COP 2001 Programming Methodology (CRN50391)
Holmes Hall 402; Mon/Wed/Fri 9:30-11:50am
Software Engineering Department, Whitaker College of Engineering
Summer 2015 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, file I/O and recursion. Includes two hours of lecture and one hour
of lab per week [in a 15 week cycle, while in summer it amounts to a more intensive load of approx. five
hours of lecture and 2.5 hours 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 software engineers in print & online.

3. Prerequisites

COP 2006 for level UG with a minimum grade of C and MAC 2312 for level UG with a min. grade of C.

4. Textbook

Required: F.L. Friedman, E.B. Koffman, Problem Solving, Abstraction and Design Using C++,
Web link: http://www.aw-bc.com/cssupport/
B. Stroustrup, Programming Principles & Practice Using C++, Addison-Wesley, 2008
5. Course Outline

Instructor: Dr. Janusz Zalewski
Week 1: Introduction (Chapter 1) and Overview of C++ (Chapter 2)  
Program Design (Chapter 3)  
Conditional Statements (Chapter 4)
Week 2: Repetition Statements (Chapter 5)  
Modular Programming (Chapter 6)  
Data Types (Chapter 7)  
Streams and Files (Chapter 8)
Week 3: Arrays (Chapter 9) and Pointers (Section 13.1)  
Midterm (programming problems; open books & notes; no computers or electronic devices)

Instructor: Dr. Fernando Gonzalez
Week 4: Structures (Chapter 9)  
User Defined Classes (Chapter 10)
Week 5: Data Abstraction and OO Design (Chapter 11)  
Recursion (Section 6.6 and Chapter 12)
Week 6: Processes (Chapter 14)  
Repetition of Material (if time permits)  
Final (programming problems; open books & notes; no computers/electronic devices)

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

6. Administrative Issues

Assignments and Quizzes:  
Homework assignments or unannounced quizzes will be given on a weekly basis, in general.
Exams and Quizzes are open books and notes (hard copy only, no use of electronic devices).
Grading Policy:  
Assignments 25%, Quizzes 25%, Midterm 25%, Final 25%  
(extra points may be given for active participation, at Instructor’s discretion)  
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 cell phone use is classroom 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 control.