CMPS 212
Intermediate Programming with Data Structures
Course Syllabus

Course Description
A continuation of CMPS 200, this course consolidates algorithm design and programming techniques, emphasizing large programs. This course also provides a detailed study of data structures and data abstraction, and an introduction to complexity considerations and program verification. Prerequisite: CMPS 200. Each semester.

Learning Outcomes
At the end of this course, students should be able to:

1. Manipulate Java libraries
2. Define reusable components
3. Use appropriate data structures
4. Develop large and correct programs from given descriptions
5. Assess the performance of certain algorithms
6. Implement data structures in different ways
7. Write recursive functions
8. Develop basic Android application

Textbooks & Resources
Building Java Programs: a Back to Basics Approach, 3/e; Stuart Reges & Marty Stepp; Pearson © 2013.
Slides, other materials, and resources used will be posted on the CMPS 212 course web site on Moodle

Grading
A *tentative* breakdown of the final grade for the course is given below. Note that this breakdown is subject to change as the course progresses. Exam dates might change.

Category	Percentage	Tentative date
Class/Lab participation & drop quizzes	5	
Assignments	15	
Quiz 1 (Programming)	15	9:00 am, Sat. March 3, 2018
Quiz 2 (Written)	15	9:00 am, Sat. March 31, 2018
Quiz 3 (Programming)	15	9:00 am, Sat. April 21, 2018
Final (Programming)	35	TBA

Content Outline

Subject	# of lectures
Review	6
Inheritance & interfaces – Ch 9	8
Arraylist – Ch 10	2
Implementing a collection class – Ch 15	3
Java Collections Framework – Ch 11	3
Linked Lists – Ch 16	6
Stacks & Queues – Ch 14	2
Recursion – Ch 12	3
Searching & Sorting – Ch 13	3
Binary Trees – Ch 17	4
Advanced Data structures – Ch 18	5
	Total: 45

Assignment Due Dates

Due dates are **non-negotiable**; All assignment submissions will be done through Moodle. It is the responsibility of the student to make sure that the work is complete and that there is enough time to submit the material before the deadline. Late assignments will be heavily penalized.

Honesty

You will be treated as professionals and you should plan on conducting yourself as such.

The course includes several homework and programming assignments. You are free to discuss these assignments with others. However, the programs and homework solutions you submit are to be developed by you. Cheating is a very serious offense and will not be tolerated. Supplying others with material is also against this rule. The policy is that both the supplier and receiver of information will be punished. As a minimum, both will automatically get a zero on the assignment. Recurrent cases will be referred to the Dean's office and could result in a failing grade for the course and suspension or expulsion from the University.

The university has developed a *Student Code of Conduct* which describes how cases of misconduct (including *cheating* and *plagiarism*) are handled. Students are expected to be familiar with this Code of Conduct.

Academic Barriers and/or Disability

AUB strives to make learning experiences as accessible as possible. If you anticipate or experience academic barriers due to a disability (including mental health, chronic or temporary medical conditions), please inform me immediately so that we can privately discuss options. In order to help establish reasonable accommodations and facilitate a smooth accommodations process, you are encouraged to contact the Accessible Education Office: accessibility@aub.edu.lb ; +961-1-350000, x3246; West Hall, 314'