**CS 2433: C/C++ Programming**

**Required Course:** Elective  
**Course Number:** CS 2433  
**Course Name:** C/C++ Programming  
**Credit Hours:** 3  
**Lecture Hours:** 3  
**Lab Hours:** 0  
**Instructors:** Dr. Richard L. Churchill  
Dr. Sachin Jain  
Dr. A.T. Burrell

In this course, an online textbook and assignment system, called zybooks is used.  
**Book Title:** Programming in C++ using zylabs.

Other books:  
**Book Title(s):** The C programming Language, 2nd edition.  
**Book Author(s):** Kernigan and Ritchie.

**Book Title(s):** Absolute C++, 4th edition  
**Book Author(s):** Walter Savitch

**Course Description:** C/C++ programming language types, operators, expressions, control flow, functions, structures, pointers, arrays, UNIX interface. Basic object-oriented programming using C++ and the related language syntax and functionality.

**Course Prerequisites:** CS 1113 (Computer Science I(A)) with a grade of “C” or better

**Course Goals:** Some of the main course goals are:

- Develop a basic understanding of the programming environment.  
- Improve programming skills of students.  
- Allow students to design, write and implement programs in C/C++.  
- Give students a basic understanding of Object-Oriented Programming.
**Student Outcomes:** At the end of this course, the students will be able to achieve the following:

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<th>Student Outcomes</th>
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| 2                | • Write good C and C++ code.  
                   | • Use good programming style for writing code in C/C++. |
| 6                | • Design C/C++ programming solutions to problems.  
                   | • Acquire a basic understanding of algorithms. |

**Course Topics:**

- Introduction to C/C++.
- Variables, Branches and Loops.
- Arrays/ Vectors
- User defines functions
- Objects and classes
- Pointers
- Streams
- Inheritance
- Recursion
- Exceptions
- Templates, Containers
- Searching and sorting algorithms