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<b>Course</b>	ECE 22900 – C Programming for Electrical and Computer Engineering
<b>Type of Course</b>	Required for the CmpE and EE programs
<b>Catalog Description</b>	An introductory course on the programming in C, with emphasis on applications in electrical and computer engineering. Topics include files, structures, arrays, pointers, and the proper use of dynamic data structures. Students are expected to design and test software programs to solve engineering problems.
<b>Credits</b>	3
<b>Contact Hours</b>	Class: 2; Lab: 2
<b>Prerequisite Course</b>	ENGR 12800 or equivalent course of computer programming
<b>Textbook</b>	S. Prata, <i>C Primer Plus</i> , Pearson, current edition.
<b>Course Objectives</b>	This course introduces the C programming language. Topics include data types and structures, control structures, standard input/output, file input/output, functions, arrays, pointers, and dynamic memory. Students are expected to solve problems in electrical and computer engineering field using software tools in C.
<b>Course Outcomes</b>	On successful completion of this course, students should be able to: <ol style="list-style-type: none"><li>1. Read and write C programs that use conditional statements and loop structures. <b>(1)</b></li><li>2. Read and write C programs that use standard input/output and file input/output. <b>(1)</b></li><li>3. Read and write C programs that use arrays and pointers. <b>(1)</b></li><li>4. Read and write C program that use structures. <b>(1)</b></li><li>5. Read and write C program that use dynamic data structures. <b>(1)</b></li><li>6. Use a standard C program development environment for editing, testing, and debugging. <b>(6)</b></li><li>7. Use C programs to solve basic engineering problems. <b>(1)</b></li></ol>

**Lecture Topics**

1. Introduction to C
2. Basic data types
3. Standard input/output
4. Operators, expressions, and statements
5. Control statements: looping and branching
6. Functions
7. Arrays and pointers
8. Dynamic memory management
9. File input/output
10. Structures

**Computer Usage**

High

**Laboratory Experience**

None

**Design Experience**

Medium

**Coordinator**

Chao Chen, Ph.D.

**Date**

April 2022