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 #: 2370-002
Course Title: C++ Programming
Credits: 3

Course Description

Introduces C++ programming for students with prior programming experience. Covers language fundamentals, core standard library components, error handling, value semantics, pointers and memory management, object-oriented programming, and templates.

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: Neil B. Harrison

Student Learning Outcomes

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

1 Solve small-to-medium-size problems using the C++ programming language
2 Distinguish between value and reference semantics
3 Use the core algorithms and containers in the standard C++ library when applicable
4 Manage memory via pointers

Course Materials and Texts

Required Materials: Access to the zyBooks learning environment using the C++ Programming online course for this class.

1. Click on the first zyBooks assignment in Canvas. (Do not go to the zyBooks website and create a new account.)
2. Subscribe.

A subscription is $89.

Course Requirements

Course Assignments, Assessments, and Grading Policy

Course Mode:

This is a **face-to-face** course. There will be **no recordings**. You are expected to attend all class sessions.

Description of how course works:

Canvas is where course content, grades, and communications will reside for this course. Links to the **zyBooks** assignments are on the **Modules** page in Canvas (as well as the Assignments page). Clicking on assignments will take you directly to the zyBook (you will need to subscribe the first time). You can develop code offline and then submit it in the zyBook, or you can develop within the zyBook itself. Sample code and other files are available in the **Files** folder on Canvas. Projects 4–6 are submitted to Canvas only. I recommend you use an offline development environment, such as VS Code, Visual Studio, or your favorite programming editor, but you can do all development in zyBooks if you want. If you use use Visual Studio, create only *empty console* projects. We will be using portable C++, that is, no platform-specific extensions.

Each class period will consist of a live, **interactive, lecture/discussion.**

For this **three (3) credit-hour** course students should expect to spend up to **9+ hours a week** completing course activities.

Student Responsibilities:

- *Start class the **first week** of the term.*
- ***Be accountable by setting aside regular time each week to complete course activities and assignments on time as noted per the due dates**.*
- *Learn how to use Canvas including communication tools (e.g. **discussion,** Canvas **inbox,** etc.). If you have technology-related problems contact the Service Desk (Links to an external site.).*
- *Complete assigned exercises in **zyBooks** (or **Canvas**) prior to their respective due dates.*
- *Keep track of important dates in the Student Timetable (Links to an external site.).*
- *Contact your instructor as early as possible if an emergency arises. Do NOT wait until the last minute to ask for an extension.*
- *Abide by **ethical** standards. **Your work must be your own.** In each of your 6 programming projects, include the following statement as a comment near the beginning of your source code (and **mean** it):*

"I declare that the following source code was written solely by me. I understand that copying any source code, in whole or in part, constitutes cheating, and that I will receive a zero on this project if I am found in violation of this policy."

Instructor Responsibilities:

- *Respond to messages within ONE **business day.** If multiple messages 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.*
- *Facilitate an effective learning experience.*
- *Refer students to appropriate services for issues that are non-course content specific. For instance, technical issue, writing labs, accessibility services, etc.*
- *Mentor students through the course.*

Grading Scale:

- The following grading standards will be used in this class:

Grade	Percent
A	94-100
A-	90-93
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

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- ## Assignment Categories

Activity	**Weight**
zyBooks PAs	5%
zyBooks Labs	10%
Programming Projects	50%
Midterm Exams (2)	20%
Final Exam	15%
Unannounced quizzes (Extra credit)	3%

Late Work Statement:

- All work is due at **11:59pm** on its respective due date. Late work is **automatically penalized 33% per day** by Canvas, so there can be *no exceptions* for late penalties. Plan on getting your work done ahead of time.
- *** **IMPORTANT**: **The due dates are in *Canvas*.** And to reiterate: all grades (except for Projects 4–6) are graded automatically, so there can be *no leniency for late submissions*. Such is life in the computer age.

Assignments:

This course is organized into **6 modules**, as follows.

- Module 1: C++ Fundamentals (Chapters 1–4)
- Module 2: Sequences and Functions (Chapters 5–7)
- Module 3: Classes and Exceptions (Chapters 8–9)
- Module 4: Pointers and Streams (Chapters 10–11)
- Module 5: Object-Oriented Programming (Chapter 12)
- Module 6: Generic Containers and Algorithms (Chapters 13–15)

There are **6 programming projects** of varying difficulty. There are numerous Participation Activities (PAs) built into the zyBook, many of which you must complete as you read the book. In addition, there are 15 small programming labs that you do in zyBooks.

Quizzes:

There will be unannounced quizzes throughout the semester. They will happen at the beginning of class, and cannot be made up. So you must attend class to get any credit for the quizzes.

Attending class in person is the most effective way for you to learn, so quizzes encourage you to be in class.

Discussions:

In addition to messaging the instructor and going to the Tutoring Lab, you are encouraged to initiate Discussions in Canvas for topics you feel need out-of-class treatment. This is for your convenience and enrichment but will not be graded. Be sure to ask questions as they arise during class. Class discussion is a Good Thing.

Assessments:

There are 2 midterm exams and a final exam. The exams will mostly be multiple choice, and are administered in Canvas**.** You must be **alone** when taking exams. You have only one attempt for each exam. Exams are **timed.** The final exam is **comprehensive.**

Required or Recommended Reading Assignments
Readings are included in each assignment in zyBooks

General Description of the Subject Matter of Each Lecture or Discussion

This course is organized into **6 modules**, as follows.

- Module 1: C++ Fundamentals (Chapters 1–4)
- Module 2: Sequences and Functions (Chapters 5–7)
- Module 3: Classes and Exceptions (Chapters 8–9)
- Module 4: Pointers and Streams (Chapters 10–11)
- Module 5: Object-Oriented Programming (Chapter 12)
- Module 6: Generic Containers and Algorithms (Chapters 13–15)

Required Course Syllabus Statements

Generative AI
Click here to enter text.

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.