## Data Structures

## Dr BEN CHOI

## Description

Programming paradigms, syntax, semantics, data types, expression, control statements, and subprograms; object oriented concepts, abstract data types, recursion, queues, and trees.

Credits: 3; Prerequisites: Consent of instructor;
Classes: MWF 9:30AM - 10:45AM @ NETH 105
Office hours: (to be determined) NH 119, (or by appointment)

## Objectives

- To be able to program using object oriented programming language.
- To gain techniques on problem solving using computers.


## Text

Concepts of Programming Language \& http://www.cplusplus.com

## Representative Topics

| Concepts will be enhanced by programming using C++ <br> (Some sections may be assigned as reading.) | Reading <br> Chapter | Approximate <br> No. of Weeks |
| :--- | :---: | :---: |
| Preliminaries \& Evaluation of the Major <br> Programming Languages | $1 \& 2$ | 1 |
| Describing Syntax and Semantics | 3 | 1 |
| Names, bindings, and Scopes | 5 | 1 |
| Data Types | 6 | 1 |
| Expressions and Assignment Statements | 7 | 1 |
| Statement-Level Control Structures | 8 | 1 |
| Subprograms and Implementing Subprograms | 110 | 1 |
| Abstract Data Types and Encapsulation Constructs | 12 | 1 |
| Support for Object-oriented Programming |  | 1 |

## Grading Plan

| Attendance \& Class participation <br> Quizzes \& Assignments | $10 \%$ |
| :---: | :---: |
| Projects | $20 \%$ |
| Midterm Exam | $35 \%$ |
| Final Exam | $35 \%$ |

Final grade may be normalized (or curved). For homework, quizzes, and exams, each student must work independently.

Attendance: Class attendance is governed by university regulations. Class attendance is regarded as an obligation and all students are expected to attend punctually all classes in which they are enrolled. Failure to do so may jeopardize a student's scholastic standing.

Misconduct: Academic misconduct is governed by university regulations. The penalty for cheating and other forms of misconduct may result in an " $F$ " in the course.

