CS 1301 Summer 2026

Introduction to Computer Science

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

Instructor

Ronnie Howard

Office: CCB 260

Office Hours: TBD

rhoward46@gatech.edu (Please include 'CS 1301' in the subject line.)

Course Description

In this course, you will delve into the fundamental concepts of computer programming using a high-level language. You will gain proficiency in combining control flow constructs, data

structures, and functions to create useful programs. The primary focus will be on honing your computational problem-solving abilities, equipping you with the skills necessary to tackle real-world challenges by breaking them down into manageable and executable steps for a computer. Through hands-on projects, you'll apply theory and express creativity through coding. My vision for this course is that the collective experiences and expertise you acquire will empower you to use computing to tackle a diverse array of problems that align with your professional goals and personal interests – all while having a lot of fun!

Course learning objectives

- Apply algorithmic thinking to real-world problems.
- Analyze problems and abstract key information to formulate computational solutions.
- Integrate control flow constructs and data structures to create effective programs.
- Design and implement modular code using functions and classes.
- Recognize computational problem-solving patterns and apply them to new scenarios.
- Systematically test, evaluate, and debug programs to resolve issues.
- Compare and assess algorithms' efficiency and environmental impact.
- Identify and understand the basic principles of secure computing.

When and where

- **Lectures:** MWF 9:15 – 12:15 PM, Love 183
- **Help Desk at CoC 242:** Schedule will be posted on Canvas at the start of the semester.

Course Components

1. **Lectures** – Attend, write code along with your instructor, and learn. This is where we will introduce new concepts and problem-solving approaches to help you build your computational thinking skills. Bring your laptop to write code yourself during class. Bring paper and a pencil to take notes. Attendance is required; frequent short quizzes will be given that will be used to determine your participation grade. The topic schedule is included on the Living Schedule posted on Canvas so you can keep up with the reading.
2. **Help Desk** – Help Desk provides individual and group-oriented help for specific homework, lab questions, and general clarification on other topics. Help Desk hours will be announced on the course Canvas site.
3. **Ed Discussion** – Our class will also offer an online forum where you can ask questions. You can access this forum by clicking on Ed Discussion on the side bar. Use Ed Discussion to discuss course material with your classmates and the TAs. While our TAs diligently check the forum, allow 24 hours to obtain a response. **Never post your code publicly on Ed Discussion!** Sharing code publicly will be treated as an academic misconduct.

- **Homework (10)** – The homework policy will be strictly enforced starting with the course's first assignment. Homework helps you learn the topics in-depth and apply the material covered in lectures to programming problems. They provide important practice to cement your computational skills and help you learn the concepts well. Assignments are posted on Canvas, and must be submitted on **Gradescope** as specified. Homework sent by email is not accepted and never graded. Homework containing syntax errors will receive an automatic **zero grade**. Homework received up until 24 hours after the due date will be considered late and will receive an automatic **25-point deduction**. This means that if your late assignment scored 78 points, it will be reduced to 53 points. Homework over 24 hours late will not be accepted and will receive **a zero grade**. An assignment is considered **late** even if submitted a second past the deadline. Technical difficulties will **not** be considered for exemptions. Submit early to avoid issues.

4. **Exams (2)** – There will be two midterm exams in which you will demonstrate your understanding of the course material. Exams will require applying concepts covered in lectures, recitations, and textbook readings to solve new problems. Do not assume that doing the homework will be enough to prepare you for the tests. We will also provide you with previous exams for practice and familiarize you with different question formats. **All exams are given on paper**.
5. **Final Exam** – The final is a cumulative assessment of everything in the course scheduled during the official institute-allocated exam period. The final exam may not be exempted. It is your responsibility to ensure that all the grades in Canvas are correct ***before finals week.*** After that, the only grade discussion will be about grading your final exam. Any discussion of your grades after the final exam must be done in person and ***cannot occur*** until the 2nd week of the following semester you are in school. Final exams are not released or returned to students. They remain on file for the college.
6. **Participation** – Your participation grade will be determined through the mini quizzes given during lectures and by completing required surveys post-exams and lab assignments.

Attendance Policy

Lecture attendance is required; frequent short quizzes will be given that will be used to determine your participation grade. **Exam attendance is required. All absences must follow the policies below.**

Allowed Absences & Requirements

1. Documented Emergencies

- Must be **verified through the Dean of Students**
- Must be submitted **as soon as reasonably possible**
- Personal documentation without Dean verification is not sufficient

2. Institute-Approved Absences (IAA)

- Must be submitted through the **Registrar IAA process**
- Must be submitted **at least 10 business days in advance**
- Late submissions may not be approved

If not approved or submitted on time:

- Accommodations are **not guaranteed**

Additional limits:

- Not for personal travel
- Typically limited to ≤10% of the instructional term
- Final exam absences require special approval

3. Religious Observances

- Must notify the instructor **within the first two weeks of the semester**
- Late requests may require formal review and are not guaranteed
- Accommodations are arranged directly with the instructor

4. Voting (Election Day)

- Must notify the instructor **at least 5 business days in advance**
- Treated as an officially excused absence

