CPSC 5002: Programming Boot Camp II

Course Description:
Principles of programming, algorithmic and procedural problem solving. Program design and development, software testing. Classes, linked lists, stacks, and queues.

Prerequisites:
CPSC 5001

Course Topics:
• Classes
  o accessibility
  o constructors
• Testing
• Dynamic memory allocation
• Linked lists
• Templates
• Stacks and Queues

Graded Activities:
Lab exercises, programming assignments, and exams

Course Learning Outcomes:
• Write programs that solve a relatively complex problem by employing classes, ADTs, and fundamental algorithms.
• Write programs that span multiple files.
• Identify functional test strategies.
• Use testing in computer programs
• Write computer programs that require dynamic memory allocation
• Write code to manipulate (construct, insert, delete, traversal, etc.) a linked list.
• Describe differences between arrays and linked lists.
• Implement generic data structures using linked lists.
• Use stacks and queues appropriately in computer programs.
• Implement stacks and queues.

Additional Notes:
• Explicit allocation via new explained.
  o Programming convention of nulling references, when appropriate, emphasized