Lectures: Mon, Wed, and Fri, BCISE 121, Section 1: 11:00am-11:50am, Section 2: 1:10pm-2:00pm

Instructor: Shawn Bowers, bowers@gonzaga.edu, BCISE 009

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Office Hours: Mon, Wed, and Fri, 2:10pm–3:30pm, or by appointment. The quickest way for students to schedule an appointment is by emailing the instructor with their available days and times.

Course Description: This course covers topics related to the design and implementation of programming languages. Programming language concepts are introduced through a series of assigned projects to implement the front-end compilation steps along with a back-end interpreter for a typed procedural language. Various programming paradigms, language constructs, and language design decisions are presented throughout the course.

Prerequisites: CPSC 223. Students are expected to have a strong understanding and be able to apply what they have learned in prior programming courses.

Course Supplies: There is no textbook for the course. Students must have a GitHub account for homework submission. Students that choose to use their own computers for assigned work are responsible for installing, setting up, and maintaining software needed to complete homework.

Access to Course Materials: Lecture slides, lecture notes, homework, and a weekly schedule will be made available on the course webpage (www.cs.gonzaga.edu/bowers/courses/cpsc326). Canvas (canvas.gonzaga.edu) will only be used for posting grades. Piazza (piazza.com/gonzaga/spring2025/cpsc326) will be used for questions, discussions, and course announcements.

Grading: Grades are based on the number of points earned throughout the semester. <u>A total of 600</u> <u>points is possible</u>. Additional points beyond the 600 may also be available as extra credit (at the instructors discretion). Points are allocated across the following areas (excluding extra credit).

Point Total	Category	Description
240	Homework	8 assignments $(1, 2, 5, \& 6 \text{ at } 30; 3 \& 4 \text{ at } 40; 7 \& 8 \text{ at } 20)$
60	Final Project	Due prior to finals week, proposal week 8, one status update
60	Quizzes	6 quizzes at 10 points each, 3 make-up quizzes after initial 6
240	Exams	Two midsemester exams (60 each) , one final exam (120)

Letter grades are assigned based on the total number of points earned over the semester as follows.

А	=	552 +	C+	=	456 - 473
A-	=	534 - 551	С	=	432 - 455
B+	=	516 - 533	C-	=	414 - 431
В	=	492 - 515	$\mathrm{D}+$	=	396 - 413
B-	=	474 - 491	D	=	372 - 395

IMPORTANT: To pass the class you must earn at least 186 points (62%) towards homework (which includes the final project) and 186 points (62%) towards exams and quizzes. Any extra credit points awarded are added to the total points earned and not to any specific category.

Course Policies:¹

<u>Student Expectations</u>: Each student is responsible for understanding and learning the course material. If you do not understand lecture topics, or instructions on tests or assignments, it is your responsibility to

¹A full list of University academic policies and procedures are available at: www.gonzaga.edu/academics/academic-calendar-resources/registrars-office/policies-procedures/academic-policies-procedures.

ask for help from the instructor. It is important that you attend class and keep up with course content and assignments. If you become ill or have another emergency that prevents you from attending class, contact the instructor as soon as possible to make alternative arrangements. Students are expected to be engaged and participate in class lectures. *Laptop and other electronic device use during class is not allowed*. Exceptions are possible for students with note-taking accommodations or with instructor permission. In these cases, devices must be used solely for note-taking and must not present distractions for other students.

<u>Collaboration Policy</u>: Student collaboration is limited to high-level discussions concerning lecture content, lecture notes, and assignment instructions. Students may also discuss and help each other with the setup and general use of software tools (e.g., GitHub, IDE configuration, debuggers, build tools). However, all submitted answers to assignments, quizzes, exams, and projects *must* be the individual work of the student. You are *not* allowed to copy all or part of another student's answers, develop answers with another student, or copy and submit work from external sources without explicit permission of the instructor. External sources include IDE extensions such as copilot, systems based on large language models such as ChatGPT, and the internet in general. Similarly, obtaining and/or looking at another student's answers and/or knowingly giving your work to another student is *not* permitted.

<u>Academic Integrity Violations</u>: Violations of the collaboration policy will result of a 0 grade for the submission. Additional penalties may also include a grade of 'F' in the course and expulsion from the University. Violations found *after* completion of the course, including after a degree has been awarded, can be applied retroactively. Submitting work based on help that you received but that you do not fully understand and providing another student with help that leads them to a solution that they do not fully understand are violations of the policy. The instructor reserves the right to ask students to explain and recreate their answers to work they have submitted. Policy questions should be directed to the instructor.

<u>Late Policy</u>: All work must be turned in on time to receive full credit. Late work can be submitted up to one week with a 30% penalty. After one week, the penalty increases to 60%. All work must be submitted before finals week to be considered for grading. If you experience a serious emergency preventing you from completing an assignment, it may be possible to arrange a no-penalty alternative schedule.

<u>Quizzes and Exams</u>: Quizzes and exams must be completed during their scheduled times. Missed quizzes and exams will receive a score of 0. There are no make-up quizzes. Instead, additional quizzes will be given that can be used to replace missed and/or low quiz scores. Students with test accommodations should contact the instructor to discuss their testing needs and/or make arrangements with the Testing Center.

<u>Office Hours</u>: You are *strongly* encouraged to take advantage of office hours and/or make an appointment outside of office hours to meet with the instructor if you have questions about the course material.

<u>Incomplete Grades</u>: University Policy states that incomplete grades are "given when a student with a legitimate reason as determined by the instructor, does not complete all the work of the course within the semester that he/she is registered for the course." An incomplete grade can be given to a student who finds themselves in situations beyond their control that make academic success impossible. A grade of incomplete will not be given to student due to heavy course workloads or because they have fallen behind due to inadequate time management.

ABET Specific Outcomes of Instruction: Students completing the course will:

- 1. Understand that there are multiple programming paradigms
- 2. Understand design tradeoffs among language families
- 3. Understand design tradeoffs in languages of the same family
- 4. Use formalisms to describe a programming language
- 5. Write programs in a functional programming language
- 6. Write programs in a logic-based programming language