Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: https://catalog.uvu.edu/

Semester: Spring
Year: 2025
Course Prefix: CS
Course and Section #: 1400-006
Course Title: Fundamentals of Programming
Credits: 3

Course Description

CS 1400 introduces techniques and tools to formulate and solve problems where computer algorithms and programs are a core part of an effective, repeatable solution. It teaches algorithmic thinking using procedural programs composed of sequences of commands, functions, loops, conditionals, and basic data structures. It may be delivered online. A lab access fee of $35 for computers applies.

CS 1400 is not a GE course. It is required for Computer Science majors, Engineering majors and a growing number of other majors. It is also a nice elective choice for any major where it is not required.

Course Attributes

This course has the following attributes:
☐ General Education Requirements
☐ Global/Intercultural Graduation Requirements
☐ Writing Enriched Graduation Requirements
☒ Discipline Core Requirements in Program
☒ Elective Core Requirements in Program
☒ Open Elective
Other: *Click here to enter text.*

Instructor Information

Instructor Name: Rita Kuo

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Design procedural solutions to programming problems.
2. Implement procedural solutions to problems with appropriate use of sequences of commands, functions, variables, conditionals, looping, files, lists and libraries.
3. Test programs to assure that solutions are correct and complete.
4. Design readable, maintainable code, using a good, consistent programming style.

Course Materials and Texts

The CS 1400 course on Codio, which is required for the textbook and assignments

- For students who are using Wolverine Access: please check whether or not there is an access code in the "Textbooks and Course Materials" on your Account Menu in Canvas. If you can not find the access code, please contact the UVU Campus Store.
- For students who have opted out of Wolverine Access:
    1. Click on Modules in Navigation on the left.
    2. Scroll down to Module 1 or any linked assignment or reading and click on it. This will take you to a screen to access Codio.
    3. Students should purchase access and set up an account. Use a credit card to purchase access. Use the same email that you use for UVU login credentials. Make sure that you have popups enabled in your browser. This license is good for one year.

The required technology:

- Canvas
- Python 3.10 or later
- Extra Python modules you want to install (shown in class)
- pylint or Thonny

Optional materials, fees, and technology

- A Python IDE
    - python.org lists several popular Python IDEs and bundles.
    - Thonny is a good IDE for beginners and includes an appropriate version of Python.
    - Anaconda is a popular Python distribution that installs many useful scientific libraries.
- There are thousands of interesting Python modules and libraries to play with for graphics, art, music, game development, scientific computing, business, economics, and beyond. Adventuresome students are encouraged to experiment beyond the scope of this class.
- The OnStudy Discord Server (https://bit.ly/onstudy) has a CS 1400 channel where you can connect with instructors and other students

Software Licenses

- Any versions of Python required for this course are both free and open source. No paid license is needed.
- All extra modules used in the course are free. Most are also open source.
- Thonny, a simple IDE that we recommend for beginners to use, is free and open source (MIT License).
- The textbook and assignments are hosted on Codio, which does require a paid license.

Course Requirements

Course Assignments, Assessments, and Grading Policy

Grades are evenly weighted within their categories. Each category accounts for a percentage of the total grade, as follows:

Activity	**Percent**
Programming projects (5)	40%
Homework exercises	25%
Midterm exams	20%
Final project	15%

Late submissions do not earn full credit; the number of points earned is reduced when the assignment is graded. All assignments are due at 11:58:59pm local time on the date assigned. Homework assignments are penalized 10% per weekday after the due date to a maximum of 20%. Projects are penalized 20% for being late. Late work may or may not receive feedback at the instructor's discretion.

Students earn points for completing assignments. They do not lose points for failing to complete an assignment properly. To earn points, students must demonstrate that they have mastered the material; it is not the instructor's job to show that they have not.

Grading Scale:

Grade	**Minimum Percentage**
A	93
A-	90
B+	87
B	83
B-	80
C+	77
C	73
C-	70
D+	67
D	63
D-	60
E	0

CS majors need a C+ minimum to pass for matriculation. Other majors may have different standards for passing. It is up to the student to know the standards that apply.

For this three-credit course, students should expect to spend at least 9 hours per week completing course activities, including class time. A block class or summer section typically requires double the pace and double the time commitment per week. It is strongly recommended that you schedule class and homework time in advance.

Required or Recommended Reading Assignments

Students are expected to read the chapters on Codio before they are discussed in class. See the course schedule below for details.

General Description of the Subject Matter of Each Lecture or Discussion

The course content is separated into 15 modules. Each module takes 1 to 2 weeks on schedule. The modules are:

- Module 1: Python Basics and Arithmetic Operators
- Module 2: String Basics and Operators
- Module 3: Conditions
- Module 4: Loops and Function Basics
- Module 5: List Basics
- Module 6: File Writing
- Module 7: Reading Files
- Module 8: Function Advanced Concepts

- Module 9 to Modul 12: Built-in Data Structures
- Module 13: String II
- Module 14: Recursion
- Module 15: Wrap up

Required Course Syllabus Statements

Generative AI
Generative AI can be a powerful tool for learning about and creating software. In this class, you should treat AI systems like people; if it would be inappropriate to use content from another human, it is inappropriate to use content from an AI system. Similarly, AI systems can, like humans, be a wonderful resource to help you learn.

Using Remote Testing Software
☒ This course does not use remote testing software.

☐ This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities
Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU Accessibility Services at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity
At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in UVU Policy 541: *Student Code of Conduct*.

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a specially dedicated space for meditation, prayer, reflection, or other forms of religious expression.