**Course name:** Introduction to Computer Science I

**Course number:** CS 161

**Credits:** 4

**Instructors (for all sections):**

- Luyao Zhang: zhangluy@oregonstate.edu

- Brian Baker: bakerb6@oregonstate.edu

- Samarendra Hedaoo: hedaoos@oregonstate.edu


Students in this section may be required to interact with teaching assistants and students in other concurrent sections of this same course.

**Required textbook:** None


**Course Description**

Overview of fundamental concepts of computer science. Introduction to problem solving, software engineering and object-oriented algorithm development and programming.


**Prerequisites or Corequisites**

Prerequisites: ALEKS score of 61 or higher
Co-requisite: MTH 112


**Two Fundamental Rules**

1. You are responsible for knowing the contents of the syllabus and all of the information about the course provided on Canvas.

2. You are responsible for knowing the contents of instructor announcements made on Canvas, which means that you should make sure you receive such announcements and that you check for new ones at least once a day.

## Communication

Students in this section may be required to interact with teachers, teaching assistants, and students in other concurrent sections of this same course.

When you email your TA or instructor, you can normally expect a response within 24 hours.  You should expect your assignments to be graded within four days of the due date.  Some extra time may be needed to grade assignment 10, due to its greater complexity.

## Online Privacy

Posts to Canvas or Ed Discussion discussions, Microsoft Teams and Canvas groups are public messages, and all such posts will be viewable by the entire class or the assigned group members. If you prefer that only the instructor sees your communication, use a private message or email.

Posting of personal contact information is strictly at your own risk.

## Time Expectations

Learning computer programming can be quite challenging for most people. You should expect to spend 16-20 hours/week. However, that is only an estimate. Some people will find the material more challenging than others - those people may require more time.

## Being Mentally Prepared

Learning computer programming can be quite challenging for most people. You should expect to spend 16-20 hours/week. However, that is only an estimate. Some people will find the material more challenging than others - those people may require more time.

Other people in the course may have more background in the subject than you do. Don't feel intimidated or put off if other students talk on the discussion board about topics that we haven't covered yet (or may not cover in this class at all). What's important is that you understand what we have covered.

Taking online courses tends to feel more isolated than taking on-campus courses. Even though there are still all the normal course elements - lectures, readings, homework, a teacher whom you can ask questions, etc. - sometimes students in an online course will feel like they are "teaching themselves" because interactivity in such a course is less forced and less immediate. We can't see or hear you, so we can't judge whether you're having trouble by your tone or expression. We are always happy to help, but you have to take the initiative and let us know when you run into problems.

**Technical Assistance**

If you experience any errors or problems while in your online course, contact 24-7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Service Desk for assistance. You can call (541) 737-8787 or visit the Service Desk online.

Getting Help

When you have a question about something, the order of steps you should take to pursue answers is roughly the following:

1. Review the relevant materials (assignment description, readings, lectures).

2. Search the class discussion boards on Ed Discussion and Teams to see if your question has been answered already.

3. Post to the class discussion board on Ed Discussion (by doing #1 and #2 first, you might save yourself asking a question, and you might also then be better able to help others). When you post a question on Ed Discussion and it's answered there, that benefits other people who have the same question (if you're shy, you can post anonymously).

4. If you've tried #1-3 and feel like your question hasn't been fully addressed, please email your assigned ULA or an instructor, or attend one of the office hours in the #general channel of the class Teams page.

5. For questions about assignment grading, first ask your ULA. If that doesn't resolve the issue, then ask an instructor.

6. For questions relating to course policies, or to request an extension, email the instructor for your section and in advance of the due date.

You are allowed to post small snippets of non-working code, as discussed in the section on Academic Integrity below. That also applies to answering other students' questions - please use pseudocode or give hints so the student will have the satisfaction (and learning reinforcement) of figuring out the solution for themselves. When you are willing to help others on the discussion board and take pains to not make anyone feel like they asked a dumb question, you are reinforcing both your technical knowledge and your people skills, both of which are highly valued not just here, but out in the real world.

The College of Engineering (COE) offers a variety of academic support resources for students. There are remote tutoring services available through the COE by appointment and drop-in. There are also tutoring services available through the College of Science. More information about these and other academic support services can be found on the COE's Academic Support website. For writing assistance, the Oregon State Online Writing Suite is a great resource for students enrolled in Ecampus courses. If you have additional tutoring needs, or have questions about these services, please contact Casey Patterson at casey.patterson@oregonstate.edu.

**Measurable Student Learning Outcomes**

At the completion of the course, students will be able to…

1. Demonstrate the ability to create a computer program to solve a problem using universal design.

2. Demonstrate the use of software to perform engineering problem solving.

3. Use critical thinking to identify computational solutions and articulate limitations related to social or structural inequities such as: racial, cultural, gender, socioeconomic and accessibility.