Failure to follow procedures may result in:

- Penalties
- Denial of a makeup exam

Makeup Exams

- Administered within 1 week of the original exam
- Students must be available within this window
- No makeup exams for unexcused absences

Programming Language and IDE

The language used in this class is Python. Python has an interactive development environment (IDE), IDLE, that is pure Python and comes as part of the download. Python is a high-level programming language that supports multiple programming paradigms: object-oriented, imperative, procedural, and functional programming styles. Your TAs will guide you in installing the software when you meet with them at the first week's recitation. If you wish to get started installing it in advance, use the guide provided here: 01 - Python Installation and Verification Handout Download 01 - Python Installation and Verification Handout

Online Free Textbook

For each set of topics in our living schedule, we recommend a reading from the free online book "How To Think Like a Computer Scientist: Learning with Python 3" by Peter Wentworth, Jeffrey Elkner, Allen B. Downey, and Chris Meyers:

http://openbookproject.net/thinkcs/python/english3e .. We encourage you to read the book before the scheduled lecture to prepare you for the live coding session we will do in class.

Course Materials

All course information and resources can be found in Canvas and Gradescope. This includes Syllabus, Assignments, Submissions, Announcements, Grades and Feedback, Resources, Recorded Lectures (if available), etc. Most assignments will be submitted using Gradescope, which you can find in the tab to the left on Canvas. The code from each lecture will be posted on Canvas under the Files tab by the end of the following day. Canvas and Gradescope are NOT forgiving about due dates and times. **Once the assignment folder closes, you are not allowed to turn in your work any other way.**

Grading Policies

Grades are calculated using the following percentages:

-

Category	Percentage
Coding Miniquizzes	2.5%
Participation Exercises	2.5%
Homework	20%
Midterm 1	20%
Midterm 2	25%
Final	30%
Practice Problems Extra Credit	0.5%
Total	100.5%

-

There is no curve in this course. Scores do not round up. You must have 90.0 or better to get an A, 80.0 or better to get a B, etc. If you are taking this class, Pass/Fail, you must score 70 or above to pass.

Homework Submission

Turning in homework properly is solely your responsibility. Read each homework assignment carefully. All homework assignments are automatically graded using Gradescope, and you have

unlimited attempts while the assignment folder is open, so we encourage you to work towards fixing your code until it passes all test cases. Different test cases evaluate your function implementation to ensure it works for different input values. Each homework assignment will include its grading rubric. It is your responsibility to make sure that you understand the expectations.

Grade Disputes

All grading disputes must be initiated within one week of the grade being available. Present grading disputes to your grading TA first. If your grading TA fails to resolve the dispute, contact the head TA. Follow the chain of command: if the head TA does not resolve the matter, see your instructor.

Life Happens Policy

We recognize that unforeseen circumstances can arise. To address these, we have established a policy for handling issues such as unexcused absences, including those with notes from the Dean of Students stating, "It is up to the discretion of the instructor" or similar language. Our approach is as follows:

- The **lowest homework grade** will be dropped (does not apply to ZyBooks).

Please understand that these are your only options for dealing with sickness and other hardships. Use them wisely.

Institute-Approved Absences and Homework Policy
In accordance with Institute Approved Absence (IAA) guidelines, accommodations are required only for coursework missed during scheduled class time. Assignments that are available for completion or submission outside of class—particularly those accessible prior to a planned absence—are expected to be completed by the original deadline. In such cases, no extensions or alternative arrangements will be provided, as students already have a reasonable opportunity to complete the work.

Academic Honesty and Collaboration Policy

Students are expected to read, understand, and abide by the Georgia Tech Academic Honor Code. Academic misconduct is taken very seriously in this class. Your lab and homework assignments may be evaluated via demo or code review. During this evaluation, you will be expected to be able to explain every aspect of your submission. You are expressly forbidden from supplying a copy of your homework, electronically or otherwise, to another student. If you share a copy of your homework with another student and they are charged with copying, you will also be charged.

Collaboration with other students currently in this CS 1301 class is an important learning method. The following explanation will help you understand collaboration. Students may only collaborate with fellow students currently taking CS 1301, the TAs, and the instructor. Collaboration means talking through problems, assisting with debugging, explaining a concept, etc. You should not exchange code or write code for others, whether it is on a tablet, piece of paper, a whiteboard, directly on a computer, etc. **Each individual programming assignment must be coded by you in its entirety**. Your submission must not be substantially similar to another student's submission. Collaboration at a reasonable level will not result in substantially similar code. **Students who turn in submissions that are not fundamentally unique will receive a zero and will be referred to the Office of Student Integrity.**

Artificial Intelligence Policy

We treat AI-based assistance, such as ChatGPT and Copilot, the same way we treat collaboration with other people: you are welcome to talk about your ideas and work with other people in the class and with AI-based assistants.

However, **all work you submit must be your own**. **You should never include in your submissions anything that you did not write directly in your assignment.**

Including anything you did not write in your assignment will be treated as an academic misconduct case. If you are unsure where the line is between collaborating with AI and copying AI, we recommend the following heuristics:

Heuristic 1: Never hit "Copy" within your conversation with an AI assistant. You can copy your own work into your own conversation but do not copy anything from the conversation back into your assignment. Instead, use your interaction with the AI assistant as a learning experience.

