Lectures: 12:25pm–1:40pm Tu/Th, HERAK 301

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

Office Hours: Tu/Th 2pm–3pm, Wed 11am–12pm and 1pm–2pm, or by appointment.

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.

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.

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). Blackboard (learn.gonzaga.edu) will be used for posting grades (along with GitHub). Piazza (piazza.com/gonzaga/spring2022/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 1000 points is possible. An additional 75 points beyond the 1000 will also be available as extra credit. Points are allocated across the following areas (excluding extra credit).

<table>
<thead>
<tr>
<th>Point Total</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>Homework</td>
<td>10 assignments at 50 points each</td>
</tr>
<tr>
<td>100</td>
<td>Quizzes</td>
<td>10 quizzes at 10 points each</td>
</tr>
<tr>
<td>50</td>
<td>Exam 1</td>
<td>Exam given in first half of semester</td>
</tr>
<tr>
<td>50</td>
<td>Exam 2</td>
<td>Exam given in second half of semester</td>
</tr>
<tr>
<td>100</td>
<td>Exam 3</td>
<td>Final exam given during finals week</td>
</tr>
<tr>
<td>75</td>
<td>Participation</td>
<td>30 class meetings (15 weeks) at 2.5 points per meeting</td>
</tr>
<tr>
<td>125</td>
<td>Project</td>
<td>An individual final project assigned mid-way through semester</td>
</tr>
</tbody>
</table>

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

A = 915+  C+ = 765–789
A- = 890–914  C = 715–764
B+ = 865–889  C- = 690–714
B = 815–864  D+ = 665–689
B- = 790–814  D = 615–664

IMPORTANT: To pass the class you must earn at least 375 points towards homework (which includes the final project), 180 points towards exams and quizzes, and 60 points towards participation. Extra credit points are only 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, or using the Piazza
system set up for the course. Please start your assignments early to leave yourself enough time to ask questions and to complete the assignment once your questions are answered.

**Assignment Grading:** All homework and project assignments must be turned in on or before the due date for full credit. It is expected that all homework and project work turned in is the work of the student. Any violation of this rule will result in a grade of 0 and/or an F in the course and possible suspension from the University.

**Assignment Late Policy:** Late homework will be accepted with a penalty of 10 points (20%) if turned in up to one week after the due date, and 15 points (30%) after one week past the due date. Homework scores below 40 points (80%) may be resubmitted once for regrading, and will receive at most 40 points (80%) in total. Late work cannot be submitted for regrading. All late work and work submitted for regrading must be turned in by the end of the 14th week of the semester.

**Quizzes and Exams:** All exams and quizzes are to be done individually. Clear cases of collaboration will result in a grade of 0 on the exam or quiz and/or an F in the course and possible suspension from the University. Students with testing accommodations must contact the instructor to arrange alternative testing times as needed. There are no make-up quizzes, and missed quizzes receive 0 points.

**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. Note that attendance will be a major factor in determining class participation.

**Access to Lectures Online:** Students that are unable to participate in-person due to a COVID-19 illness or related issue, may request access to participate in lectures over Zoom (as supported by available classroom technology). To access lectures over Zoom students must notify the instructor within a reasonable amount of time in advance of the lecture. To receive participation points when attending over Zoom, students must take and turn in a copy of their hand-written lecture notes (taken on paper, an iPad, or another tablet-based device). Access to lectures via Zoom is only available to students with a COVID-19 illness or related issue.

**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.

**Academic Integrity:** You are expected to follow the University’s policy on academic integrity. Please see the policy on the University’s webpage for more information, including procedures for violations. If you are unclear about the policy or how it applies to this class please ask the instructor.

**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/registrars-office/policies-procedures/academic-policies-procedures](http://www.gonzaga.edu/academics/academic-calendar-resources/registrars-office/policies-procedures/academic-policies-procedures). Note that new policies are added and modified frequently.