COP 2001 Programming Methodology (CRN10081)
Holmes Hall 402, Mon/Wed 2:00-3:15pm
Computer Science & Software Engineering Programs, College of Engineering
Spring 2012 Course Syllabus

1. Catalog Description
COP2001: Advanced computer programming concepts and problem solving are explored using a procedural programming language and software tools. Topics include pointers, dynamic memory allocation, string handling, structures, files I/O and recursion. Includes two hours of lecture and one hour of lab per week. (3 Credits)

2. Course Objectives and Specific Learning Outcomes
The student will learn intermediate-to-advanced programming concepts, structures, and application development, using the C++ object-oriented programming language and its variants. Emphasis will be placed on software development methods and programming environments. Specifically, the student will acquire:
- an understanding of programming methodology and data structures
- an understanding of some important programming paradigms, such as object-oriented programming, procedural programming and structured design
- the ability to test program performance
- the ability to evaluate the usefulness of a variety of technological systems and resources
- an awareness of the resources available to computer scientists in print & online.

3. Prerequisites
COP 2006 with a minimum grade of C and MAC 2312 with a minimum grade of C.

4. Textbook
Web link: http://www.aw-bc.com/cssupport/
B. Stroustrup, Programming Principles & Practice Using C++, Addison-Wesley, 2008
5. Course Outline

Week 1: Introduction (Chapter 1) and Overview of C++ (Chapter 2)
Week 2: Program Design (Chapter 3)
Week 3: Conditional Statements (Chapter 4)
Week 4: Repetition Statements (Chapter 5)
Week 5: Modular Programming (Chapter 6) and Data Types (Chapter 7)
Week 6: Streams and Files (Chapter 8) and Arrays (Chapter 9)
Week 7: Arrays (Chapter 9) and Pointers (Sec. 13.1)
    Midterm (programming problems; open books & notes)
Week 8: Structures (Chapter 9)
Week 9: Spring Break
Week 10: Review of Arrays, Structures and Functions
Week 11: User Defined Classes (Chapter 10)
Week 12: Data Abstraction and OO Design (Chapter 11)
Week 13: Recursion (Chapter 12)
Week 14: Processes and Threads (Chapter 14)
Week 15: Comprehensive Exam (programming problems; open books & notes)
Week 16: C++ Overview (Monday)

Note. Order of topics may vary, depending on the actual pace of covering material.

6. Administrative Issues

Assignments and Quizzes: Homework assignments or unannounced quizzes will be given on a weekly basis, in general.
Exams: Midterm – February 22, 2012; Comprehensive Test – April 18, 2012
Grading Policy: Assignments 25%, Quizzes 25%, Midterm 25%, Comprehensive 25%
    (extra points may be given for active participation, at Instructor’s discretion)
    Final Exam is offered on April 27, 2011; if taken counts as 33.3% of the grade.
    A: 90-100%; B: 80-89.9%; C: 70-79.9%; D: 60-69.9%; F: < 60%;
    Plus/minus grades at Instructor’s discretion.

Attendance. Presence is required in all classes. No makeup will be given for missed classes,
quizzes or exams, unless a case is made in advance with Instructor’s approval.
Note. No food or drinks are allowed in classroom or lab. No use of cell phones in class or
Instructor’s office.

Ethics, Disabilities Act, and Observance of Religious Holidays. Instructor follows general
university policies as spelled out, respectively, in:
    • Academic Behavior Standards & Academic Dishonesty Policy in the Student Guidebook
      (sections on “Student Code of Conduct” and “Policies and Procedures”).
      See: http://studentservices.fgcu.edu/JudicialAffairs/
    • Americans with Disabilities Act of 1990 – services provided by Office of Adaptive Services
      See: http://studentservices.fgcu.edu/adaptive/
    • Policy 4.005 Student Observance of Religious Holidays
      See: http://www.fgcu.edu/generalcounsel/policies-view.asp

Disclaimer. This syllabus has been prepared to the best of the Instructor’s knowledge, but the
right is reserved to modify or adjust it slightly depending on circumstances beyond Instructor’s
test.