4. Describe the separate roles of modeling and analysis in engineering practice.

5. Acquire and apply new knowledge from external sources in engineering computation.

## Weights for Grading
- Assignments          70%
- Quizzes               30%

## Letter Grade

| Grade | Percent Range |
|-------|---------------|
| A     | 93-100        |
| A-    | 90-93         |
| B+    | 87-90         |
| B     | 83-87         |
| B-    | 80-83         |
| C+    | 77-80         |
| C     | 73-77         |
| C-    | 70-73         |
| D+    | 67-70         |
| D     | 63-67         |
| D-    | 60-63         |
| F     | 0-60          |

**Course Content**

| Week | Topic | Learning Activities |
|---|---|---|
| 1 | problem solving and some context | Quiz 1<br>Assignment 1 |
| 2 | variables, assignment, arithmetic, input/output, casting | Quiz 2<br>Assignment 2 |
| 3 | conditionals, iteration | Quiz 3<br>Project plan<br>Assignment 3<br>Reflection |
| 4 | functions | Quiz 4<br>Group project plan comparison<br>Assignment 4 |
| 5 | recursion, classes and objects | Quiz 5<br>Assignment 5 |
| 6 | string manipulation, lists | Quiz 6<br>Assignment 6 |
| 7 | tuples, mutability, object references and identity | Quiz 7<br>Assignment 7 |
| 8 | dictionaries, sets | Quiz 8<br>Group code comparison<br>Assignment 8 |
| 9 | practice with using nested structures | Assignment 9 |
| 10 | practice with object-oriented programming | Assignment 10 |
| Finals | | |

**Course tools**

- Canvas is the course management software used for this course.
- PyCharm is an IDE (integrated development environment) for Python. It's where you'll write your programming assignments.
- Gradescope is the site where you'll submit your code for the assignments.
- Vocareum is what we use to create the embedded interactive exercises in the exploration pages in Canvas.
- Ed Discussion is an asynchronous Q&A discussion forum where you can get official answers from the instructor.

- Microsoft Teams is a synchronous discussion forum where the TAs will hold their office hours, and which is also for more casual conversation with fellow students.
- GitHub is a popular tool for hosting version-controlled code repositories.
- More information about these tools is available on the "Tools you will need" page, in the "Start here" module in Canvas.

## Course Policies

### Assignments

- Your code will be tested to make sure it works correctly. It is your job to make sure that your code will behave correctly for any possible tests. One simple test is provided on Gradescope, for which you get immediate feedback. The remaining tests are "hidden" until the due date has passed.
- All assignments are due at **11:59pm Pacific Time**. Be aware of what time zone Canvas is using to display deadlines. If it's not your local time zone, you can set it to be. **The Canvas phone app always displays times for the time zone the phone is in.** This is important to keep in mind if you will be traveling.
- Always ask first before using any commands or techniques for assignments that haven't been covered in the **exploration pages** (the optional readings don't count), **otherwise you will lose points**. The reason for this is so you don't circumvent using material that the assignment was designed to make you practice.

### Late Work Policy
You may submit assignments and quizzes up to 48 hours late for half-credit, **with the exception of assignment 10**. If you have extenuating circumstances, please contact your instructor about them as early as possible.

### Makeup Exams
Makeup quizzes will only be given for quizzes excused in advance by the instructor.

### Incompletes
Incompletes will be given very rarely. If you have been doing well in the course so far, but an emergency comes up that prevents you from continuing according to schedule, let the instructor for your section know as soon as possible.

### Evaluation of Student Performance
- If you disagree with a score on any coursework, contact your TA by email within one week of receiving your grade. If you are dissatisfied with your TA's response (or if they neglect to respond at all), then you should contact your instructor about it.
- There is no extra credit.
- Grades will not be "curved".

Statement Regarding Religious Accommodation

Oregon State University is required to provide reasonable accommodations for employees and students sincerely held religious beliefs. It is incumbent on the student making the request to make the faculty member aware of the request as soon as possible prior to the need for the accommodation. See the Religious Accommodation Process for Students.

Guidelines for a Productive and Effective Online Classroom

*(Adapted from Dr. Susan Shaw, Oregon State University)*

Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university's regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

Expectations for Student Conduct

Student conduct is governed by the university's policies, as explained in the Student Conduct Code (https://beav.es/codeofconduct).

This program strives to prepare students for careers in computer science, which includes preparing students to communicate professionally. Therefore, students in this class are expected to communicate in a professional manner in discussion forums, email messages and all communications for this course. Critiques, disagreements, problems, or other topics of a sensitive nature can be addressed, but should be addressed civilly and professionally. If a student's communications become unprofessional, disruptive, abusive, inflammatory, or if they otherwise obstruct the learning process of the class, the instructor may restrict the student from participating in the electronic forums associated with the class and notify Ecampus and the OSU Office of Student Conduct and Community Standards. Productive learning communities and workplaces depend on civil, professional discourse. It is our hope that this policy strengthens your learning community and prepares you for the professional workplace.

