SEATTLEU
COLLEGE OF
SCIENCE AND ENGINEERING

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
  - Accessibility
  - 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.
  - Programming convention of nulling references, when appropriate, emphasized