam within 72 hours of the original exam during set makeup dates/times
  - If you cannot take a makeup exam within 72 hours of the original during set makeup dates/times:
    - Your exam score is replaced with that of the next exam.
    - For example,
      - If a student misses Exam 1 with an IAA, their Exam 2 score would count for both their Exam1 and Exam2 scores.
      - If a student misses Exam 2 with an IAA, their Exam 3 score would count for both their Exam2 and Exam3 scores.
      - If a student misses Exam 3 with an IAA, their Final Exam score would count for both their Exam 3 and Final Exam scores.
      - Note: In the event the Final Exam is used to replace a student's Exam 3 score due to an IAA, the Final Exam will not also be used to replace the student's lowest exam score for Exam 1 or Exam 2.

*The final decision regarding any exception is made solely at the discretion of your Instructor. Events such as vacations, parents setting up travel plans, weddings, graduations, work conflicts, alarm malfunction, forgetting to submit, forgetting data and time of exam, or not being aware of the assignment are all NOT valid excuses.*

## **Recitation**

Recitations are small group weekly sessions run by TAs that will further expose you to the course content. Recitations will mainly go over example questions with discussion, questions about the homework and interactive solutions. While recitation is optional, it is a great resource.

Extra Credit

- There will be an attendance quiz given in each recitation class ○ If you attend all recitations, you will receive **extra credit of 1.25%** on your final grade
- Thus, each recitation attendance is worth 1.25 divided by the total number of recitations
- To obtain the extra credit you must submit the weekly Canvas attendance quiz with the correct section and code within 15 minutes of the end of your recitation section

## Grading Scale

Your final grade will be assigned as a letter grade according to the following scale.

There is no curve in this class.

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

## Resources

**Recitation:** See above

**One-on-One Sessions:** One-on-one TA help for content review in the course.

**Exam Review Sessions:** Held the day before the exam with the Exam STA and will go through guided solutions of problems on topics of that exam

**Office Hours:** Your Instructors will hold scheduled office hours or by appointment.

**Past Exams:** Can be found under files around a week before each exam.

**Online Lecture Notes:** Each Instructor posts their source code from the lecture. You can find these files linked from the class Canvas site.

**Lecture Videos:** There are a set of video lectures that cover course concepts.

**Tutoring and Academic Success Center:** [This site](#) Links to an external site. can get you 1-on-1 tutoring with Georgia Tech tutors from the Office of Undergraduate Education.

**OMED: Tutorial Services:** Drop-in services are available Monday - Wednesday from 4:00 p.m. - 8:00 p.m.,. Appointments and virtual sessions available Monday - Thursday. (<https://omed.gatech.edu/academicsupport>Links to an external site.)

**Yourself!!!:** It is up to you to seek out these resources as you see fit. However, as with most things in life, you will only get out of these resources what you put in. Come prepared with questions, and be ready to work hard.

## Help Desk

Help Desk is this class's form of TA Office Hours. Help desk generally starts the 2nd Monday of the semester. It's a great resource for you to ask TAs specific questions about course topics and homework. Please come to help desk after you have debugged your code and have a specific question in mind. This will allow TAs to get to you faster and help you more effectively. Help desk will occur in CULC 272 on Monday through Thursday, 2-7pm, and on Friday from 2-5pm. We do encourage students to come earlier in the day though, since help desk will close promptly at the ending time, meaning you may not be helped if you join too late.

## Ed Discussion

This is an awesome resource you can use to ask or answer questions about course format, course content, or homework help. You can ask questions 24/7 and chances are you'll get an answer much faster

than if you were to email a Instructor or TA. Most questions can be asked publicly to the class and you can choose to be anonymous to your classmates when you're asking those questions. If you would like to share your code to ask a more complex question, please create a private post that only the instructors can see. **\*Please DO NOT POST YOUR CODE publicly on Ed Discussion.\*** Aside from that, collaborating with your classmates by asking and answering questions is highly encouraged!

## Course Policies, Expectations & Guidelines

### Attendance and/or Participation

This is a synchronous course. While not mandatory, students are expected to attend all lectures. There will be attendance quizzes given in lecture for extra credit. Recitation is optional but is an opportunity for extra credit.

