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Course Name: Data Structures  
Course Number: CS 261  
Credits: 4

Course Description  
Abstract data types, dynamic arrays, linked lists, trees and graphs, binary search trees, hash tables, storage management, complexity analysis of data structures. Lec/rec.

Prerequisites: (CS 162 [C] or CS 165 [C] ) and (CS 225 [C] or MTH 231 [C] )

Course Credits  
This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits.

Learning Resources  
• Online: CS261_ClassNotes_Fall2012.pdf (Will be available on Canvas)  
• C reference book (C Programming Language by Brian W. Kernighan and Dennis M. Ritchie) (optional) Or Any reference book to C programming language

Note to prospective students: Please check with the OSU Bookstore for up-to-date information for the term you enroll (OSU Bookstore Website or 800-595-0357). If you purchase course materials from other sources, be very careful to obtain the correct ISBN.

Measurable Student Learning Outcomes  
At the completion of the course, students will be able to...

1. describe the properties, interfaces, and behaviors of basic abstract data types, such as collection, bag, indexed collection, sorted collection, stack, and queue.  
2. read an algorithm or program code segment that contains iterative constructs and analyze the asymptotic time complexity of the algorithm or code segment.  
3. state the asymptotic time complexity of the fundamental operations associated with a variety of data structures, such as vector, linked list, tree, and heap.  
4. recall the space utilization of common data structures in terms of the long-term storage needed to maintain the structure, as well as the short-term memory requirements of fundamental operations, such as sorting.  
5. design and implement general-purpose, reusable data structures that implement one or more abstractions.

This course is offered through Oregon State University Extended Campus: http://ecampus.oregonstate.edu.
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6. **compare** and **contrast** the operation of common data structures (such as linear structures, priority queues, tree structures, hash tables, maps, and graphs) in terms of time complexity, space utilization, and the abstract data types they implement.

Canvas & Piazza
This course will be delivered via Canvas and Piazza, your online learning community, where you will interact with your classmates and with me. Within the course site you will access the learning materials, tutorials, and syllabus; discuss issues; submit assignments; take quizzes; email other students and the instructor; participate in online activities; and display your projects. To preview how an online course works, visit the [Ecampus Course Demo](http://ecampus.oregonstate.edu/services/proctoring/). For technical assistance, please visit [Ecampus Technical Help](http://ecampus.oregonstate.edu/services/proctoring/).

For Piazza, visit [https://piazza.com/oregonstate/fall2016/cs261_400/home](https://piazza.com/oregonstate/fall2016/cs261_400/home) (term will vary).

Evaluation of Student Performance
Scores for worksheets, programming assignments, and exams will be posted on Canvas as they are graded. We **will not use** Canvas grading scheme. If you want to know your grade, use the following weights -

- 30% - Homework Assignments
- 15% - Worksheets and Class Participation
- 25% - Midterm
- 30% - Final

**REMINDER:** A passing grade for core classes in CS is a C or above. A C-, 72 or below, is not a passing grade for CS majors.

Proctored Exams
This course requires that you take the 2 exams under the supervision of an approved proctor. ProctorU is an allowed option for this course. It is entirely the student’s responsibility to secure and schedule a proctor before the exam due date and is very important to submit your proctoring request as early as possible to avoid delays. Please remember that late exams will not be allowed due to not having scheduled a proctor early enough. Registration for proctored exams is available online and there is generally a small fee associated with exam proctoring. For more information please visit: <http://ecampus.oregonstate.edu/services/proctoring/>. If you need assistance please contact ecampustesting@oregonstate.edu or 541-737-9281.

Statement Regarding Students with Disabilities
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Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Expectations for Student Conduct
Student conduct is governed by the university’s policies, as explained in the Office of Student Conduct: information and regulations. In an academic community, students and faculty, and staff each have responsibility for maintaining an appropriate learning environment, whether online or in the classroom. Students, faculty, and staff have the responsibility to treat each other with understanding, dignity and respect. Disruption of teaching, administration, research, and other institutional activities is prohibited by Oregon Administrative Rule 576-015-0015 (1) and (2) and is subject to sanctions under university policies, OSU Office of Student Conduct.

Student conduct is governed by the university’s policies, as explained in the Student Conduct Code.

Academic Integrity
Students are expected to comply with all regulations pertaining to academic integrity. At OSU academic integrity is defined as the following: “(a) upholding the standards of the academic discipline of which you are a part, (b) honesty in all academic processes and accomplishments, (c) respect for and appropriate use of the work of others, (d) taking responsibility for your own work, and (e) accountability to protect personal academic work from misuse by others.”

Academic Dishonesty
Is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another. For further information, visit Avoiding Academic Dishonesty, or contact the office of Student Conduct and Mediation at 541-737-3656.

The following two policies apply here:

OSU policy:
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http://oregonstate.edu/studentconduct/http%3A/%252Foregonstate.edu/studentconduct/faculty/facacdis.php

College of Engineering policy:
http://engineering.oregonstate.edu/undergraduate-policy-manual#honesty

Additionally, programming assignments in this course are considered Take Home Programming Tests. You must do your own work, entirely.

- You MAY discuss the meaning of assignments, general approaches, and strategies with other students in the course.
- You MAY show your code to the TAs or instructor for feedback and help.
- You MAY use the Internet to research how to solve a problem.
- You MUST include a citation in the form of a comment in your source code to indicate the source of any help you received (except the TAs).
- You MUST ALSO include a citation if you collaborated with any other student in any way (both the giver and receiver).
- You MAY share pseudocode, or documentation of any kind with any other student in the course. But you have to mention the name of the collaborator.
- You MAY NOT show your assignment code to another student in the course for any reason.
- You MAY NOT ask another student for help debugging your assignment code.
- You MAY NOT use or copy code from any other source, including the Internet.
- You MUST write your own code for your assignments.

Technical Assistance
If you experience any errors or problems while in your online course, contact 24-7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Help Desk for assistance. You can call (541) 737-8787 or visit the OSU IS Helpdesk online.

Tutoring
NetTutor is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real time environment. They also have an online
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writing lab where tutors critique and return essays within 24 to 48 hours. Access NetTutor from within your Canvas class by clicking on the Tools button in your course menu.