ICS 211 - Introduction to Computer Science II

Welcome to Introduction to Computer Science II. This course is designed to provide an introduction to some advanced programming techniques. By the end of the course, you should be able to:

- Use the java programming language to build object-oriented programs and applications.
- Identify the problem to be solved and determine what input, output, and data structures are needed to solve it.
- Use advanced techniques such as recursion, pointers and dynamic arrays.
- Provide a Graphical User Interface for your programs.

Instructor Information

David Maxson
David.Maxson@hawaii.edu
Office hours: Online

Student Learning Outcomes

The Student Learning Outcomes for this course are:

- Recognize the use of arrays, lists, stacks, queues, and other data structures.
- Select the appropriate searching and sorting algorithm based on the algorithm’s behavior.
- Develop recursive algorithms and programs.
- Select appropriate data structure for a given application.
- Use advanced object-oriented programming techniques (polymorphism, inheritance, and encapsulation) and standard libraries.
- Produce robust programs using exception handling and extensive program testing.
- Create a simple graphical user interface (GUI) program.

Class times and location

This is an online class. All lessons and interactions will be through Laulima.
How the course works

In this class, you must show mastery of each concept through a series of projects. Every assignment is worth 3 points except the final project, which is worth 9 points.

To get the full 3 points, your work must not contain any errors. If there are errors, then I will specify what it is and return it to you. You should then correct the assignment and resubmit it. Because one topic builds upon another, it is best to follow the schedule.

The only deadline for all assignments is December 13, 2013. No work will be accepted after that date.

Grading

Your final grade will be determined by the number of assignments you complete. There are thirteen assignments and the final project for a total of 48 points:

A: 43 - 48 points
B: 38 – 42 points
C: 33 – 37 points
D: 28 – 32 points
F: 0 – 27 points

Resources

Your textbook for this class is *Java: An Introduction to Problem Solving and Programming* by Walter Savitch. Readings will be assigned from the textbook. In addition, the companion website (myprogramminglab) contains many useful videos and exercises that are referenced in the lessons. The companion site is not required, but could prove very useful. The link to it is available on the Laulima Home Page. Your book should contain an access code for it.

We will use Laulima for submitting and returning all assignments. All grades will be posted in Laulima and you will be able to track your progress by utilizing the grade book. In addition, there will be discussion boards where you may post questions and answers to everyone in the class. Use the private message tool in Laulima to contact the instructor.

We will be using Java Version 7 to develop our programs. Go to the [Java Download Page](http://java.sun.com/javase/downloads/index.jsp) to download the latest SE JDK. Make sure it is version 7, not 8. It is vital that you install it correctly, including setting the correct path environments.

Although it isn’t necessary, I also recommend you use an Integrated Development Environment. NetBeans is a good IDE that has a lot of built in support for JavaFX, the graphical library we will use.
Other Resources

- Tutoring may be available from the TRIO office in the Library Learning Center on the WCC campus.
- All public computers on the WCC campus are configured with the software needed for this class.

Statements and Policies

Disabilities Accommodation Statement
If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached by phone at 235-7448, by email at lemke@hawaii.edu, or by stopping by her office in Hale ‘Akoakoa.

Academic Dishonesty - Cheating and Plagiarism
You are responsible for the content and integrity of all work you submit. The guiding principle of academic integrity will be that all files, work, examinations, reports, and projects that you submit are your own work. See page 16 of the Windward Community College catalog for further clarification.

You will be guilty of cheating if you:

- Represent the work of others as your own (plagiarism).
- User or obtain unauthorized assistance in any academic work.
- Give unauthorized assistance to other students.
- Modify, without instructor approval, an examination, paper, record, or report for the purpose of obtaining additional credit.
- Misrepresent the content of submitted work.

A Final Thought
All programming languages use the same basic concepts. By learning the concepts and writing your initial program in pseudocode, you should be able to use any programming language to code your software. It is vital that you understand these concepts. You will use them throughout your studies in Computer Science and as a programmer or Software Engineer afterward. The best way to learn them is to use them. There are many exercises in the book that are not assigned as projects. If you need practice, consider doing more of the programming exercises. Good luck!
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<td>Using Laulima</td>
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<td>JavaFX Stage and Scene</td>
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