CS211 Syllabus
WINTER 2017

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Course Information

Course Outcomes

After completing this class, students should be able to:

- Create classes via inheritance, use their objects to demonstrate polymorphism of both interfaces and abstract classes; and explain the role of generic class templates within classes.
- Explain the principles of recursion versus repetition, and write recursive methods for a variety of tasks.
- Implement and contrast the uses of various data structures including arrays, sets, lists, collections, and trees.
- Recognize the use of Big-O notation to explain program performance in searching, sorting, recursion, and implementation of existing methods from a software API (Application Programming Interface).
- Compose programs that facilitate error handling using API standard Exceptions with try-catch blocks.
- Design programs using a Graphical User Interface (GUI) and event driven programming.

Assessment of Outcomes

The largest parts of assessments (30%) are paper exams, done in person, and on campus. These are closed notes, no computer, no electronics, you become the computer exams. Such a restriction allows me to give “easier” exams, as it has been proven that “open everything” exams are really tough! Old sample exams are posted online. These require you to really understand how code works.

Weekly online Quizzes compose 40% of the grade this quarter. These will be very similar to Exercises at the end of each chapter of our text, which require you to write Java code, and upload a .java file for manual assessment by the instructor. Similar Exercises can be done at the Practice-IT site from the text companion site Building Java Programs dot com. The huge difference is that Practice-IT is graded instantly online, allows unlimited attempts, and most of the solutions can be found at websites of former students (e.g. GitHub). The CS211 weekly Quizzes are limited to 60 minutes, so you need to know your stuff, and have lots of practice (via Practice-IT) before starting a Quiz.

Programming assignments are another part of assessment (25%), mostly from the text and require composition and execution of Java programs. Your code will be submitted electronically, via the course web site, as detailed on each assignment. Readability of code is crucial, and adherence to format specifications in the text is paramount. Specifically, I require proper indents, avoidance of uncontrolled text wrap, and submission through specified channels. Yes, I might accept substandard work, but it will never receive full credit.

The remaining (5%), you take a trivial one question Quiz to let me know how much of the homework you have completed from the text companion site Building Java Programs dot com called Practice-It Exercises. I have suggested exercises listed in the TODO pages of Canvas.

Late submissions receive an automatic ZERO, because everything is online, and cut-off to the second. Late work often indicates issues with planning, or problems with comprehension, or lack of class participation. In rare cases, if arrangements are made in advance of the due date/time (with documented hospitalization, incarceration, or death), late work might receive 50% of the credit that might have been given.

Grading

Bellevue College uses a final letter grade for each course. I will use the follow conversions from your final average percentage to a letter grade:

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100-93(A)       92-90(A-)
89-87(B+)       86-83 (B)       82-80(B-)
79-77(C+)       76-73 (C)       72-70(C-)
69-67(D+)       66-60 (D)
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The College Grading Policy is located in the Course Catalog and also on the web at **Grading Policy (Links to an external site.)**

Books and Materials Required

Building Java Programs: Skills, A Back to Basics Approach, 3/E, by Stuart Reges and Marty Stepp, University of Washington

Now that the 4th edition is available, I will be updating all the page numbers this quarter (Fall 2016) but content and requirements will follow the 3rd (4th edition optional, and encouraged).

I use this text to prepare my lectures, examples, and assignments, so I don't know how one could pass this class without. My book and downloads come from the Pearson Education site: Pearson Higher Ed external site

You will need a way to compose, compile, and run Java programs. There are countless ways to do this, but I'm going to limit myself to Eclipse: eclipse dot org

UW uses jGRASP, JGrasp dot com (external site) and other instructors use NetBeans, BlueJ, javac.exe…. The list never ends.

Java 8 has now been released and I just upgraded my computer, although it is not required. The text was written using Java 6, and Java 5 would actually do fine.

Learning Atmosphere

Instructor's Expectation

My role as the instructor is to:

- Help students succeed in this course;
- Share my knowledge and experiences to help expand on concepts discussed in the course;
- Provide timely feedback to students;
- Moderate discussions and challenge students to further their knowledge; and
- Evaluate and grade the work submitted.

As a student in this course, I hope you will:

- Work hard to achieve the goals of the course;
- Share your thoughts, knowledge and experiences;
- Cooperate and collaborate with other students; and
- Provide feedback to me throughout the course.

Affirmation of Inclusion

Bellevue College is committed to maintaining an environment in which every member of the campus community feels welcome to participate in the life of the college, free from harassment and discrimination.

We value our different backgrounds at Bellevue College, and students, faculty, staff members, and administrators are to treat one another with dignity and respect.
http://bellevuecollege.edu/about/goals/inclusion.asp (Links to an external site.)

