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-x03
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. Lab access fee of $45 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: Majid Memari

Student Learning Outcomes

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

Course Materials and Texts

Required materials, fees and technology:

- Lab access fee of $45 for computers applies.
- Codio , which is required for the textbook and assignments

To access Codio:

1.
    1. Click on **Modules** in Navigation at 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.

- Canvas
- Python 3.10 or later
- Extra Python modules you want to install
- A Python IDE (Integrated Development Environment):
    - 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.

Optional materials, fees and technology:

- 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 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
Course Mode:
This course is taught online.
Description of how the course works:
Computer science involves: Attention To Detail, Memory, Abstract Thinking, Creativity And Intuition, and Dedication

These skills can all be developed with time and practice. Be prepared to experience both frustration and elation as you work on difficult problems that affect both your mood and your grade. CS 1400 is designed to help you develop these skills.
The Tips for Success module have articles on note taking and problem-solving, which will help you succeed in this class.

Assignments

This course includes weekly reading and exercises, five programming projects, and three exams. The final exam is Project six, which is weighted as both a project and the final exam. All graded assignments except in-class activity are submitted via Codio. All assignments except programming assignments may be reset and resubmitted at will by students.

Course help resources

You have many resources available to you to help you as you study. Consider doing any or all of the following:

- Meet with your instructional assistant
- Ask your instructor
- Join a study group
- Join the CS1400 channel on the OnStudy Discord Server

Expected time:

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.

Third-Party Usage:

Please review the Terms and Conditions of Use, including the Privacy and Data Usage policies of the following providers:

- Codio: Terms and Conditions of Use
- Discord: Terms of Service. Privacy Policy

Grading Scale:

Grade	Percentage
A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
E	0-59

Assignment Categories:

Category	Percentage
Required Reading	5%
Discussions	5%
Programming Projects	40%
Homework Exercises	15%
Midterm Exams	20%
Final Project	15%

Required or Recommended Reading Assignments
Weekly reading assignments are outlined in the course schedule. Topics include variables, conditionals, loops, functions, data structures, and recursion.

General Description of the Subject Matter of Each Lecture or Discussion

Module	Week	Topics	Assignments
1	Jan 6-10	Variables, Arithmetic Operators	Basic Skills Lab; Basic Skills Coding Exercises
2	Jan 13-17	Strings Basics, Formatting Strings	Operators Lab; Yondu Udonta Project
3	Jan 21-24	Conditional Statements: If, Else, Elif	Conditions Lab; Conditionals Coding Exercises
4	Jan 27-31	Loops (For, While, Nested) and Basic Functions	Loops Lab; Library Functions Exercises
5	Feb 3-7	Lists: Basics, Operators, Methods	Lists Lab; Caesar Cipher Project
6	Feb 10-14	2D Lists, Writing to a File	Writing to Files Exercises
7	Feb 17-21	File Operations, Reading a File	Files Lab; String Parsing Exercises
8	Feb 24-28	Advanced Functions, Variable Scope	Functions Lab; Function Design Lab
9	Mar 3-7	Tuples: Basics, Built-In Functions	Tuples Lab; Tuples Coding Exercises
10	Mar 17-21	Advanced Tuple Operations	Tuples Lab; Tuples Coding Exercises
11	Mar 24-28	Dictionaries: Basics, Iterating Over Dictionaries	Dictionaries Lab; Library of Congress Project
12	Mar 31-Apr 4	Advanced Dictionary Functions and Methods	Dictionary Coding Exercises
13	Apr 7-11	Advanced String Operations: Methods, Iteration, Comparison	Strings Lab; Strings Coding Exercises
14	Apr 14-18	Introduction to Recursion	Recursion Lab; Random Walk Project
15 (Final)	Apr 23-28	Comprehensive Project: “Was Clinton Right?”	Final Project Submission

Required Course Syllabus Statements

Generative AI

Generative AI Policy
The use of AI tools, such as chatbots or code generators, is strictly prohibited unless explicitly permitted. Violations will be treated as academic dishonesty.
Accommodations/Students with Disabilities
Contact Accessibility Services at accessibilityservices@uvu.edu or 801-863-8747 for assistance.
Academic Integrity
Students must produce original academic work and appropriately acknowledge others' contributions.

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.