### Course Announcements

All course announcements will be made through Canvas. It is your responsibility to have notifications turned on, read any announcements in their entirety and make note of any due date changes.

### Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgment, and responsibility between faculty members and the student body. See [Student Faculty Expectations](#) for an articulation of some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

### Subject to Change Statement

The syllabus and course schedule may be subject to change. Changes will be communicated via the Canvas announcement tool. It is the responsibility of students to check email messages and course announcements to stay current in the course.

### Allowed Matlab Functions

This course provides you with a reference sheet found on canvas. You may only use functions found on this reference sheet. Use of other functions will result in substantial point loss. We also reserve the right to ban any function on any homework or test problem, which will be stated clearly in the problem statement.

### Communication Policy

- Please use professional etiquette when communicating with your Instructors, your TAs, and your peers.
- In any email, include "CS1371" in the subject line
- With over 600 students in the class, Instructors cannot respond to all emails immediately. As such, if you have a question, please initially email your recitation TA. If they do not respond or are unable to assist you with your question, email an STA. The step up from there is the Head TA or Course Manger, and then finally your Instructor.
- Email will be checked regularly, Monday – Friday. During the week, we will do our best to respond to all emails within 24 hours; emails may not be checked on weekends and holidays. If there are special circumstances that will delay a response, we will make an announcement to the class.

- **If you have any issues, including but not limited to grade disputes, missing grades, etc., communicate with your TA/Instructor ASAP. Leaving these things to the end of the semester makes it much more difficult for everyone.**
- For questions related to technology, please contact: [Digital Learning Support](#).

### **Student Conduct and (N)etiquette**

Communicating appropriately in the online spaces can be challenging. In order to minimize this challenge, it is important to remember several points of “**internet etiquette**” that will smooth communication for both students and instructors:

1. *Read first, Write later.* Read the ENTIRE set of posts/comments on a discussion board before posting your reply, to prevent repeating commentary or asking questions that have already been answered.
2. *Avoid language that may come across as strong or offensive.* Language can be easily misinterpreted in written electronic communication. Review email and discussion board posts BEFORE submitting. Humor and sarcasm may be easily misinterpreted by your reader(s). Try to be as matter of fact and professional as possible.
3. *Follow the language rules of the Internet.* Do not write using all capital letters, because it will appear as shouting. Also, the use of emoticons can be helpful when used to convey nonverbal feelings. J
4. *Consider the privacy of others.* Ask permission prior to giving out a classmate's email address or other information.
5. *Keep attachments small.* If it is necessary to send pictures, change the size to an acceptable 250kb or less (one free, web-based tool to try is picresize.com).
6. *No inappropriate material.* Do not forward virus warnings, chain letters, jokes, etc. to classmates or instructors. The sharing of pornographic material is forbidden.

**NOTE:** *The instructor reserves the right to remove posts that are not collegial in nature and/or do not meet the Online Student Conduct and Etiquette guidelines listed above.*

### **University Use of Electronic Email**

A university-assigned student e-mail account is the official university means of communication with all students at Georgia Institute of Technology. Students are responsible for all information sent to them via their university-assigned e-mail account. If a student chooses to forward information in their university e-mail account, he or she is responsible for all information, including attachments, sent to any other email account. To stay current with university information, students are expected to check their official university e-mail account and other electronic communications on a frequent and consistent basis. Recognizing that some communications may be time-critical, the university recommends that electronic communications be checked minimally twice a week.

### **Plagiarism & Academic Integrity**

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. All students enrolled at Georgia Tech, and all its campuses, are to perform their academic work according to standards set by faculty members, departments, schools and colleges of the university; and cheating and plagiarism constitute fraudulent misrepresentation for which no credit can be given and for which appropriate sanctions are warranted

and will be applied. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or [Academic Honor Code](#).

Any student suspected of cheating or plagiarizing on a quiz, exam, or homework assignment will subject to the Honor Violation Resolution process which will begin by receiving an email containing the following form.

