Prerequisite

CS204 – Advanced Programming – Summer 2014
3 credits

Prerequisite

CS201

Description and objectives

This course aims to provide programming experience and to give advanced programming techniques. In this way, students would be more prepared to data structures and several other junior and senior level CS courses. With a recent change in CS curriculum, CS204 became a prerequisite course for several CS courses including data structures. Thus, it is a must course for CS students and students who will take advanced CS courses.

The programming language that will be used in this course is C++; we will use Visual C++ 2010 as the development environment.

Topics planned to be covered

- Introduction (overview of basic concepts, Visual C++ environment, preprocessor directives, compiler, compiler options, linker, libraries, debugging)
- Pointers and dynamic memory allocation
- Linked lists
- Stacks and queues
- Templates, templated classes and functions
- Advanced issues on classes
- Data representation, bitwise operations
- Inheritance, polymorphism and advanced object oriented design
- Exception handling
- Programming with threads
- Visual programming and graphical user interfaces
- Advanced I/O

Instructor

Dr. Mordo Shalom, cmshalom@sabanciuniv.edu

Office, Phone, Office Hours: TBA on the course website.

Teaching Assistants

TBA on the course website.

Schedule

Lectures:
- Tue 11:40-14:30
- Wed 12:40-15:30

Labs: (2 sections)
- Thu 10:40-14:30
- Thu 14:40-18:30

Textbook(s)

Main texts are

"A Computer Science Tapestry" (CS201 book)

Reference books are

"Starting out with C++ Early Objects", 7th edition, by T. Gaddis, J. Walters and G. Muganda
"Objects, Abstraction, Data Structures and Design using C++" by Koffman and Wolfgang.

We may not stick to the textbooks; you are responsible material covered in class too. Thus it is very important to attend to classes.

Homework

There will be 5 or 6 programming homework assignments. Late submission penalty is 10% of full grade for each day (at most two late days are allowed). You have to submit your own work!

Grading

Midterm (30%)
Active Participation (10%) – Based on simple pop up questions asked during the lectures.
Final (40%) – A passing grade (>=55) in the final exam is needed to pass the course.
HomeWork assignments (20%) – The homework assignments are not of equal weight. Homework grading guidelines and grading rules will be announced in the course website.

Plagiarism and Cheating will not be tolerated