Establishing a Positive Community

It is important you feel safe and welcome in this course. If somebody is making discriminatory comments against you, sexually harassing you, or excluding you in other ways, contact the instructor, your academic advisor, and/or report what happened at http://studentlife.oregonstate.edu/studentconduct/reporting so we can connect you with resources.

Academic Integrity

Integrity is a character-driven commitment to honesty, doing what is right, and guiding others to do what is right.  Oregon State University Ecampus students and faculty have a responsibility to act with integrity in all our educational work, and that integrity enables this global community of learners to interact in the spirit of trust, honesty, and fairness.

Academic misconduct, or violations of academic integrity, can fall into seven broad areas, including but not limited to: cheating, plagiarism, falsification, assisting, tampering, multiple submissions of work, and unauthorized recording and use.

It is important that you understand what student actions are defined as academic misconduct at Oregon State University.  The OSU Libraries offer a tutorial on academic misconduct, and you can also refer to the OSU Student Code of Conduct and the Office of Student Conduct and Community Standard's website for more information.  More importantly, if you are unsure if something will violate our academic integrity policy, ask your professors, GTAs, academic advisors, or academic integrity officers.

Academic Integrity DOs and DON'Ts
- Do feel free to discuss course content with each other, even including general discussion of homework assignments and how to fix specific issues.
- Do feel free to post small snippets of non-working assignment code to Ed Discussion or the official course Microsoft Teams. If you have trouble narrowing the problem down to a small snippet, just describe the problem as well as you can and/or ask your TA for help.
- Do feel free to ask conceptual questions related to assignments on Ed Discussion or the official course Microsoft Teams.
- Do feel free to post code for the **exploration exercises** on Ed Discussion or the official Microsoft Teams page for the course.
- **Don't** post any quiz questions or answers in any form.
- **Don't** make your code for assignments publicly accessible, for example by posting it on Stack Overflow, Chegg, a public GitHub repository, etc.  Any GitHub repository you post assignment code on must be **private**.  Later courses will have assignments specifically designated as portfolio assignments, which you will be able to post in a public repository.
- **Don't** use AI such as **GPT or GitHub Copilot** to generate code for assignments.
- Do feel free to share and compare your assignment code with other students on Ed Discussion or the official course Microsoft Teams **starting the Sunday after the assignment was due**.  Keep in mind that there's not just one correct way to write a program - there's almost always a variety of correct approaches.  As you compare with others' code, try to notice what seem to be

advantages or disadvantages of a particular approach, and don't be afraid to ask questions about why someone made a certain design decision.
- **Don't** copy someone else's code, in whole or in part, whether someone else in the course, a previous student in the course, or code you found somewhere online. **It's easy for us to detect plagiarism, it will impact your grade for the course, and it goes on your academic record.** This also includes detailed plans for code, such as pseudocode.

## Statement Regarding Students with Disabilities

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval, please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

## Accessibility of Course Materials

All materials used in this course are accessible. If you require accommodations please contact Disability Access Services (DAS).

Additionally, Canvas, the learning management system through which this course is offered, provides a vendor statement certifying how the platform is accessible to students with disabilities.

## Ecampus Reach Out for Success

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about resources that assist with wellness and academic success.

Ecampus students are always encouraged to discuss issues that impact your academic success with the Ecampus Success Team. Email ecampus.success@oregonstate.edu to identify strategies and resources that can support you in your educational goals.

- **For mental health:**
  Learn about counseling and psychological resources for Ecampus students. If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).

- **For financial hardship:**
  Any student whose academic performance is impacted due to financial stress or the inability to afford groceries, housing, and other necessities for any reason is urged to contact the Director of Care for support (541-737-8748).

**Academic Calendar**

All students are subject to the registration and refund deadlines as stated in the Academic Calendar: https://registrar.oregonstate.edu/osu-academic-calendar.

**Student Bill of Rights**

OSU has twelve established student rights. They include due process in all university disciplinary processes, an equal opportunity to learn, and grading in accordance with the course syllabus: https://asosu.oregonstate.edu/advocacy/rights.

**Student Learning Experience Survey**

During Fall, Winter, and Spring term, the online Student Learning Experience surveys (formerly known as eSET) open to students the Wednesday of week 9 and close the Sunday before Finals Week. Students will receive notification, instructions and the link through their ONID email. They may also log into the system via Online Services. Survey results are extremely important and used to help improve courses and the learning experience of future students. Responses are anonymous (unless a student chooses to "sign" their comments, agreeing to relinquish anonymity for written comments) and unavailable to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/supervisor. Anonymous (unsigned) comments go to the instructor only.