

# Principles of Computer Programming II

## CSCI 1302

April 29, 2025

### Basic Facts

**Course:** CSCI 1302 - Sections B (29171), Spring 2025.

**Instructor:** Dr. Clément Aubert, <https://spots.augusta.edu/caubert/#contact>

**Meeting Time:** Tues./Thurs., 5:30–6:45pm in University Hall 328

### Course Description

A continuation of problem solving methods and algorithm development. Topics include data structures and their implementation, algorithm development and programming. The emphasis is on program development and style.

### Prerequisites

To enroll in this course, you must have a minimum grade of C in CSCI 1301 or CSCI 2060.

### Learning Outcomes

Students who successfully complete this course should be able to:

1. Develop advanced program manipulating user input and files.
2. Understand and be capable of implementing simple algorithms using (tail and head) recursion.
3. Design (with UML class diagrams) and implement classes using properties, polymorphism and complex relationships (realization / implementation, inheritance, ...).
4. Declare, populate and manipulate one- and two-dimensional arrays in non-trivial ways.
5. Understand the difference between reference and value types.
6. Locate and use simple API such as the `string` or the `list` C# implementation methods.
7. Leverage exceptions to improve the reliability of their programs.
8. Define and manipulate simple (abstract) data-types such as (linked) lists.

## Textbook

This course does not use a traditional textbook; instead, it uses a collection of open-source learning resources available at <https://princomp.github.io/>, where content will be added through the semester.

An excellent reference is *C# 12 in a Nutshell: The Definitive Reference* by Joseph Albahari (978-1098147440). AU students can access this resource using Safari Books Online.

## Past Exams

- Fall 2024, Exam #1
- Fall 2024, Exam #2
- Fall 2024, Final exam
- Spring 2025, Exam #1
- Spring 2025, Exam #2

Solutions can usually be found at [princomp.github.io/solutions/](https://princomp.github.io/solutions/) by looking for relevant keywords or browsing by theme.

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## Practical Information

### Computer Requirements

Since this is a computer programming class with online resources, you will need to have access to a reliable Internet connection and a computer on which you can install software. It can be either a PC running Windows, a Mac running MacOS, or a PC running Linux (most major distributions); notably, however, Chromebooks are not supported. Please, find more details (e.g., on the hardware requirements) at [https://princomp.github.io/docs/programming\\_and\\_computer\\_usage/computer\\_requirements](https://princomp.github.io/docs/programming_and_computer_usage/computer_requirements) if needed.

### Class Attendance

This class will be conducted face-to-face, unless there are unforeseen changes during the semester. You are expected to attend all classes and complete all assignments. We recognize that sometimes you will need to miss class due to unexpected circumstances (illness, injury, etc.). Understand, however, that you are still responsible for all course material, whether or not you attend class, and missing class may make it easy to fall behind. Note that students that stop attending *may* be withdrawn by the instructor.

### Announcements

Important class information will be shared in class and over email. Note that Brightspace/D2L/LMS will primarily serve as a platform to share your project and access your grade, but that no major announcements will be made exclusively on Brightspace/D2L/LMS.

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## Grades

Students will be evaluated by the following measures:

1. **Projects:** Five times (plus/minus one) time during the semester, students will have to return C# projects following precise prompts and instructions shared at <https://princomp.github.io/projects/su> bmission. You can browse previous projects to get a sense of their difficulty and requirements.
2. **Exams:** There will be two in-class exams, held during the regular class periods. They will require you to write programs on paper, without the help of any reference material, as well as answer questions about programming concepts.
3. **Final:** The final exam will be similar in content to the midterm exams, except that it will be 2 hours long.

Refer to the planned schedule for estimated dates, and to Brightspace/D2L/LMS to get your current grades.

Your grade will be computed as follows:

Projects ( $\times 5 \pm 1$ )	10%
In-class Exams ( $\times 2$ )	50%
Final Exam	40%

using the following course grade scale:

Below 65	65–70	70–79	80–89	90–100
<b>F</b>	<b>D</b>	<b>C</b>	<b>B</b>	<b>A</b>

A **bonus** project count toward the project grade, but grades do not overflow from one category to another: obtaining for example 102% in your project grade will not imply an increase in your exam grade.

Refer to the Course Policies for information about late or missed evaluations.

## Planned Course Schedule

Date	Topic	Assignments (project timeline tentative)
Tue, Jan 07	Syllabus & C# review	
Thu, Jan 09	C# review (contd) & class properties	
Tue, Jan 14	Class properties (contd)	
Thu, Jan 16	Exceptions	
Tue, Jan 21	Exceptions & 1D arrays	Project #1: Dice Throws Counter (refresher)
Thu, Jan 23	1D arrays (contd) – remote learning	
Tue, Jan 28	1D arrays (contd) – remote learning	
Thu, Jan 30	1D arrays	
Tue, Feb 04	2D arrays	
Thu, Feb 06	2D arrays (contd)	Project #2: Bookmarker (properties & exceptions)