**CS1371 STUDENT HONOR VIOLATION FACULTY CONFERENCE RESOLUTION (FCR)**

NAME: «name»

GT ID: «user\_id»

SECTION: «section»

INSTRUCTOR: «instructor»

ASSIGNMENT: Homework «HW\_No»

OFFENCE NUMBER: «Strike»

Evidence of an Academic Honor Code violation has been detected in your assignment submission. The evidence indicates that you violated the Institute's and our course's academic misconduct policies because your submitted code was not your own intellectual creation. Specifically, your submitted solution code was generated from an AI, or a result of inappropriate collaboration, or the work of someone else. This is a violation of the course academic honesty policy and the Institute's rules regarding academic integrity. More specifically, our class syllabus states:

**Plagiarism & Academic Integrity:** Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. All students enrolled at Georgia Tech, and all its campuses, are to perform their academic work according to standards set by faculty members, departments, schools, and colleges of the university; and cheating and plagiarism constitute fraudulent misrepresentation for which no credit can be given and for which appropriate sanctions are warranted and will be applied. (For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or Academic Honor Code.)

Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

This email constitutes a Faculty Conference Resolution (FCR). At any point, you may decline this process and opt instead to have the Office of Student Integrity (OSI) resolve this case. Make sure to read the following documentation from OSI: · Faculty Conference Resolution (<https://osi.gatech.edu/faculty/faculty-conference-resolution>) · Section F.3. of the Student Code of Conduct Student Rights (<http://policylibrary.gatech.edu/student-life/student-code-conduct>) If you accept responsibility for academic misconduct, you will receive the following:

- **First offence:** a zero on this assignment, this academic warning, and a mandatory meeting with your instructor to discuss the offence and develop a strategy so that it does not happen again.
- **Second offence:** a zero on this assignment and a zero on the previous assignment, this academic warning, and a mandatory meeting with your instructor to discuss why a second offence has occurred.
- **Third offence:** a zero on this assignment and a zero on the previous two assignments, this academic warning, a mandatory meeting with your instructor to discuss what happens next, and the incident reported to OSI.

Please reply by email within the next two (2) working days, as to how you would like to proceed with this incident with choice 1, or 2 from below:

1) You accept responsibility and accept the consequences described above, as the FCR.

2) You do not accept responsibility and would like to meet with OSI for mitigation (note that sometimes this takes several weeks). We will send them the collected evidence for justification.

## Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail your instructor as soon as possible to set up a time to discuss your learning needs.

## Technology Requirements and Skills

### Computer Hardware and Software

- High-speed Internet connection
- Laptop with a camera
- Windows for PC computers OR Mac iOS for Apple computers.
- Chrome Browser
- MATLAB Downloadable from GT
- Honorlock on Chrome

### Canvas

This class will use Canvas to deliver grades and important information to students. To login to Canvas visit [canvas.gatech.edu](https://canvas.gatech.edu).

### Honorlock

Exams will be in person but must be taken with Honorlock. The following are the requirements:

- Meet the Honorlock technical [requirements](#).
- Have a broadband internet connection (GT's network)
- Have a webcam and microphone
- Provide a picture ID and take a picture of themselves via a webcam as part of the exam process
- Honorlock is not compatible with Linux OS, Virtual Machines, tablets, or smartphones
- Honorlock requires the installation of Google Chrome and the Honorlock Chrome extension
- The Honorlock Chrome Extension can be downloaded [here](#)
- Additional helpful links
  - [Honorlock Help and Knowledge Base](#)
  - [Walkthrough of exam setup](#)
  - [Video Resources and Tutorial](#)
  - [24/7 Support](#)
  - [Privacy Statement](#)

### Technology Help Guidelines

**30-Minute Rule:** When you encounter struggles with technology, give yourself 30 minutes to 'figure it out.' If you cannot, then post a message to the discussion board; your peers may have suggestions to assist you. You are also directed to contact the Helpdesk 24/7.

When posting or sending email requesting help with technology issues, whether to the Helpdesk, message board, or me use the following guidelines:

- Include a descriptive title for the subject field that includes 1) the name of course 2) the issue. Do NOT just simply type “Help” into the subject field or leave it blank.
- List the steps or describe the circumstance that preceded the technical issue or error. Include the exact wording of the error message.
- When possible, always include a screenshot(s) demonstrating the technical issue or error message.
- Also include what you have already tried to remedy the issue (rebooting, trying a different browser, etc.).