Student Code of Conduct and Academic Integrity

Cheating, stealing, and plagiarizing (using the ideas or words of another as one's own without crediting the source) and inappropriate/disruptive classroom behavior are violations of the Student Code of Conduct at Bellevue College. Unacceptable behavior includes, but is not

limited to, inappropriate behavior toward the instructor or classmates, any aggressive criticism, and absolutely no racial or gender orientation slanders shall be tolerated. The instructor can refer any violation of the Student Code of Conduct to the Dean of Student Success for investigation. Specific student rights, responsibilities, and appeal procedures are listed in the Student Code of Conduct at Student Code of Conduct (Links to an external site.)

When appropriate, I will use a Measure of Software Similarity (MOSS) to assess copies of code submitted for grading. Plagiarism: to steal and pass off (the ideas or words of another) as one's own, use (another's production) without crediting the source (from Merriam-Webster). Plagiarized code will be immediately assessed a zero.

Stanford link to MOSS

I've also discovered another Java Plagiarism site (JPlag) that seems useful for some of my testing of your code: German site used for MOSS I'll share some of these examples when appropriate in class.

Important Links

Bellevue College E-mail and access to MyBC

All students registered for classes at Bellevue College are entitled to a network and e-mail account. Your student network account can be used to access your student e-mail, log in to computers in labs and classrooms, connect to the BC wireless network and log in to *My*BC. To create your account, go to: Create Your Account (Links to an external site.)

BC offers a wide variety of computer and learning labs to enhance learning and student success. Find current campus locations for all student labs by visiting the Computer Labs Website (Links to an external site.)

Disability Resource Center (DRC)

The Disability Resource Center serves students with a wide array of learning challenges and disabilities. If you are a student who has a disability or learning challenge for which you have documentation or have seen someone for treatment and if you feel you may need accommodations in order to be successful in college, please contact us as soon as possible.

If you are a person who requires assistance in case of an emergency situation, such as a fire, earthquake, etc., please meet with your individual instructors to develop a safety plan within the first week of the quarter.

If you are a student with a documented autism spectrum disorder, there is an additional access program available to you. Contact asn@bellevuecollege.edu or 425.564.2764. ASN is located in the Library Media Center in D125. Autism Spectrum Navigators (Links to an external site.)

The DRC office is located in B132 or you can call our reception desk at 425.564.2498. Deaf students can reach us by video phone at 425-440-2025 or by TTY at 425-564-4110. Please visit

our website for application information into our program and other helpful links at Disability Resource Center (Links to an external site.)

Public Safety and Emergencies

Public Safety is located in the K building and can be reached at **425-564-2400** (easy to remember because it's the only office on campus open 24 hours a day—2400). Among other things, Public Safety serves as our Parking Permits, Lost and Found, and Emergency Notification center. Please ensure you are signed up to receive alerts through our campus alerting system by registering at Rave Alert Emergency Notification System (Links to an external site.)

If you work late and are uneasy about going to your car, Public Safety will escort you to your vehicle. To coordinate this, please phone ahead and let Public Safety know when and where you will need an escort.

Final Exam Schedule (Links to an external site.)

Academic Calendar

The Bellevue College Academic Calendar is separated into two calendars. They provide information about holidays, closures and important enrollment dates such as the finals schedule.

- **Enrollment Calendar** (Links to an external site.). On this calendar you will find admissions and registration dates and important dates for withdrawing and receiving tuition refunds.
- **College Calendar (Links to an external site.).** This calendar gives you the year at a glance and includes college holidays, scheduled closures, quarter end and start dates, and final exam dates.

Course Calendar

CANVAS will be used for details of our course calendar, but here is an overview:
Week 1, Introductions, review instructor expectations, Eclipse, Practice-IT, chapter 7, 8…
Week 2, Chapter 9 assignments and quiz, Inheritance, extends, implements
Week 3, Chapter 10, ArrayList, Collections, generics
Week 4, Chapter 11, more on Collections, Set, List… followed by **mid-term exam on Jan 30**.
Week 5, Chapter 12, recursion, introduction to code efficiency (Big-O)
Week 6, Chapter 13, search and sorting, and solidify the Big-O concept!
Week 7, Chapter 14, Stack, Queue
Week 8, Chapter 15, Design of a good Class, documentation with javadoc
Week 9, Chapter 16, LinkedList, what used to be the sole heart and soul of CS211
Week 10, Chapter 17, Binary Trees, recursion, balance, more Big-O, Search Trees, TreeSet
Week 11, Chapter 18, HashSet, Heap, PriorityQueue
Week 12, **final exam (March 21)**