

**CSC 255 Computer Science II (4 cr.)**  
**The University of South Dakota**  
**Syllabus for Fall 2019**  
**Time: TR 9:30 am - 10:45 am, Location: AS 107**  
**Lab Time: Wed 3:00-4:50. Location: MT102**  
**TA: Priyanka**

**Name:** Dan Kahn  
**Office Location:** Arts and Sciences Room 213  
**Office Hours:**  
(A&S 213)  
TR: 11:00 – 12:00 PM,  
W 12:15 – 01:00 PM  
Also available by appointment  
**Email address:** [Dan.Kahn@usd.edu](mailto:Dan.Kahn@usd.edu)

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|---|--|
| <b>Catalog Description of Course</b>        | <p>Problem solving, algorithm design, standards of program style, debugging and testing. Extension of the control structures and data structures of the high-level language introduced in CSC 150. Elementary data structures and basic algorithms that include sorting and searching.</p> <p>Topics include more advanced data types such as arrays and structures, files, algorithm analysis. (CSC 255–Computer Science II is a four-credit course).</p> |
| <b>Course Prerequisites</b>                 | <p>Grade of C or better in CSC 150–Computer Science I; concurrent registration in lecture and one of the laboratory sections.</p> <p><b>By Topics:</b> Introductory object-oriented programming concepts; Classes, methods, parameters and return values, arrays.</p>  |
| <b>Description of Instructional Methods</b> | Lectures, problem assignments, closed laboratories   |
| <b>Course Requirements Text</b>             | <i>Introduction to Java Programming 10th Edition</i><br>Y. Daniel Liang<br>Pearson   |
| <b>Supplementary Materials</b>              | Class Notes<br>On-line Java documentation  |
| <b>Class Attendance Policy</b>              | Lecture attendance is expected and you are responsible for all material covered during lectures.   |

## Course Goals

The goals of the course are:

1. To advance understanding of the practice of software development using the object-oriented approach;
2. To introduce elementary data structures, basic algorithm analysis, and recursion;
3. To advance understanding graphical user interfaces and event-driven programming.

## Student Learning Outcomes

On completion of this course, the student will be able to:

1. Understand basic complexity analysis of algorithms;
2. Develop simple event-driven programs using meaningful graphical user interfaces;
3. Develop object-oriented solutions to a variety of problems using object-oriented principles;
4. Implement and use some simple/common data structures and recursion;
5. Analyze and apply common sorting and searching algorithms.
6. Separate specification from implementation

## Evaluation Procedures Assessments

**Labs:** Attendance at scheduled lab time is REQUIRED. The in-lab work will be structured and will be specified during the lab session. (There will be no separate lab-grading.)

If you miss more than one lab session we will need to arrange some additional lab work for you. The atmosphere in lab sessions will be cooperative -- get help from other students or the lab instructor whenever that will help you. Your lab grade is entirely based on your attendance, and NOT on how much you actually get done in lab. The instructor will help you so that you can learn as much as possible during the 2-hour session. You can expect that the lab materials will include more work than you will be able to complete. There is no "extra credit" for completing them, either in or outside of lab, but it might be helpful -- come see me if you want help.

**Tests:** There will be 2 mid-term test and a final exam.

**Performance  
Standards/Grading Policy**

Your grade will be determined as follows:  
20% Final  
40% Online Homework/Labs  
40% 2-Exam

**Additional Information:  
Major topics covered in the  
course**

1. Software Development and Analysis of Algorithms (3 hrs)
2. Overview of Object-Oriented Design (9 hrs)
3. Collections (3 hrs)
4. File I/O and GUI (6 hrs)
5. Linked Structures (3 hrs)
6. Stacks, Queues, and Lists (9 hrs)
7. Recursion (3 hrs)
8. Sorting and Searching (3 hrs)

**Academic Integrity**

The College of Arts and Sciences considers plagiarism, cheating, and other forms of academic dishonesty inimical to the objectives of higher education. The College supports the imposition of penalties on students who engage in academic dishonesty, as defined in the “Conduct” section of the University of South Dakota Student Handbook.

No credit can be given for a dishonest assignment. A student found to have engaged in any form of academic dishonesty may, at the discretion of the instructor, be:

- a. Given a zero for that assignment.
- b. Allowed to rewrite and resubmit the assignment for credit.
- c. Assigned a reduced grade for the course.
- d. Dropped from the course.
- e. Failed in the course.

**Freedom in Learning**

Under Board of Regents and University policy, student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact the dean of the college or school that offers the class to initiate a review of the evaluation.

**Disability Accommodation**

Any student who feels s/he may need academic accommodations or access accommodations based on the impact of a documented disability should contact and register with Disability Services during the first week of class or as soon as possible after the diagnosis of a disability. Disability Services is the official office to assist students through the process of disability verification and coordination of

appropriate and reasonable accommodations. Students currently registered with Disability Services must obtain a new accommodation memo each semester.

Please note: if your home institution is not the University of South Dakota but one of the other South Dakota Board of Regents institutions (e.g., SDSU, SDSMT, BHSU, NSU, DSU), you should work with the disability services coordinator at your home institution.

Disability Services, The Commons Room 116  
(605) 658-3745  
Web Site: [www.usd.edu/ds](http://www.usd.edu/ds)  
Email: [disabilityservices@usd.edu](mailto:disabilityservices@usd.edu)

**Diversity and Inclusive Excellence**

The University of South Dakota strives to foster a globally inclusive learning environment where opportunities are provided for diversity to be recognized and respected. To learn more about USD's diversity and inclusiveness initiatives, please visit the website for the Office of Diversity.

### Tentative Course Schedule

| <b>Week</b> | <b>Lab</b>        | <b>Lecture</b>                              |
|-------------|-------------------|---|
| 13-Jan      | Lab-00            | Review                                      |
| 20-Jan      | Lab-01            | Part 1: Files & Exceptions Ch. 12           |
| 27-Jan      | Lab-02            |   |
| 3-Feb       | Lab-03            |   |
| 10-Feb      | Lab-04            | Part 2: OOD and OOP Ch. 11,13               |
| 17-Feb      | Lab-05            |   |
| 24-Feb      | Lab-06            |   |
|             |                   | Mid-Term                                    |
| 2-Mar       | Lab-07            | Part 3: ADT's, Collections, Big O Ch. 18-24 |
| 16-Mar      | Lab-08            |   |
| 23-Mar      | Lab-09            |   |
| 30-Mar      | Lab-10            |   |
| 6-Apr       | Lab-11            |   |
| 13-Apr      | Lab-12            | Part 4: OO GUI Ch. 14,15,16                 |
| 20-Apr      | no Lab            |   |
| 27-Apr      | Lab-13            |   |
| 4-May       | <b>Final Exam</b> |   |