COSC 311 **Algorithms & Data Structures** **WINTER 2010**

T Th 12:30 - 1:45 pm **302 PH**

Instructor: Professor Haynes `shaynes @ emich.edu` `emunix.emich.edu/~haynes`

Office: 511 E PH
T Th 2:30 - 3:30pm
W 9:00 - 1:00 pm

Text: Goodrich & Tamassia, *Data Structures & Algorithms in Java*, 4th Ed, Wiley.
Note: This is a different text than the other section of 311!
References: Sedgewick, *Algorithms in Java*, 3rd Ed.

Description: Linear lists, strings, arrays, and orthogonal lists. Representation of trees and graphs. Storage systems, structures, storage allocation and collection. Symbol tables, searching and sorting techniques. Formal specification of data structures and data management systems.

This is the keystone course in any computer science program. Nothing else equals its importance to a computer scientist.

Teaching Assistant: John Lindstedt, Office Hours and email TBA.

Student work and assessment:

Programming:	40%
Quizzes:	25% (lowest one dropped -- no makeups)
Midterm:	15%
Final (cumulative):	20% (Thursday, April 22, 11:00 - 12:30)

The final score is calculated as follows:

```
if (average score on all programming projects < 60%)
        earned grade is E
else earned grade is as calculated by above percentage list
```

That is, *you must be able to program in order to pass this class*.

Grades:

91 - 100%	A range
81 - 90%	B range
71 - 80%	C range
61 - 70%	D range

A statement on language: In point of fact, any of the data structures and algorithms can be implemented in any reasonable language. However, we are a Java-shop, so we expect you to be Java fluent. The majority of your programs have to be in Java. You may as well get used to having requirements imposed on your programming now rather than at your first job. However, in the interests of time, one or two of your projects can be written in some other language -- no perl!

We're not reviewing Java in this class -- the textbook's Chapters 1-2 review Java. I will be covering some advanced Java features as required (e.g., generics) during the term. I'll be demo-ing in class with Eclipse. Anyone caught using BlueJ will receive a rap on the knuckles with a slide-rule.

Academic Honesty: I expect, and your fellow students expect, that every person in this class will adhere to the highest ethical standards. All work which you hand in to me must be your own independent work. If you act in an academically or ethically dishonest manner, you will receive an E for the final grade and I will submit your name to the dean of students for dismissal or academic sanction.

CAVEAT: This document may be modified, with appropriate notification to students, as pedagogically necessary or advisable.