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 #: 1400-005
Course Title: Fundamentals of Programming
Credits: 3

Course Description

Introduces techniques and tools to formulate and solve problems where computer algorithms and programs are a core part of an effective, repeatable solution. Demonstrates algorithmic thinking using procedural programs composed of sequences of commands, functions, loops, conditionals, and basic data structures. Lab access fee of $45 for computers applies.

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: Dr. Saikat Das

Student Learning Outcomes

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

- 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 assure 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:

- The CS 1400 course on Codio, which is required for the textbook and assignments.
- 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 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 Prerequisites:

- MAT 1000 or MAT 1010 with a B or better, or MAT above 1010 or ACT score 23 or higher or ALEKS score 38 or higher. CS 1030 recommended.

Student Responsibilities

- You are responsible for your own learning. Instructors will help you learn but cannot do it for you.
- Learn and apply course material.
- Start class the first week of the term.
- Set aside regular time each week to complete course activities and assignments.
- Start work on assignments ahead of deadlines so there is ample time to get help when the need arises.
- Learn how to use Canvas and MS Teams. If you have technology-related problems, contact the Service Desk.
- Abide by ethical standards. Your work must be your own.
- Contact your instructor as early as possible if an emergency arises.
- Attend class or arrange to learn the material and receive in-class announcements.
- Read assigned material before class.
- Get help from your instructor, academic tutors, or other students as soon as you begin struggling.
- If you are not learning effectively in class, ask a question you cannot answer.

- Notify your instructor as soon as is practical if you have an emergency.

Instructor Responsibilities

- Respond to emails within one business day. If multiple emails are received regarding the same question or concern, they may be responded to with an announcement to the entire class.
- Provide timely, meaningful, and constructive feedback on assignments and posted questions. Usually, assignments will be graded before the next class period.
- Provide an opportunity for every student to leave each class having learned something.
- Promote further learning on a topic beyond what is taught in class.
- Refer students to appropriate services for issues that are non-course content specific. For instance, technical issues, writing labs, accessibility services, and so forth.
- Mentor students through the course.

Grading Policy

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.

Grade Weights

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

Activity	Percent
Required Reading	5%
Discussions	5%
Programming Projects (5)	40%
Homework Exercises	15%
Midterm Exams	20%
Final Exam (Project #6)	15%
Extra Credits	3%

Late Work Policy
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** (Mountain 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. There are no make-up exams. You will have **two grace days** to be claimed for any programming project assignment during the semester. You really should have no reason to hassle me about grades or extensions (good for me, and you!). When using a grace day, please let your instructor and TA know.

Required or Recommended Reading Assignments
This course includes the following required assignments:

Weekly Homework Assignments (Reading and Lab):
Complete the assigned readings and exercises from the textbook in Codio. These exercises help you practice and apply concepts incrementally.

Programming Projects:
There are five programming projects listed in Codio. Carefully review each project's description before starting. All projects are submitted via Codio.

Weekly Discussions:
Participate in weekly discussion activities to engage with course material and classmates.

Exams:

- **Midterm Exams**: There will be two midterm exams to assess your understanding of the material. These exams must be taken in Codio within a specified time frame, which will be announced later. Please note that no makeup exams will be offered.
- **Final Exam**: The final exam is a project-based assessment listed as *Project 6 (Was Clinton Right?)*. You must complete and submit the project in Codio before the final exam date listed on Canvas.

All graded assignments, except discussions, are submitted via Codio. Homework and non-programming assignments may be reset and resubmitted at any time.

General Description of the Subject Matter of Each Lecture or Discussion
Each week consists of two 75-minute class periods. The following topics are discussed during the weeks listed. Projects and Exams are also shown:

- Week 01: Python Basics and Operators
- Week 02: Operators and String Basics
  Project I (Yondu Udonta)
- Week 03: Conditionals
- Week 04: Loops and Function Basics
- Week 05: Parameterized Function and List Basics
  Project II (Caesar Cipher)
- Week 06: 2D Lists and File Writing
  Exam 1
- Week 07: Reading Files

- Week 08: Function Advanced Concepts
  Project III (Magical Creatures)
- Week 09: Tuples
- Week 10: Spring Break
- Week 11: Tuples, part II
- Week 12: Dictionaries
  Project IV (Library of Congress)
- Week 13: Dictionaries, part II
- Week 14: Strings, part II
- Week 15: Recursion
  Exam 2
  Project V (Random Walk)
- Week 16: Final Exam – Project 6 (Was Clinton Right?)

Required Course Syllabus Statements

Generative AI
The primary goal of education is to foster genuine learning through honest effort—there are no shortcuts. As students, your responsibility is to understand tools and concepts and use them to solve practical problems, both in your academic journey and professional life. Students must submit work that reflects their own understanding and effort. While generative AI tools such as chatbots, text generators, and solvers may be used for brainstorming or creating project outlines, they must not be used to generate code or directly complete assignments. Use of AI tools during self-administered exams is strictly prohibited. Submitting AI-generated content without modification or comprehension, regardless of how little of the work copied, is considered academic dishonesty and will be addressed per university policy. If you are uncertain about the acceptable use of AI tools, please consult the instructor before submitting your work. Your commitment to integrity and learning is key to your success in this course.

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.