Fall 2005

# CEG 220: Introduction to C Programming for Engineers I

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**CEG 220 Introduction to C Programming for Engineers - I**
Section 1 Fall 2005 Tu Th 2:15 - 3:30 p.m. BS 105

**Description:** This course provides a general introduction to computers as a problem-solving tool using the C programming language. Emphasis is on algorithms and techniques useful to engineers. Topics include data representation, debugging, and program verification. Some programming assignments may involve complex arithmetic and trigonometric and exponential functions. 4 credit hours. Prerequisite: MTH 229 (Calculus I) or EGR 101 (Engineering Mathematics).

**Instructor:** Dr. Ronald F. Taylor, RC 356, 775-5122, ronald.taylor@wright.edu Office hours: 10:00 a.m. - Noon on Tu and Th. Also by appointment.

**Textbook:** C Programming: A Modern Approach, K. N. King, W. W. Norton and Company, 1996, ISBN 0-393-96945-2.

**References :** Programming with C, Second Edition, B. Gottfried, Schaum's Outline, 1996, ISBN 0-07-024035-3.
C A Reference Manual, Fifth Edition, S. P. Harbison and G. L. Steele, Prentice Hall, 2002, ISBN 0-13-089592-X.

**Software:** Dev-C++ Version 4.9.9.2 (preferred: free download 9.1 MB from http://www.bloodshed.net/) or LLC-win32 (second choice: free download 4.7 MB from http://www.cs.virginia.edu/~lcc-win32/) . Students may also check at the Dunbar Library Reserves for a CEG 220 Course CD containing these downloads. The CD should be on reserve by the middle of the second week. Alternate C compiler is the UNIX GNU C compiler available on the WSU unixapps1 machine. Other C compilers must be approved by the instructor.

**Grading:** Two Exams @ 20% each: 40%. One Comprehensive Final: 35%. Six Projects: 25%. Closed book, closed notes Exams and Final. Quizzes may also be given in class or as take-home. Quiz points will be included as part of the 40% exams grade. Grading scale: **A:** 100-90, **B:** less than 90-80, **C:** less than 80-70, **D:** less than 70-60, **F:** less than 60-0.

**Policy:** Quizzes may be announced or unannounced and will usually be given at the beginning or end of lecture. Projects are due at the time and date specified on project handout. Use will be made of WebCT for grades and program submittals. **No late exams or quizzes unless verifiable emergency**. Grade on late Projects will be reduced by 10%. Submittals more than one day late will not be graded - "zero" grade assigned. Exceptions to the late policy may be made unusual circumstances. **All work must be your own; sharing of program code will result in a grade of "zero" for all involved.** Sharing ideas and general computer skills with others outside of class is encouraged. Students are expected to read and follow the Academic Integrity Policy: http://www.wright.edu/students/judicial/integrity.html

**Course Home Page and WebCT:** Some parts of the course web site will require a username and password: http://www.cs.wright.edu/people/faculty/rtaylor/ceg220 The Course Home Page will be ready by the start of the second week. Students should become familiar with WebCT and should read the instructions on the entry page at: http://wisdom.wright.edu Campus login username and password required.

**Schedule:** Topics and project dates may vary. **Exam dates are firm.** Sept. 26 - last drop date without grade; Oct 24 - last drop date "W" grade. More specific and detailed reading assignments will be discussed each week in lecture.

| Week | Chapter/Sections Study Reference for Lectures | Topics | Project/Exam | Date |
|---|---|---|---|---|
| 1 | 1, 2, 3 | C Fundamentals and Formatted Input/Output | | |
| 2 | 4, 23.3, 7.1-7.5, 23.4 | Expressions, Math Functions, Basic Types, Character Functions | | |
| 3 | 5, 6, 18 | Selection Statement, Loops, and Declarations | Project 1 | Sept 20 |
| 4 | 22 | File Operations | Project 2<br>**Exam 1** | Sept 27<br>**Th Sept 29** |
| 5 | 9 | Functions | | |
| 6 | 9, 10, 8 | Functions, Program Organization, and Arrays | Project 3 | Oct 11 |
| 7 | 8, 13, 23.5 | Arrays and Strings | Project 4<br>**Exam 2** | Oct 18<br>**Th Oct 20** |
| 8 | 9.6, 11, 12 | Recursion and Pointers | | |
| 9 | 16 | Structures | Project 5 | Nov 1 |
| 10 | 16 | Structures and Course Review | Project 6 | Nov 8 |
| Finals | | **Comprehensive Final Exam** | **Final** | **Th Nov 17, 3:15 - 5:15 pm** |