Syllabus - CSC 210 Data Structures & Algorithms

Term:	Spring 2018
Class times:	Tue, Thu @ 2:00 - 3:50 pm at Wentz Science Center, Room 104
First class:	Tue Mar 27, 2018 @ 2:00 pm

Noctrl Description

Here's the official Noctrl description of our class:
> Structures, techniques and algorithms for managing data. Topics include variations of linked lists; binary trees, B-trees and other types of search trees; advanced searching and sorting algorithms; graphs and graph algorithms; and analysis of algorithms. Programming required.
> Source: catalog.noctrl.edu

Instructor

My name is Bill Krieger. I'm a part-time professor in the Computer Science department at North Central College. My office hours are list on my website, wtkrieger.faculty.noctrl.edu.
My email is wtkrieger@noctrl.edu.

Textbook

We will use two textbooks.
1) Starting out with Java, 3rd Edition by Muganda and Gaddis
> Hopefully, you still have this book from CSC 160/161. If not, check the bookstore.
> Here it is on Amazon: a.co/8Me7x89. And here's the publisher's website:
> www.pearson.com/us/higher-education/program/Gaddis-Starting-Out-with-Java-From-Control-Structures-through-Data-Structures-3rd-Edition/PGM282355.html

2) Open Data Structures by Pat Morin
> This is a free, open source textbook: opendatastructures.org
> If you're better with a physical book, here it is on Amazon: a.co/8LsYmHo

Grading

Your final grade will be comprised of:
- Homework/class participation, 10%
- Programming assignments, 30%
- Midterm, 25%
- Final exam, 35%

The standard North Central College grading scale will be used. It's spelled out here:
www.northcentralcollege.edu/academics/registrar-and-support-services/registrar/plusminus-grading

The college rules on academic integrity will be strictly enforced. Plagiarism is a severe offense and will not be tolerated. Here's the official Noctrl link:
www.northcentralcollege.edu/computer-science/department-plagiarism-policy

Late work will not be accepted without prior approval. Please see me if you have an issue meeting a course deadline.

The Plan

This plan is tentative and subject to change.

Week	Description
1	Java, OOP review; Array, ArrayList; Lists
2	Java Collections; Stacks and queues
3	Algorithm analysis; Sort and select algorithms
4	Recursion; Trees
5	Review/catch-up; Midterm exam
6	Hash tables; Java Collections Sets and Maps
7	Search trees: BST, AVL, Red-black; B-Tree
8	Priority Queue, Help; Graphs
9	Min spanning tree; Shortest path
10	Review/catch-up; Final exam