**CSC 212--Principles Of Programming**

**Section 81F**

**Fall 2015**

**Instructor:** Rameen Mohammadi

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                703 Culkin Hall

                X2232

**Lectures:**          Monday, Wednesday, Friday 12:40-1:35 Room 444 Shineman Hall

**Lab linked to our course:** CSC 212 L1F Wednesday 1:50-2:45 pm 436 Shineman

**Office Hours:**    by Appointment in 703 Culkin

**Tutoring:**          CSA (Computer Science Association) tutoring  (Times/days/Place TBA)

**Final Exam:**      Friday, December 1, 10:30-12:30

**Holidays (No Class):**   Labor Day (September 7); Rosh Hashanah  (September 14, 15),  Yom Kippur (September 23), Thanksgiving (November 25-November 29)

**Away from campus: TBA**

**Special Needs**

If you have a disabling condition which may interfere with your ability to successfully complete this course, please contact the Disability Support Services (DSS) located at 155 Campus Center, phone (315) 312-3358, [dss@oswego.edu](mailto:dss@oswego.edu)

**Course Description**

The notion of "object" directs the discipline of programming presented in this course. The Java programming language serves as the medium through which key ideas are introduced. The "smaller" issues of message passing and control flow are presented, as are the "larger" issues of abstraction, encapsulation, and hierarchy. Variables and typing, procedures and parameters are discussed. Functionality provided in specific java packages is employed. Standard algorithms are presented. Problem-solving strategies are articulated and exploited. Critical thinking is featured throughout the course in the context of problem-solving and computer programming.

**Course Objectives**

Upon successful completion of this course, students will be able to:

·         demonstrate knowledge of the fundamental concepts and methodologies of object-oriented programming

·         demonstrate a working knowledge of selection and repetition constructs

·         demonstrate a working knowledge of primitive and object types

·         read, write, compile and run java programs

·         use general problem solving strategies in algorithm design

·         understand and implement several standard algorithms, including merging, searching, and sorting algorithms

·         utilize an IDE (NetBeans) for programming and function in a Unix environment.

**First Choice**

You perhaps notice that this is an **F section** of CSC 212. This means a couple of things:

1) the course is reserved for freshmen, most likely all in Computer Science and Software Engineering. Also, these courses have 19 or fewer students.

2) there is a set of learning outcomes in addition to the ones in our course that are intended to provide students with a strong start in college. The good news is that CSC212, with its expectation for analytical and critical thinking, use of resources at the library and on the web, tutoring outside of class, and its other natural features, will just help you achieve most of the outcomes for First Choice. But, there are a few other outcomes identified that we will address in our course. I especially like the idea that learning takes place both inside and outside the classroom. For that reason, your attendance in lectures sponsored by the Computer Science department, the sciences, and other campus-wide presentations will be important for your growth and development and will count in your final grade as described in the Grading section in the syllabus. Please visit the page [ARTSWEGO](http://oswego.edu/arts/)for art programs that you can attend; I can also request free tickets for the class at least once every semester.

**Bb Learn**

This is the content management tool we use for our courses on campus. It is likely that you have other courses that utilize Bb Learn.

Bb Learn serves several important functions:

1)   Course information such as this syllabus will be available here.

2)   I will post assignments and provide drop-boxes for them where you can submit them.

3)   You will take lab quizzes or other quizzes related to lecture here as assigned.

4)   The system provides me with an easy way of communicating with you and for you to communicate with me.

5)   Finally, as I grade your program submissions or quizzes, the grade book will be updated so you will always know how you are doing.

[**Lynda.com**](http://www.oswego.edu/lynda)

Oswego has a premium subscription to Lynda.com which is a collection of online video-based courses. One of those courses provides some essential introductions to Java and programming; so, in the course of the semester I wll direct you to look at some of those videos. Of course, you can look at those videos at other times and can also explore other courses available at Lynda.com that you may find helpful.

**Class/Lab Attendance**

Class and lab attendance is mandatory for our course. Clearly there may be occasions where you are unable to attend class/lab which is understandable, but you will need to let me know in advance if at all possible and do your best to make up the work that you need to do.

