



SYLLABUS - CSE 223

DATA STRUCTURES AND OBJECT-ORIENTED PROGRAMMING

Course Information

Description: Study of data structures and the analysis of algorithms, object-oriented programming, concurrency, and memory management.

Prerequisite: A grade of C or better in CSE 222; and CSE 215 or consent of instructional unit.

Credits: 5

Class hours/location, instructor information and other important details: See "Additional Course Policies" in Canvas for section-specific details.

Text and Materials Needed

Required Text: [Introduction to Programming Using Java](http://math.hws.edu/eck/cs124/downloads/javanotes7-linked.pdf) which is an open-source text, available for free download from <http://math.hws.edu/eck/cs124/downloads/javanotes7-linked.pdf>

Recommended Texts:

- Introduction to Algorithms, by Cormen, Published by MIT Press
- A Practical Guide to Linux Commands, Editors, and Shell Programming, by Sobell, Published by Prentice Hall

Required Supplies/Materials: USB flash drive; Eclipse: (<http://www.eclipse.org/downloads>).

Course Outcomes

OUTCOMES	ASSESSMENT	SUPPORTED PROGRAMS
Apply object oriented design and programming concepts using the Java programming language.	Computer-assignments In-class assignments Tests	AST2
Design, code and test programs in an object-oriented language, demonstrating the use of encapsulation and Abstract Data Types.	Computer-assignments In-class assignments Tests	AST2



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Apply and implement advanced data structures concepts, such as: Binary, multiway and balanced trees, heaps and priority queues, to solve computational problems.	Computer-assignments In-class assignments Tests	AST2
Analyze the time and space complexity of advanced data structures and their supported operations.	Computer-assignments In-class assignments Tests	AST2
Compare the time & space tradeoff of different advanced data structures and their common operations, such as: search, add and delete.	Computer-assignments In-class assignments Tests	AST2
Understand basics of memory management, concurrency, synchronization and related issues.	Computer-assignments In-class assignments Tests	AST2
Demonstrate the ability to work effectively in a team.	Computer-assignments In-class assignments Final Engineering Project	AST2

Grading

Your grade will be based on a combination of quizzes, programming assignments, a service-learning project (SLP), a midterm and a comprehensive final exam. Points will be weighted as follows:

Programming Assignments: 20%

ODPs: 10%

Labs: 10%

SLP: 10%

Midterm: 20%

Final Exam: 30%



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Final Grade Assignment: Your final grade will be calculated based on your weighted average (rounded to the nearest integer). See the ECS Course Policies page (http://www.engrcs.com//courses/ECS_Course_Policies.pdf) for letter-grade assignments.

Course Policies

Academic Honesty and Plagiarism: You are expected to do your own work. Copying or rewriting someone else's online or offline work, having someone else do your work, or cheating in any fashion will result in zero point for that test or assignment in addition to penalties prescribed by college policies. A second offense will result in an automatic 'F' for the class. **If you are in doubt as to what constitutes cheating, ask your instructor for further clarification.**

Late Paper/Assignment Policy: Points are only awarded for tests, quizzes, assignments and projects that are **completed and delivered** by the assigned due dates and times. In all other instances, zero points will be awarded unless the student has made prior arrangements with the instructor.

Missed Exam/Assignment Policy: Points are only awarded for tests, quizzes, assignments and projects that are completed and delivered on the assigned due dates and times. In all other instances, zero points will be awarded unless the student has made prior arrangements with the instructor.

Computer or Equipment Misuse: Students are expected to obey the Equipment and Computer Usage Guidelines. Students who misuse the equipment or computers will be expelled from the class and/or lab.

Support Services

If you have emergency medical information, which should be shared; or if you require assistance in case the building should be evacuated; please make an appointment to see me as soon as possible.

Accommodations. Reasonable accommodations are available for students who have a documented disability. Disability Support Services (DSS) coordinates reasonable accommodations for students with disabilities and/or temporary health conditions (could include a temporary injury or pregnancy). Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the Disability Support Services office as soon as possible to better ensure that accommodations are implemented in a timely manner. All accommodations must first be approved through Disability Support Services. Disability Support Services is located in PUB 013, which is on the lower level. For an appointment or information, please visit www.clark.edu/dss or contact 360-992-2314 (voice) or 360-991-0901 (video phone) or email dss@clark.edu. Once you have established accommodations with Disability Support Services, please contact me as soon as possible to discuss your needs in this course.



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College-Wide Policies

Non-discrimination Policy: Clark College affirms a commitment to freedom from discrimination for all members of the college community. The college expressly prohibits discrimination against any person on the basis of: Race, color, national origin, disabled veteran status, sex, sexual orientation, age, gender identity, creed, gender expression, Vietnam-era veteran status, religion, marital status, and presence of physical, sensory or mental disability. The responsibility for, and the protection of, this commitment extend to students, faculty, administration, staff, contractors, and those who develop or participate in college programs. It encompasses every aspect of employment and every student and community activity.

Code of Student Conduct: See http://www.clark.edu/about/governance/policies-procedures/student_code.php for Clark College's Code of Student Conduct.

Additional Information

Be sure to read the "Course Policies" section of Canvas for important section-specific information about this course.

Class Cancellation

In the event of bad weather conditions or other events, check the local radio & TV stations, newsflash or the Clark College website, to see if Clark College is delayed or closed:
www.clark.edu

Engineering and Computer Science Course Policies

Visit http://www.engrcs.com//courses/ECS_Course_Policies.pdf for additional information and supporting materials.