

# ESE 224: Computer Techniques for Electronic Design II

Spring 2017

<b>Instructor</b>	Vibha Mane Light Engineering, Room 258A Email: vibha.mane@stonybrook.edu Office Hours: Posted on Blackboard
<b>Teaching Assistants:</b>	Posted on Blackboard
<b>Class Meetings</b>	Tu Th 8:30 – 9:50 pm, Light Engineering Room 102
<b>Grading</b>	Homework Assignments (Mini Projects): 36 Attendance: 10 Midterm Exam: 18 Final Project: 36
<b>Textbook</b>	Stephen Prata, C++ Primer Plus, Sixth Edition, Addison Wesley, 2011.
<b>Syllabus</b>	History of C & C++, Programming Concepts, C++ IDE setup, basic number representation.  Basic C++ Program and its Constituent Parts, operator precedence and associativity.  Basic class and Object Oriented Programming (OOP) concepts, member variables and functions, constructor/destructor, visibility modes, operator overloading.  Basic control structures, switch/while/for/if-else, structured input loops.  C++ input/output with console (cin/cout) and files (fin/fout)  Function concepts, define/use functions, storage and scope, pass by value vs. reference, C++ reference.  Concepts, definition and usage of one and two dimensional arrays, matrices, vectors.  Selection sort and binary search algorithms  C vs C++ strings  Pointer concept, syntax and usage, pointer vs. reference, pointer arithmetic.

New and delete operators for memory allocation, common mistakes.

Standard template library, queue/stack/list.

Advanced Topics: inheritance, polymorphism, generic templates, virtual/friend function, recursion, exception-handling

Numerical Methods: linear interpolation, linear modeling, polynomial root finding, integration.

**Academic Integrity**

Each student must pursue his or her academic goals honestly, and be personally accountable for all submitted work. Representing another person's work as your own is wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website.

**Americans with Disability Act**

If you have a physical, psychological, medical or learning disability, that may impact your coursework, please contact Disability Support Services, ECC (Educational Communication Center) Building, Room 128, phone 631-632-6748. They will determine with you, what accommodation, if any, are necessary and appropriate. All information and documentation is confidential.