**Intellectual Integrity**

SUNY Oswego is committed to Intellectual Integrity. Any form of intellectual dishonesty is a serious concern and therefore prohibited. The full policy can be found at<http://www.oswego.edu/integrity/>

Whether you are giving your code to someone or taking someone else’s, it really is not relevant. Either is in violation of our Academic Integrity Policy. If another student is having a problem, it is perfectly ok to help them, show that person what they have done wrong, but you MUST not do it for them. It is also perfectly valid to discuss problems in groups, what you are expected to do, what are some of the ways you can tackle the problems, but it is NOT ok to work together on a problem without being instructed to do so by me.

This is a rigorous curriculum and to have the right beginning, you all need to give it significant time and attention. By just copying someone else’s work, you will abandon an important learning opportunity that is before you. To be successful in Computer Science, you have to learn to collaborate and know what an appropriate collaboration is--this must start in this course.

**Due Dates/Keeping up**

It is almost impossible to succeed in this course as it is in most Computer Science courses when you fall behind. Assignments follow each other is a variety of ways, the knowledge and skills gained in labs impact your ability to start programming assignments assigned. When the due dates are not adhered to, most students struggle, and as the semester continues fall further and further behind. Grading policy allows for lateness, but I hope I have explained clearly here that getting your work done on time is the first ingredient for success.

I do however also have to explain that assignments or labs that are submitted on time but are incomplete or incorrect will not receive significant points and really have the same or worse effect on the learning process. So, submitting work that is either incomplete or incorrect, especially in the first half of the semester as you are learning many of the basic elements of programming, is consequential and not productive. If you are struggling to learn the material and doing the work expected, you should be talking to me, attending CSA tutoring sessions, and reaching out to other students in our class for help. The worst thing you could do, is to do nothing and let your issues linger.

**Books on Reserve at the Library**

[Simply Java: An Introduction to Java Programming](http://www.amazon.com/Simply-Java-Introduction-Programming-Series/dp/1584504269) (Programming Series) by James Levenick

[Head First Java by Kathy Sierra](http://www.amazon.com/Head-First-Java-Kathy-Sierra/dp/0596009208/ref=sr_1_1?s=books&ie=UTF8&qid=1345927172&sr=1-1&keywords=Head+First+Java+by+Kathy+Sierra)

**Resources**

[www.oswego.edu/lynda](http://www.oswego.edu/lynda)

[Allen Downey book](http://www.cs.oswego.edu/~odendahl/coursework/csc212/notes/resources/thinkapjava.pdf) ⇒ [source site](http://www.greenteapress.com/thinkapjava/)

[NetBeans plugins & how to submit a project](http://www.cs.oswego.edu/~odendahl/coursework/csc212/submittals.html)

[codingbat.com](http://codingbat.com/)— interactive Java programming practice

[Intro to Prog. using Java](http://math.hws.edu/javanotes/)— free e-book

[Java API](http://moxie.oswego.edu/doc/java/docs/api/index.html)

[Java Tutorial](http://moxie.oswego.edu/doc/java/tutorial/)

**Course Flow**

·         Java basics (program, basic types, object types, etc.), UNIX, and NetBeans

·         Storing and manipulating data + IO

·         Conditionals

·         Loops

·         Software Engineering (specification, pre-post conditions, testing, incremental development)

·          User defined classes and instantiation

.          ArrayList 

·         One-dimensional arrays

·         Two-dimensional arrays

.     Other Programming topics, such as, app development or GUI development

**Grading**

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| Programming Assignments | We will have four or five programming assignments. | 30% |
| Quizzes/exercises related to lecture and class discussions | We would regularly have quizzes related to what is covered in class. | 5% |
| Lab Assignments | All labs and their quizzes need to be completed. | 15% |
| Midterm Exam | Material up through the middle of the semester (**Monday, October 12**) | 20% |
| Final Exam | Comprehensive final with focus on material covered in the 2nd half of the course | 25% |
| First Choice Activities | You will need to attend at least five out of class extra curricular programs, such as CSA meetings/lectures/ other programs, ARTSwegoprograms, Lectures, or any other cultural or educational program that I approve. | 5% |