CS 2133: Computer Science II  
Fall 2022 Syllabus

Instructor Information

Name: Vishalini Laguduva Ramnath  
Office: MCS 207  
Email: vlagudu@okstate.edu  
Office Hours: T TH 1:00 - 2:30 pm, or by appointment

Class Information

Dates: 22nd Aug - 20th Dec  
Time: MWF 2:30 - 3:20 pm  
Classroom: Agricultural Hall 320

TA Information

Name: TBD  
Email: TBD  
Office Hours: TBD

Course Description

This course continues the Java-based introduction to basic computer science concepts begun in Computer Science I. Essentially, this course covers the use of object-oriented programming to design and implement software solutions. Students will learn and understand how to design large programs to make them readable, maintainable, elegant, and efficient. In addition, students will also learn to analyze the program and predicts its efficiency. Java is the language used; it is an object-oriented programming language that was designed for developing large systems from reusable components. Prerequisites: CS 1113 - Computer Science I.

Course Objectives

After this course, you should be able to...

- Use an object-oriented approach to decompose and solve a problem.
- Understand how to program simple Graphical User Interface.
- Understand how to handle Exceptions.
- Understand how to design large programs to make them readable, maintainable, elegant, and efficient.
- Understand and analyze the program and predict the efficiency.
- Understand simple Searching and Sorting.
Textbook & Software

No particular book is required for this course. However, I would recommend the following books for reference.
Textbook 1: Walter Savitch, Java: An Introduction to Problem Solving and Programming (8th Edition)
Textbook 2: Introduction to Java Programming, Brief Version, 10E. Daniel Liang.

Course Outline and Tentative Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Getting Started, Java introduction</td>
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<tr>
<td>2</td>
<td>Object Oriented Programming - Objects, Classes</td>
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<tr>
<td>3</td>
<td>File I/O, Debugging, Testing, Assignment 1 due</td>
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<td>4</td>
<td>Arrays, Recursion</td>
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<tr>
<td>5</td>
<td>Inheritance, Polymorphism, Assignment 2 due</td>
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<td>6</td>
<td>Interfaces, Midterm - 1</td>
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<td>7</td>
<td>Comparable Interfaces, GUI, Five Euler programs, Assignment 3 due</td>
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<td>8</td>
<td>More GUI, Widgets</td>
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<td>9</td>
<td>Model View Controller</td>
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<td>10</td>
<td>Exception Handling, Stream I/O, Assignment 4 due, Midterm - 2</td>
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<td>11</td>
<td>Java Generics, Searching and Sorting,</td>
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<td>12</td>
<td>Analysis of Order of Growth, Linked List, Next five Euler programs, Assignment 5 due</td>
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<td>13</td>
<td>Stacks, Queues, Heaps, Trees</td>
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<td>14</td>
<td>Fall Break</td>
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<td>15</td>
<td>Introduction to Dynamic Programming, Regular expression, Assignment 6 due</td>
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<tr>
<td>16</td>
<td>Pre-Finals week, Extra credit Euler Programs</td>
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<td>17</td>
<td>Finals week</td>
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Covid Policy

OSU encourages faculty, staff and students to wear a mask indoors in public settings during periods of high community transmission regardless of whether you are fully vaccinated, consistent with the current CDC recommendations. This is especially important in classrooms and laboratories because people are together for long periods of time. Wearing a mask during class not only protects you but also helps protect those around you who may be more vulnerable. This is a simple way we can look out for all members of the Cowboy family. If you feel sick, do not attend class. Contact University Health Services at 405-744-7665 immediately, and communicate with me as soon as possible about any work you miss.

Class Participation

Students are responsible for any material covered in class. Some of the material covered in class will not be in the textbook. Announcements about tests etc. will be made on Canvas. Students are to check their emails regularly (using their class accounts). Please note that, Friday, will either be make up, catch up, or no class
Assignments, Quizzes and Exam

- Assignments will usually be due on Wednesdays/Friday at midnight. We will often go over assignments in class the next Monday. Late assignments will be penalized 10%.

- If you need an extension on any Assignment for any reason, contact your instructor in a timely fashion, as permitted by the need.

- Assignments should be handed on to the Canvas as a single .zip file or based on the instruction mentioned on the assignment. Your programming projects will be tested using jGrasp. Ensure proper setup for 100% grades.

- Project Euler (http://projecteuler.net) is a web site that contains several hundred progressive mathematical problems that can be solved by writing a small program. You are required to solve ten of them of your choice over the course of the semester. The first set of five programs will be due at the end of 7th week. The next five problems are due at the end of 12th week. You can do up to ten problems for extra credit, which is due during the pre-finals week.

- There will be three exams, two midterm and a comprehensive final. These will account for 40% of your grade, and the final counts for twice as much as the midterm. You will be permitted one sheet of handwritten notes for each.

- Academic integrity is taken very seriously. You are permitted to discuss the course material with fellow students in general terms, but the programs you write must be your own. Code copied from each other or found on the web will result in an automatic zero for the assignment, and may even result in earning an 'F!' for the course and facing academic disciplinary measures.

- There will be a Quiz at the end of every week on Canvas. It is open book and open notes. There will also be popup quiz in class.

Grading

The course grade is determined by the following components:

Midterm + Final Exam 40%
Assignment 35%
Project Euler programming exercises 10%
Quizzes, Participation 15%

Final grades will be assigned according to the following scale,

Grade A 90-100%
Grade B 80-89%
Grade C 70-79%
Grade D 60-69%
Grade F 0-59%
DEPARTMENT POLICIES

Drop and Add Policy: Students will be allowed to drop as long as the University permits them to do so. A grade of W or F will be determined on the basis of the points earned until that time.

Academic Dishonesty/misconduct: A short example: Any student who cheats on an exam or assignment will receive an “F” in the course. Furthermore, I will recommend that the university carry out the strongest disciplinary action possible under the circumstances.

Cheating can include, but not limited to: (i) giving unauthorized assistance to others, (ii) receiving unauthorized assistance from others, (iii) looking at another student's solution in an exam or assignment, (iv) looking at or consulting material not allowed in the exam or assignment parameters, and (v) using another person or website (such as Chegg.com) for solutions to assignments, programming projects or exams.

The Computer Science departmental policy for academic dishonesty and misconduct applies to this class. In addition, a student attempting to gain unfair advantage by keeping an examination paper longer than the time permitted is guilty of academic misconduct.

Computer Usage: The Computer Science departmental policy for computer usage applies to this class. Exceptions will be made for students whose companies permit use of company machines for academic work. Students taking advantage of the exception must have two-way email access.

Americans with disabilities act: The University policy for students with disabilities applies to this class. Anyone who has a need for examinations by special arrangements should see the instructor as the earliest possible opportunity during scheduled office hours.

Examinations/Tests: No discussion of any kind (except with the instructor) is allowed. No access to any type of written material is allowed. Students who do not comply with the described collaboration policy will receive a grade of F in the course. Furthermore, the case will be reported to the University Officials.

Important Dates

- Midterm 1: Week of 26th September 2022
- Midterm 2: Week of 24th October 2022
- Last day to drop a course with no grade: 29th August 2022
- Academic Withdrawal Deadline: 11th November 2022
- Final Exam: 12th December 2022

University Holidays

- Labor Day: 5th September 2022
- Thanksgiving Day: 24 – 25 November 2022
- Fall Break: 21 – 23 November 2022