

**Lectures:** Monday, Wednesday, and Friday, PACCAR 105, Section 1: 11:00am–11:50am, Section 2: 1:10pm–2:00pm

**Instructor:** Shawn Bowers, [bowers@gonzaga.edu](mailto:bowers@gonzaga.edu), BCISE 009

**Graders:** Nisa Meshal [nmeshal@zagmail.gonzaga.edu](mailto:nmeshal@zagmail.gonzaga.edu), Ian Myers [imyers@zagmail.gonzaga.edu](mailto:imyers@zagmail.gonzaga.edu).

**Office Hours:** Monday and Wednesday 3:00pm–4:30pm, Friday 12:00pm–1:00pm; or by appointment. Students can schedule an appointment 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, focusing on the imperative and functional language paradigms. Programming language concepts are introduced through a series of homework assignments to implement the front-end compilation steps and an interpreter for a typed procedural language. Students also gain hands-on experience in functional and logic programming (if time) through multiple programming assignments. This course is required for students pursuing a BS in Computer Science.

**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 notes, homework, and a weekly schedule will be made available on the course webpage ([www.cs.gonzaga.edu/bowers/courses/cpsc326](http://www.cs.gonzaga.edu/bowers/courses/cpsc326)). Canvas ([canvas.gonzaga.edu](http://canvas.gonzaga.edu)) will be used for posting grades (along with GitHub). Piazza ([piazza.com/gonzaga/spring2024/cpsc326](https://piazza.com/gonzaga/spring2024/cpsc326)) will be used for questions, discussions, and course announcements.

**Grading:** Grades are based on the number of points earned throughout the semester. *A total of 700 points is possible.* Additional points beyond the 700 may also be available as extra credit. Points are allocated across the following areas (excluding extra credit).

<i>Point Total</i>	<i>Category</i>	<i>Description</i>
300	Homework	HW 0 at 10 points, HW 1–6 at 40 points each, HW 7–8 at 25 each
80	Final Project	Due end of semester, status updates in second half of semester
80	Quizzes	8 quizzes at 10 points each, 1 make-up quiz
200	Exams	Two midsemester exams (50 each), one final exam (100)
40	Participation	Approx. 40 class meetings at 1 point per meeting

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

A	=	644+	C+	=	532–572
A-	=	623–643	C	=	504–531
B+	=	602–622	C-	=	483–503
B	=	574–601	D+	=	462–482
B-	=	553–573	D	=	434–461

**IMPORTANT:** To pass the class you must earn at least 228 points (60%) towards homework (which includes the final project) and 168 points (60%) towards exams and quizzes. Any extra credit points awarded are added to the total points earned and not to any specific category.

## Course Policies:

Student Expectations: As a student, you are responsible for understanding and learning the course material. If you do not understand topics discussed in class, or instructions on tests or assignments, it is your responsibility to ask for help from the instructor. You can get help from the instructor during office hours, via email, during class meetings, or using Piazza. Start your assignments early to leave yourself enough time to ask questions and to complete the assignment once your questions are answered.

Collaboration Policy: 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, including git, GitHub, IDE configuration and use, debuggers, and so on. 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. Note that external sources includes 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.

Academic Integrity Violations: Violations to the collaboration policy will result, at a minimum, of a 0 grade for the submission. Additional penalties may also be applied, including a grade of 'F' in the course and/or expulsion from the University (see the University's academic honesty policy for additional details). Note that violations found *after* the completion of the course, including after a degree has been awarded, can be applied retroactively. Note that submitting work based on help that you received but that you do not fully understand as well as providing another student with help that leads them to a solution that they do not fully understand are both violations of the policy. The instructor reserves the right to ask students to explain, justify, and/or recreate their answers to any work they have submitted in the course. Questions concerning the collaboration policy, including clarification regarding what constitutes a violation, should be directed to the instructor.

Late Policy: All homework and project assignments must be turned in on or before the due date to receive full credit. Work completed after the due date can be submitted up to two weeks late with a penalty of 25%. All homework and project assignments must be submitted by the last official day of the semester to be considered for grading. *Note that assignments in this class are largely cumulative, requiring successful completion of prior assignments.* If you experience a serious emergency situation (medical or otherwise) that prevents you from being able to complete an assignment by the due date, it may be possible to arrange a no-penalty alternative schedule with the instructor. In such situations, students are also encouraged to contact the Center for Cura Personalis.

Quizzes and Exams: Quizzes and exams are to be completed during their scheduled times. *Missed quizzes and exams will receive a score of 0.* If you are unable to attend class due to a documented illness or emergency, you must contact the instructor prior to the class to make alternative arrangements. Students with testing accommodations are encouraged to contact the instructor to discuss their testing needs and/or to make arrangements with the Testing Center.

Attendance: 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. You will receive up to 1 point per class period based on participation and attendance. *Laptops and other electronic devices used during class lectures are highly discouraged, but if used, are only allowed for the purpose of note taking.*

Office Hours: You are *strongly* encouraged to take advantage of office hours or make an appointment to meet with the instructor if you have questions about the course material. Office hours are a great way to

ask questions and get one-on-one help with the material.

Incomplete Grades: University Policy states that incomplete grades can be “*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.*” A grade of incomplete is given to students who find themselves in situations beyond their control and that make academic success near to impossible. The Center for Cura Personalis and Academic Advising & Assistance are available to help in such situations. *A grade of incomplete will not be granted for students due to a heavy course workload or because they have fallen behind in their coursework 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

**University Academic Policies & Procedures:** A full list of academic policies and procedures at the University are available at: [www.gonzaga.edu/academics/academic-calendar-resources/registrar-office/policies-procedures/academic-policies-procedures](http://www.gonzaga.edu/academics/academic-calendar-resources/registrar-office/policies-procedures/academic-policies-procedures). Note that new policies are added and modified frequently.