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COP-2270 C FOR ENGINEERS - SYLLABUS - FALL 2012

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Course Title	C for Engineers
Course Number	COP 2270
Time-Place	Class : Tu/Th 12:50PM - 1:55PM @EC-2834 Lab : TBA
Credits	3
Class Type	Required
Prerequisites	none
Co-requisites	none
Starts	Monday Aug 20th, 2012
Ends	Saturday Dec 1st, 2012
Class Policies	FIU Academic Affairs policy on academic dishonesty

Catalog Description

A first course in programming geared for engineering and natural science students that describes the ANSI C programming language.

Includes developing algorithms and writing code for problems in engineering and science.

Prerequisite

General computer knowledge and familiarity with the internet is expected.

Required Text

C Program Design for Engineers by Jeri R. Hanly and Elliot B. Koffman. Second Edition. Addison Wesley (publisher) ISBN 0-201-70871-X.

Programming Language to be used

Note this class is C for Engineers NOT C++. We will be using the GCC C compiler.

Recommended Editors:

Do not use any wordprocessor to write your programs.

Windows users : Download and install FREE [EditPro](#), or notepad++

Linux users : Use editor gedit (select View, Highlight mode, Sources, C)

Do not use IDE systems to write your programs at this time because when you get

to use Unix you will run into problems since Unix does not have IDE systems.

Credits

- 3

Class Type

- Core Class - Required

Pre-requisites

- COP2250 or COP2210 with a minimum grade of C. Those who have less than a C in one of these classes will be dropped from the course during the first week of class.

Co-requisites

- None

Goals

- My goal is to make sure you learn, working together on programs is PERMITTED, however, each program **MUST BE UNIQUE, ALL PROGRAMS THAT ARE COPIES WILL GET A GRADE OF ZERO (0)**

Class Type

- Core Class - Required

Attendance

- Attendance will be taken.
- Not everything I teach in this class is in the book.

Simple Rules

- All programs **MUST** be done in the computers provided by FIU or in your own laptop and presented in class or in the lab when appropriate.
- All programs **MUST** be named:
last name + first Name initial + pgm1, 2, 3 or 4.
ex: SmithJpgm1.java SmithJpgm1.c SmithJpgm1.html

- **Your email MUST have your name on it.**
FIU, ElHombre, TheItGuy, etc are NOT accepted.
- **On your email's subject write:**
Your class name and email's purpose: OS1 pgm1, WEB2 pgm4
- **Email me your source programs ONLY, attached. DO NOT COPY AND PASTE.**
- **Your programs must compile using the terminal mode.**
- **Programs with warnings will NOT be accepted. I will not debug your programs.**
- **Do not change the names of the files I provide.**
- **Programs turned in after the due date are NOT accepted.**
- **Any modification to your grades MUST be done no later than ONE week after grades are posted in Moodle.**

Tools Required - FREE

You can do all your work by connecting from ANY computer to the Engineering Department by using a [CITRIX](#) client.

For more services click [HERE](#)

Working in your own Computer

If you want to work from your own computer download the following software:

GCC C compiler for Windows, emulating Unix or for Linux.

**- Create a directory in drive c: called cygwin = c:\cygwin
how: start -> run -> cmd -> cd \ -> mkdir cygwin -> exit**

**- In the Internet go to: <http://www.cygwin.com/>
on the center-bottom: select "Install or Update Now" ->
save (setup.exe) on c:\cygwin**

- Goto c:\cygwin and double click on setup.exe

Mac Users:

It seems that Apple has modified the GCC C compiler to work on the Mac computers, and that this C compiler is NOT pre-installed in the Mac computers. I have Googled for this information and I think the following link will be useful:

<http://www.mac-forums.com/forums/os-x-applications-games/206170-c-compiler-macosx-gcc.html>

Another solution is to go to an Apple Store and have them install the GCC C compiler.

Grading

4 Exams 15 points each = 60 points

4 Programs 10 points each = 40 points

Total = 100 points

A = 100-95

A- = 94-90

B+ = 89-87

B = 86-83

B- = 82-80

C+ = 79-76

C = 75-70

Fail C- = 69-66

D+ = 65-60

D = 59-56

D- = 55-51

F = 50-0

Assignments

- **Assignments must be turned in at the start of class on the due dates. I do not accept late assignments without a valid reason.**
- **Include the following header in every program**

```

*****
Author   : Your Name
Course   : Course Name and Times
Professor: Michael Robinson
Program  : Program Number, Purpose/Description
           A brief description of the program
Due Date : mm/dd/yyyy

```

I certify that this work is my own alone.

```

.....{ your signature }.....
*****

```

Important Dates**Prog 1:** Th 10-04-2012 **Due** (covering ch 1, 6, 5, 2)**Exam 1:** Th 10-11-2012 (covering program 1)**Prog 2:** Th 10-11-2012 **Due****Exam 2:** Th 10-17-2012 (covering program 2)**Prog 3:** Wed 10-24-2012 **Due****Exam 3:** Wed 10-31-2012 (covering program 3)**Prog 4:** Thu 11-29-2012 **Due****FINAL EXAM** Dec/06/2012, Thursday

Covering all programs, all exams plus additional material covered.

Projected Weekly Schedule (could be modified)**CHAPTER**

- 1 OVERVIEW OF COMPUTERS AND SOFTWARE
- 2 OVERVIEW OF C
- 3 DATA TYPES, EXPRESSIONS, SIMPLE FUNCTIONS
- 4 SELECTION STRUCTURES: IF AND SWITCH STATEMENTS
- 5 REPETITION AND LOOP STATEMENTS: FOR, WHILE,

REPEAT

- STATEMENTS(FOR, WHILE, DO)
- 6 FUNCTIONS AND PARAMETERS
- 7 ARRAYS
- 8 MULTIDIMENSIONAL ARRAYS
- 9 STRUCTURE TYPES (STRUCTS)
- A TEXT AND BINARY FILE PROCESSING
IF TIME PERMITS:
- B PROGRAMMING IN THE LARGE
- C INTRODUCTION TO NUMERICAL METHODS
- D ON TO C++

DATA TYPES	BYTES	MIN VAL	MAX VAL
char	1	-128	128
unsigned char	1	0	256
int or short	2	-32,768	32,768
unsigned short	2	0	65,535
long	4	-2,147,483,648	2,147,483,647
unsigned long	4	0	4,294,967,295
float	4	-+1.701411E-38	-+1.701411E38
double	4	-+1.0E-307	-+1.0E307

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