CIS 120 Data Structures and Algorithms – Fall 2018

Instructor:	Weimin He, PhD
Office:	B225 Science Building
Office Hours:	12:00pm-2:00pm TR
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Course Description

Introduction to fundamental concepts of data structures and algorithms that proceed from them. Includes recursion, underlying philosophy of object-oriented programming, fundamental data structures, basics of algorithmic analysis. Coding and testing of representative algorithms.

Course Objectives

- Master basic data structures such as stacks, queues, lists, linked lists
- Understand advanced data structures such as binary search trees, priority queues, heaps, and graphs
- Learn essential algorithms such as recursion, sorting and search algorithms
- Obtain the ability to use data structures and algorithms to solve machine problems close to real world applications

Prerequisites

- CIS 110

Textbook

- Object-Oriented Data Structures Using Java, 3rd Edition, By Nell Dale Daniel T. Joyce, and Chip Weems, Publisher: Jones & Bartlett Learning

Grading

- 6 Labs (Lab): 30%
- 2 Machine Problems (MP): 16% (Group of at most 2 students)
- 2 Tests (Test): 18%
- Class Participation: 6%
- Final Exam: 30% (Comprehensive)

Final grades will be assigned according to the following scale:

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A: score >= 90, A⁻: 87 <= score < 90,
B⁺: 83 <= score < 87, B: 80 <= score < 83, B⁻: 77 <= score < 80,
C⁺: 73 <= score < 77, C: 70 <= score < 73, C⁻: 67 <= score < 70,
D⁺: 63 <= score < 67, D: 60 <= score < 63, F: score < 60
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I may use lower cutoff points, depending on the overall performance of the class.

Lectures

- Lecture slides and source code of class examples will be posted on D2L
- Students are strongly encouraged to attend each class and actively participate in class discussions
- Class attendance may be taken in any class without notification in advance

Assignments and Deadlines

- All assignments will be posted on D2L. It is your responsibility to check D2L on a regular basis.
- Due time of a lab will be given in the description file of the lab. You must demo your lab before the due time. You will get zero point for the lab if you do not demo the lab before the due time.
- Due time of a machine problem will be given in the description file of the machine problem. You must submit your machine problems online through D2L. I will NOT take submissions in email. Late submission will NOT be accepted for machine problem.

Exams

- Both tests and final exam are closed-book
- Final exam is comprehensive
- In general, any test or exam can NOT be made up
- If you miss a test or exam due to unavoidable circumstances (e.g., health), you must visit the instructor during his office hours and a written explanation along with the supporting documents must be submitted to the instructor
- Do NOT ask for make-up tests or exams if you missed a test or exam due to travel

Students with Disabilities

If you require accommodation based on disability, I would like to meet with you in the privacy of my office during the first week of the semester to ensure that you are appropriately accommodated.

Academic Misconduct

You are encouraged to discuss assignments with each other and to seek assistance from myself or others whose function is to provide assistance to students (e.g. computer lab personnel).

However, since assignments are a part of the final grade in the course, you must limit the amount of assistance you receive. Such assistance must be limited to a verbal discussion of the approach to an assignment, and may not include substantive solution of the assignment by the person providing the assistance.

If you submit an assignment which is in whole or in part the work of another person or persons, then you, and any such other person or persons whether enrolled in the class or not, will be dealt with as prescribed by Chapter UWSP 14 of the Rules of the Board of Regents of the University of Wisconsin System, Wisconsin Administrative Code.

In an Emergency

- In the event of a medical emergency, call 911 or use red emergency phone located to the right of the pendulum in the 2nd floor hallway of the Science Building.
- In the event of a tornado warning, proceed to the lowest level interior room without window exposure on the first floor lavatory in the Science Building. If time or space do not allow, go to A224 or A225 Science Building or remain in the hallways around those classrooms. See http://www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans.aspx for floor plans showing severe weather shelters on campus. Avoid wide-span rooms and buildings.
- In the event of a fire alarm, evacuate the building in a calm manner. Meet at the far end of Lot X where the driveway enters Lot X. Notify instructor or emergency command personnel of any missing individuals.
- Active Shooter – Run/Escape, Hide, Fight. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Follow instructions of emergency responders.
- See UW-Stevens Point Emergency Management Plan at www.uwsp.edu/rmgt for details on all emergency response at UW-Stevens Point.