

## Course Information

**Course prefix:** CS

**Course number:** 8001

**Section:** ODA

**CRN:** 56273

**Instructor First Name:** Mary

**Instructor Last Name:** Hudachek-Buswell

**Semester:** Summer

**Academic year:** 2026

## Course Description:

Introduction to essential data structures and algorithms used throughout software development. Students will encounter and implement linear, nonlinear, hierarchical, and probabilistic data structures and algorithms while analyzing their performance and properties.

## Course Learning Outcomes

- Continue to develop Java programming skills
- Work with common data structures used in software development by coding their low-level implementation
- Become familiar with common algorithms used for sorting, pattern matching, and graph traversal
- Become familiar and comfortable with using Big-O notation to evaluate which data structures or algorithms are appropriate to use for a particular programming problem
- Improve one's ability to test and debug programs

## Course Materials Required to be Purchased

This class does not have any materials that are required to be purchased.

## Grading Policy

This course uses a fixed grading scale. Grades are not curved. Final grades are calculated to the nearest tenth. Scores are not rounded up. For example, a final score of 69.9 will be recorded as a U, not an S. Scores are calculated using the following assignment category percentages:

### Letter Grade Scale:

- |          |                |
|----------|----------------|
| <b>S</b> | 70.0 and above |
| <b>U</b> | Below 70.0     |

**Pass/Fail Option:** Students taking the course on a Pass/Fail basis must earn a minimum score of **70.0** to receive a Pass.

## Academic Honesty/Integrity Statement

Students are expected to read, understand, and abide by the Georgia Tech Academic Honor Code. Academic misconduct is taken very seriously in this class. **You are expressly forbidden from supplying a copy of any assignment, electronically or otherwise, to another student. If you share a copy of your assignment with another student and they are charged with copying, you will also be charged.**

Collaboration with other students currently in this class is an important learning method. The following explanation will help you understand collaboration. Students may only collaborate with fellow students currently taking CS 8001, 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 and their own will receive a zero and will be referred to the Office of Student Integrity.

We strongly urge you to be familiar with these Georgia Tech sites:

- The Honor Code — <https://osi.gatech.edu/students/honor-code>
- Office of Student Integrity — <http://www.osi.gatech.edu/index.php/>

## Artificial Intelligence Policy

Use of Generative AI Tools in This Course

We recognize that generative AI tools (e.g., ChatGPT, Copilot) can support learning when used responsibly. In this course, you may use AI tools to brainstorm, explore ideas, or clarify concepts—similar to how you might collaborate with peers. However, **All Submitted Work Must Reflect Your Own Understanding and Original Expression.**

### Academic Integrity and Authorship

You are responsible for ensuring that all submitted work is your own. Submitting content generated by AI tools will be treated as academic misconduct. If you're unsure whether your use of AI is appropriate, please ask.

### Guidelines for Ethical AI Use:

- **Use AI for Learning, Not for Writing Your Submission**  
Do not copy and paste AI-generated text into your assignment.

You may consult AI tools to help you understand a topic or generate ideas. Instead, reflect on what you've learned and write your response in your own words.

- **Separate Your Writing from AI Interactions**

Do NOT work on your assignment and use an AI tool simultaneously.

Treat your AI interaction as a preparatory step—like reading a source or discussing with a peer. After using AI, close the tool and write your assignment independently reflecting your revised knowledge.

- **Avoid AI Tools That Auto-Generate Code**

This is the equivalent of “writing” an essay for an English class by reading someone else’s essay on the same prompt. It is plagiarism.

These guidelines are designed to help you stay within academic integrity boundaries.

Deviating from them does not automatically mean misconduct, but it increases the risk.

## Accommodations for Students with Disabilities

Your access to this course is extremely important to us. The Institute has policies regarding disability accommodations. If you do not already have one, please request your accommodation letter from the Office of Disability Services in the first two weeks of the semester. Reach out to your instructor *promptly* (after receiving your letter, if relevant) so that we can discuss how to adjust your course experience according to your approved academic accommodation in lectures or recitation.