**ECE 2036 Test 1 Topics**

Test 1 Wednesday – Open book, slides, notes, calculators, PCs and tablets allowed, but no Internet access, Internet searches, or running C/C++ code examples on a PC

**Basic C**

Built-in C Data types: bool, char, int, float, double…

Declaring and initializing variables

C Control Structures: if, else, while, do, for, switch, break, function calls and return

C operators +, -, \*, /, --, ++, >>, <<, &, &&, |, ||, ^, %...

Type conversions

Preprocessor directives: #include, #define,…

**C++ material from C++ How to Program Textbook 9th Edition Chapters 1-9.7**

 Simple Class: constructor, member functions and variables, public vs. private

I/O using cout, cin

Code reuse, Header files, Global and Local variables, variable scope rules

Standard Math library functions: exp, log, sin, sqrt, tan, rand…

Functions, function prototypes, passing and returning arguments

Recursion, Local variable, & stacks

Arrays: size, initialization, passing to function, multidimensional

Using a Template to generate functions that have different types

Pointers: declarations, initialization, dereferencing, arithmetic, arrays, strings, using pointers in function arguments, functions, sizeof operator

**Material from Labs 1 & 2 (also covered in lecture handouts and textbook)**

 Classes, constructors, destructors, member functions,

private variables, and operator overloading.