COMP 525: Data Structures Fundamentals
Course Syllabus

BASIC COURSE INFORMATION
- Semester: Fall 2025
- Credits: 4
- Section: M1
  Monday 9:10am-noon in PANDRA 380
- Department: Applied Engineering and Sciences

INSTRUCTOR INFORMATION

Karen Jin, Associate Professor of Computer Science

Email: karen.jin@unh.edu
Phone: (603) 641-4398
Office: P139

How to get in touch with course instructor
- Drop-in hours for help session
  Section M1: See schedule on Canvas
- By appointment, for one-on-one communication, in-person or via Teams
  Make an appointment in Teams or Email

COURSE INFORMATION

Catalog Description
Data structures and algorithms are fundamental to developing solutions for computational problems. In this course students design and implement data and functional abstractions; analyze and select appropriate data structures to solve computational problems; practice programming and software development techniques to implement computational solutions. 4 cr. Prerequisites: COMP 424 or equivalent.

Course Goals
The purpose of the course is to:
- Give you practice with basic data structures: stacks, queues, lists, trees, and hash tables
- Prepare you to develop iterative and recursive solutions appropriately for data structures problems
- Introduce key concepts and techniques to design and analyze data structures and algorithms

Modality
- In-person, scheduled weekly class meetings
  Section M1: Monday, 9:10 am – 12:00 pm, Room P146
- In-person and online engaged time and learning activities outside class.

Estimated Student Workload
This syllabus reflects the federal definition of 1 credit hour, that is:
1 credit = 3 hours of academic work per week per 1 credit over a 15-week semester
This means that the student's weekly workload, including class time, is estimated at 12 hours per week.

In-Class Learning
Weekly class meetings are dedicated to lectures, presentations, discussions, live coding, working in pairs or small groups, and reflections. The expectation for productive in-class learning is that you come to class prepared, having fully engaged in outside class learning.

Outside Class Learning
You are expected to engage in outside class learning 9 hours every week. Outside class time is dedicated to:
- Guided, collaborative, and independent study activities
- Work to complete your assignments and reflections on learning experience
- One-on-one check-ins with class instructor to evaluate your progress
- Study group work, tutoring sessions, and consultation with other supports available on campus.

Grading Scheme

Your final grade is calculated as follows:

Programming Homework (40%)
> There are two types of homework:
> - Weekly individual coding and problem-solving exercise. You will improve your problem-solving skills and understanding of fundamental data structures with coding practice on LeetCode.
> - Unit Homework: this is an Individual and/or group design and implementation homework for each topic unit.

Tests (40%)
> There will be a test for each topic unit. The test format is closed-book in-person written test. No cheat sheets are allowed.

Weekly Learning Journals (20%)
> Learning Journals are weekly records of your learning progress. You will use an AI chat platform, such as ChatGPT, Copilot, Gemini, Claude etc. to ask questions about the learning topics and concepts during the week and the journal must include your own annotations and reflections.

Textbooks: There is no required textbook. Course materials and resources will be posted in Canvas.

Tentative Schedule:

Wk #	Class Date	In-class learning
Week 1	Aug 25	Introduction; Big O notation; Iteration and recursion;
	Sept 1	**LABOR DAY – NO CLASS**
Week 2	Sept 8	Unit 1: Array and Strings - Part 1
Week 3	Sept 15	Unit 1: Array and Strings - Part 2

Week 4	Sept 22	Unit 2: Hash Tables - Part 1
Week 5	Sept 29	Unit 2: Hash Tables - Part 2
Week 6	Oct 6	Unit 2: Hash Tables - Part 3
Week 7	Oct 13	**MIDTERM BREAK – NO CLASS**
Week 8	Oct 20	Unit 3: Linked Lists - Part 1
Week 9	Oct 27	Unit 3: Linked Lists - Part 2
Week 10	Nov 3	Unit 3: Linked Lists - Part 3
Week 11	Nov 10	Unit 4: Stacks & Queues - Part 1
Week 12	Nov 17	Unit 4: Stacks & Queues - Part 2
Week 13	Nov 24	Unit 5: Trees - Part 1
Week 14	Dec 1	Unit 5: Trees - Part 2
Week 15	Dec 8	Unit 5: Trees - Part 3 **THIS IS OUR LAST DAY OF CLASS**
	TBD	**Final Exam TBD**

COURSE POLICIES REGARDING STUDENT BEHAVIOR

Attendance

Students are responsible for attending scheduled meetings and expected to abide by the University Policy on Attendance (as stated in the UNH Student Rights, Rules, and Responsibilities).

Late Submissions

Policy for late submissions is very strict and applies only in exceptional cases of student illness, accident, or emergencies that are properly documented. A late submission may be granted only if the student:
- Emails prior to the deadline and
- Explains and provides evidence for the circumstances that have prevented the student from meeting class requirement.

Failing to comply with these rules may result in no credit for the assignment.

Academic alerts to support your success

The University is invested in your academic success. If the course instructor is concerned about your academic behavior or performance, they may submit an academic alert. Academic alerts are not punitive. The goal is to provide you with support and resources to support your success. They act as an important check-in point and, if you receive an academic alert, you will receive an email to your UNH email address. It is strongly recommended that you meet with a professional advisor and connect with your instructor to discuss the reason for the alert.