Intermediate-Level C++

Summer Semester 2018
Florida International University
Lecture Time: Monday-Friday 8 AM - 12 PM
Lecture Location: ECS235
Hours: 40

Instructor:
Dr. Trevor M. Cickovski (Dr. C)
Office Location/Phone: ECS280D, x8048
E-mail (Quickest Way): tcickovs@fiu.edu

Course Description/Learning Outcomes: The purpose of this course to provide you with intermediate-level knowledge of the C++ language. This includes its syntax and semantics, how to capitalize on its object-oriented structure to build useful and extensible software packages, writing efficient code, and proper software design methodologies.

I will assume you have some prior programming experience entering the class, but not necessarily in C/C++.

Key Topics: Including but not limited to: I/O, arithmetic, variables and datatypes, Boolean operations, bitwise operations, structs, classes and objects, constructors and destructors, access modes, conditional statements, loops, functions, arrays, pointers, recursion, operator overloading, inheritance, polymorphism, the Standard Template Library (exposure), industry tools

Textbook: P. Deitel and H. Deitel. C++ How To Program (10th Edition). Indianapolis: Pearson, 2016.

General Structure. Each day (except for the last) will be roughly divided as follows:

Length	**Component**	**Goal**
2 hrs	Lecture	Introduce you to new topics for the day
2 hrs	Activity	Work on BioNet project in teams, with my guidance

The course will revolve around an active software project *BioNet*, started by some of your colleagues last month. I will grant all of you developer access the first day.

The goal of Lecture is to learn new topics for the day. I will use BioNet largely as a reference for presenting this material, so you will become familiar with the package as you learn these topics. If I use my own examples I will make them available under an active "software project" *Farelogix*, and will give each of you read access. For the Activity, I will divide you into teams that will each contribute to portion(s) of BioNet.

Finally, you will take your certification exam on the last day of class (a Friday). To receive the certification, you will need to pass both the project and exam portions of the course. We will now discuss how each will be evaluated.

Project Evaluation: For the project evaluation I will complete a table like this for each team, regarding progress with BioNet:

Metric	**Pass (Yes/No)**
Functionality	
Efficiency	
Use of Proper Practices	

Your team will need to pass all three metrics. Functionality measures whether or not your code delivered the desired output. You also have justifiably used the most efficient approach, and also proper software engineering practices.

Remember I will be available to guide you, so you should understand specifically what each of these entail for your portion. If not, you can always ask.

I will also complete a table like this for each individual:

Metric	**Pass (Yes/No)**
Attendance	
Participation	

To pass the attendance metric, you need to be present for at least the Activity portion (10-12) of each session. To pass participation, you need to be actively contributing to your team every session.

Each student needs to have all five marked 'Pass' to pass the Project portion.

Certification Exam: You will have a maximum allotted time of four hours for the certification exam, which takes place on the last day of class. Like the project, this exam will be graded pass/fail. Passing this exam, along with the Project portion, grants you certification.