CS 201: Introduction to Computer Science II

General Information:

Term: 2022 Summer Session **Instructor: Staff** **Language of Instruction: English** **Classroom: TBA** **Office Hours: TBA**
Class Sessions Per Week: 5 **Total Weeks: 5** **Total Class Sessions: 25** **Class Session Length (minutes): 145** **Credit Hours: 4**

Course Description:

As a continuation of CS 101, this course will enable students to build a better understanding on data abstraction and building larger programs. Object-Oriented Programming and different programming languages will be taught through the course. After this course, students should be able to distinguish and use different data structures to solve problems. Topic discussed in this course include: C++, Data Abstraction, Array-Based Implementation, Linked Lists, Stacks and Queues, Inheritance and Polymorphism, Object-Oriented Programing, C++ Standard Template Library, Recursion, Exceptions and Debugging, Searching and Sorting, Trees, Heaps, Tables, Graphs.

Prerequisite: CS 101

Course Format and Requirements:

The course will take place in a computer lab and the course format including lecture, programing project, and in-class discussion. The specific topics that will be covered in the classes are listed in the course syllabus. The class period will consist of an active learning

environment. During a majority of the class time, students will be actively working on problems in groups under the instructor's guides.

Course Materials:

Textbook:

No textbook is required in this course. The instructor will assign and send out free available online resources. Specific reading instructions will be given to facilitate the learning process. Instructors will recommend some C++ books in lecture based on the students' need.

Course Assignments:

Quizzes:

There will be 5 quizzes this semester, given during the discussion sections. Each quiz will be on the material covered that week. There will be NO make-ups for quizzes for any reason. All of the quizzes will be closed book.

Midterm Exams

Two in-class, close-book and non-cumulative midterm exams will be given through this course. The midterm exams will be based on the knowledge covered in class. No excuse will be accepted if students do not have legitimate excuses for absence. Physician Statement is required for missing the exam due.

Weekly Projects

There will be five hands-on projects based on course need. It will count for 40% of your grade for the course. The projects will enrich students' knowledge on writing large programs. The score will be given based on the correctness of the program.

Final Exam

The final will be in-class, cumulative and close-book. The final exams will be based on concepts covered in class. Note that the final will not be taken during the normal class times. Exact time and location for final will be announced later.

Course Assessment:

Quizzes	10%
Weekly Projects	40%
Midterm Exam 1	15%
Midterm Exam 2	15%
Final Exam	20%
Total	**100%**

Grading Scale (percentage):

A+: 98%-100%
A: 93%-97%
A-: 90%-92%
B+: 88%-89%
B: 83%-87%
B-: 80%-82%
C+: 78%-79%
C: 73%-77%
C-: 70%-72%
D+: 68%-69%
D: 63%-67%
D-: 60%-62%
F: Below 60%

Course Schedule:

Week	Topics	Activities
1.	Go through syllabus Course overview + Introduction C++	Quiz 1 Project 1

	Data Abstraction Array-Based Implementation Linked Lists	
2.	Stacks and Queues with Linked Lists Inheritance and Polymorphism Object-Oriented Programing	Quiz 2 Project 2 Review Midterm 1
3.	C++ Standard Template Library Recursion Exceptions and Debugging	Quiz 3 Project 3
4.	Searching Sorting Trees	Quiz 4 Project 4 Review Midterm 2
5.	Heaps Tables Graphs Course summary	Quiz 5 Project 5 Review Final Exam

Academic Integrity:

Students are encouraged to study together, and to discuss lecture topics with one another, but all other work should be completed independently.

Students are expected to adhere to the standards of academic honesty and integrity that are described in the Huazhong University of Science and Technology's *Academic Conduct Code*. Any work suspected of violating the standards of the *Academic Conduct Code* will be reported to the Dean's Office. Penalties for violating the *Academic Conduct Code* may include dismissal from the program. All students have an individual responsibility to know and understand the provisions of the *Academic Conduct Code*.

Special Needs or Assistance:

Please contact the Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material. Our goal is to help you learn, not to penalize you for issues which mask your learning.