Date	Topic	Assignments (project timeline tentative)
Tue, Feb 11	Generic Type Parameter, Ref. vs Value arg. types	
Thu, Feb 13	Exam # 1 review	
Tue, Feb 18	-	Exam #1
Thu, Feb 20	Inheritance	
Tue, Feb 25	Polymorphism	
Thu, Feb 27	Abstract	
Tue, Mar 04	Interface	
Thu, Mar 06	<b>Spring pause - no class</b>	
Tue, Mar 11	Review on OOP Design & Files	
Thu, Mar 13	Files (contd)	
Tue, Mar 18	Recursion	
Thu, Mar 20	More on Recursion	Project #3: Species (inheritance, polymorphism)
Tue, Mar 25	Recursion & Files	
Thu, Mar 27	Comments on Species project, UML review, Discussion on abstract classes	
Tue, Apr 01	Exam #2 review (contd)	Project #4: FileDisplay Class (files)
Thu, Apr 03		Exam #2
Tue, Apr 08	<b>Spring break - no class</b>	
Thu, Apr 10	<b>Spring break - no class</b>	
Tue, Apr 15	Exam #2 return	
Thu, Apr 17	.Net list & Custom List	
Tue, Apr 22	Custom List (contd)	
Thu, Apr 24	Course Review	Project #5 (bonus, on D2L, due Apr. 28) (solution)
Tue, Apr 29	Preparing for the final exam	
Tue, May 06	Final Exam (08–10pm)	

If there are any major changes, an announcement will be made in class and via email.

Dates are just estimates (the pace will be adjusted to the class as necessary), but exam dates will not change.

## Course Policies

### Late Policy

Projects are (generally) due at 11:59pm on the assigned due date, and no late assignments will be accepted. There will be plenty of time to complete the projects, so plan ahead for the possibility of illness, car malfunctions, power outages, or other setbacks.

Exams must be taken in person on the date of the exam. In extenuating circumstances, such as unavoidable work commitments or the need to quarantine due to COVID-19 exposure, the instructor may give permission to make up the exam on an alternate date or to place the weight of the missed exam onto the weight of another exam.

Any request to miss a scheduled exam must be made *prior to the exam* and accompanied by documentation of the extenuating circumstances, unless of course it is an emergency, in which case the student is asked to inform the instructor as soon as they can, preferably over email. Missing an exam without making prior arrangements nor submitting documentation proving the nature of the emergency will result in a grade of zero.

## Withdrawals

It is the student's responsibility to initiate a withdrawal before midterm in order to receive a grade of **W** rather than **WF**. Although instructors have the right to withdraw a student who has stopped attending class or submitting assignments, you should not assume that you will automatically be withdrawn if you stop attending.

Any student not withdrawn from the course who misses the final exam without a documented excuse (as described in the Late Policy section) will receive an **F**. In case of an documented emergency at the time of the final, the student may be allowed to receive a grade of **I**.

## Classroom Behavior

You are expected to come to class on time and stay until the end of the lecture: late arrivals and early departures disturb the learning experience for everyone. **No cell phones** or other visible distractions are allowed during lectures. Paying attention to the lecture, taking notes, and participating in in-class activities will help increase your retention of the material and improve your confidence on the exams. Asking questions in class is encouraged; your instructor would much rather stop the lecture to answer a question than continue on while the class is still confused.

## Academic Accommodations

Augusta University believes academically qualified individuals with disabilities should have equal opportunity and access to a quality education. We have been actively involved in fostering an environment that encourages full participation by students with disabilities in every segment of the University. <https://www.augusta.edu/tds/disabilityservices.php>

Accommodations for students with disabilities are made on an Individual basis. Students must register and request services from the Director of Testing and Disability Services. In order to receive services, students must provide current documentation of their disability from a qualified health professional. (visit <https://www.augusta.edu/tds/criteria.php> for documentation criteria)

Appointments can be made by calling The Office of Testing and Disability Services at (706) 737-1469 or by emailing [tds@augusta.edu](mailto:tds@augusta.edu). It is the student's responsibility for initiating an appointment and following "How to Receive Service" instructions found at: <https://www.augusta.edu/tds/accommodation.php>

The Office of Testing and Disability Services is located at 2500 Walton Way Galloway Hall Room 101 Augusta, GA 30904.

If the student does not obtain academic accommodations through The Office of Testing and Disability Services, it is assumed no special accommodations or modifications will be necessary to meet the requirements of this course.

## Academic Honesty

Honesty and integrity are essential to an academic community if the honors and credentials it awards are to receive respect. The responsibility for the practice and preservation of honesty must be equally assumed by all of its members. Any type of dishonesty in securing those credentials therefore invites serious sanctions, up to and including a **WF** or **F** in the course, and expulsion from the institution. Augusta University's academic regulations, as well as the student's manual, provide specific definitions of cheating and plagiarism and describe the consequences for engaging in this kind of misconduct.

Unethical behavior of students in any form is not acceptable and *will not be tolerated* in the School of Computer and Cyber Sciences. Academic dishonesty – cheating on exams, plagiarism of the work of others, unapproved collaboration on graded work, and the like – will be dealt with immediately and with clear consequences. Depending on the nature and severity of the problem, a student who is guilty of any such violation may be: 1) withdrawn from the course with a grade of **WF** (counted as an **F** in the GPA); 2) given a grade of zero on the assignment; 3) given a grade of **F** in the course; or 4) otherwise penalized, at the discretion of the faculty member. Two occurrences of a **WF** grade for academic dishonesty will result in a student being expelled from the University, per current University policy as described in the University Catalog.

In general, all work you submit for this class must be entirely your own and must not be shared with anyone else. If you are unsure about whether or not certain kinds of collaboration are permissible, please ask your instructor.

## Campus Carry Legislation

Please be aware of the USG guidance on House Bill 280. Note that you **may not** carry a handgun if high school students are enrolled in the class, and that it is your responsibility to visit the registrar to determine whenever this is the case or not.