CSC 365
Fall 2022

Place and Time: TR 12:45 p.m. – 2:05 p.m.; Tuesdays sync online; Thursdays in Shineman 174 (default) or sync online (by announcement)

Instructor: Alex Pantaleev

Office: Shineman 441

Office / Lab Hour: R 11:00 a.m. – 12:00 p.m.

Email: alex@cs.oswego.edu

Course Webpage: http://www.cs.oswego.edu/~alex/teaching/csc365/

Short Description: The design, implementation, and analysis of advanced data structures and algorithms.

Objectives: Upon the successful completion of the course, the student will demonstrate ability to: Choose among relevant algorithmic strategies to approach problems; apply data structure invariants such as tree balance to design efficient operations; represent and solve problems using graph algorithms, including search, traversal, spanning trees, and paths. Determine asymptotic upper bounds on time and space complexity; choose among algorithms in a given context based on efficiency and applicability; recognize NP-completeness when attempting to solve a given problem. Incorporate specializations of data structures and algorithms (including those for persistent data stores and graphs) in support of interactive and network-based applications.

Textbook: None required. Recommended: *Introduction to Algorithms* by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Cliff Stein.

Homeworks / Labs: There will be a total of three programming assignments. The source code of the working assignments must be submitted to the respective dropbox, together with screenshots or videos of the successful operation of the program and a brief (approx. one page) design and experience account of your approach and how it changed over time.

Exams: There will be a midterm administered at around the mid-point of the semester, and a final examination administered during the final slot for the course.

Quiz: There will be a short quiz administered during the first week of classes. Students **must** pass the quiz in order to pass the course. Students failing the quiz will receive an automatic grade of E for the course.

Grading Policy:
- Programming assignments: 60%
- Examinations: 30%
- Short exercises: 10%

There is no curve. The grading scale is:

93 and up	A
90 to 92.99	A-
87 to 89.99	B+
83 to 86.99	B
80 to 82.99	B-

77 to 79.99	C+
73 to 76.99	C
70 to 72.99	C-
67 to 69.99	D+
63 to 66.99	D
60 to 62.99	D-
Below 60	E

Policies:

- Class sessions on Tuesdays will be held in a synchronous online fashion. Class sessions on Thursdays will be held in person by default. Thursday sessions may be moved online on a case by case basis.

- The *prerequisites* for this class are a sound background in programming, as evidenced by having passed CSC241 or a similar course with a high grade. Your background will be tested during the first week of classes. If you do not have the prerequisites fulfilled, it is recommended that you drop CSC365.

- Course assignments are to be electronically submitted.

- Assignments electronically submitted after 11:59pm of the due date will be considered late. It is possible to submit an assignment late by no more than a week with a 50% penalty.

- Assignments that do not compile, that crash, or that produce garbage output will receive no credit.

- It is your responsibility to find out when the CS labs are open.

- *It is also your responsibility to check the course webpage and your email accounts regularly.*

- There will be one per cent deducted from a student's final course grade per cell phone ring/call/text message or other noise from electronic devices in class. Please turn off your cell phones and other distractions.

- If you have a disabling condition that may interfere with your ability to successfully complete this course, please contact the Disability Support Services Office at (315) 312-3358 or DSS@oswego.edu .

- Academic Misconduct Policy: Students must work individually on all assignments and projects. Group work is not permitted. If assistance is necessary, the instructor can be contacted during office hours, by electronic mail or by making an appointment. Plagiarism, cheating, and the like will result in a failing grade for the course or, at the discretion of the instructor, in disciplinary action through the respective SUNY Oswego office.