Heuristic 2: Do not have your assignment and the AI agent open at the same time. Similar to the above, use your conversation with the AI as a learning experience, then close the interaction down, open your assignment, and let your assignment reflect your revised knowledge.

This heuristic includes avoiding using AI directly integrated into your composition environment: just as you should not let a classmate write content or code directly into your submission, you should also avoid using tools that directly add content to your submission.

Deviating from these heuristics does not automatically qualify as academic misconduct; however, following these heuristics essentially guarantees your collaboration will not cross the line into misconduct.

Excused Absence and Exceptions Policy

Excused absences include documented incapacitating illness, death in the family, judicial procedures, military service, or official school functions. Please contact the Dean of Students with your excuse; they can provide the proper documentation. Documentation must be provided on letterhead with the signature of a physician, supervisor, or another appropriate official to the Dean of Students. Please do not send this documentation through me. Fill out the form you will find at https://studentlife.gatech.edu/request-assistance Links to an external site.. Once you receive the response, please forward Dr. Borela the email from the Dean of Students.

We do not offer makeup exams in this course. If you miss the exam due to an exceptional circumstance, as outlined above, your exam grade will be replaced with your Final Exam. For example, if you miss Exam 1 and score 85 points on the Final Exam, your Exam 1 grade will be 85 points.

Email Policy

When emailing your TAs or instructor, **always include the course number and section you are in as the email's subject**. If you have questions about the homework, please direct those to Ed Discussion instead of email as you will have a better chance of receiving a quick reply. If you have personal issues or grade-related concerns, email Ronnie. Please allow 24 hours to receive a response to your email. If your email is sent after 6:00 PM on Friday, you will most likely receive a response in the following business day.

Course Expectations

Readings should be completed before class on the date indicated on the Living Schedule. Take notes on paper during the note-taking portion of the class, then program along with the instructor during the programming portion of the class. Do your homework and go to recitation every week. Do not skip lectures. Short frequent quizzes will be given during lectures. These short quizzes will make sure you are keeping up. They also allow you to identify muddy points, and you can ask for additional clarification from the instructor or the TAs.

Professionalism and Student Conduct

I expect every student to behave in a professional manner, befitting Georgia Tech. Your behavior matters, and poor behavior can result in a letter grade drop for the course. I expect you to be aware of and abide by Georgia Tech’s Faculty Expectations and Georgia Tech’s Code of Conduct. Lack of professionalism that crosses over into academic misconduct or violations of the Code of Conduct may be more severe and will likely require that the matter be referred to the Dean of Students Office.

Professional behavior is expected at all times—both in-person and online. This includes respectful communication with peers, teaching assistants, and instructors, whether via email, forums, meetings, or class discussions.

Clear, courteous, and constructive dialogue fosters a positive learning environment for everyone. Inappropriate tone, hostile language, or disrespect directed toward any instructional staff or fellow student—particularly concerning assignments—will not be tolerated.

Any student who communicates disrespectfully about an assignment may receive a zero on that assignment. This applies regardless of the assignment's point value or context.

You belong here!

Our course is built on the understanding that each student brings a unique background and perspective. In this class, we strive to create a respectful environment where everyone feels heard and valued. We always welcome suggestions that can help us achieve this goal.

Accessibility

Students with disabilities: your access to this course is extremely important to us. The institute has policies regarding disability accommodation, which are administered through the Office of Disability Services Links to an external site.. Please request your accommodation letter as early in the semester as possible so we can arrange your approved academic accommodation as we cannot retroactively apply accommodations.

Mental Health Resources

As a student, you may experience a range of issues that can cause barriers to learning. These might include strained relationships, anxiety, high levels of stress, feeling down, or loss of motivation. The Center for Assessment, Referral, and Education (CARE) may help you find the best resource to address issues you might experience over the semester. You can learn more about free mental health services available on campus by accessing their website https://care.gatech.edu Links to an external site.. If you are experiencing a crisis, call 404-894-3498. Help is available 24 hours a day, seven days a week.

How to Succeed in This Course

Learning to program is like learning a sport. It takes actual, consistent practice to become comfortable and proficient at coding. The assignments are opportunities to learn the material you will be responsible for on tests and the final exam. They will also help you develop computational thinking skills essential throughout your career!

Remember that just doing the homework is not enough. You are also expected to read the textbook and all the provided handouts, attend recitation weekly, attend every lecture, take advantage of extra review sessions, and review the course material often.

Use collaboration wisely to help you learn. Take responsibility for your coursework submissions; it is your job to ensure you successfully turned in what you meant to. Be sure to verify your submission. This is how you make sure that you get credit for the work you do.

Be proactive about seeking help! When you ask your instructor and TAs for help, be prepared with specific questions and bring your work along. Begin your assignments early and use the resources that are provided for you. Since the content is cumulative in nature, earlier concepts are fundamental to your success throughout the course, so be determined to succeed from the start.