



## University of International Business and Economics International Summer School

### CMP330 Introduction to Programming

**Term: May 27 – June 27, 2019**

**Instructor: Dr. Xiangdong An, Assistant Professor of Computer Science**

**Home Institution: UT Martin**

**Email: xan@utm.edu**

**Class Hours: Monday through Thursday, 120 minutes each day (2,400 minutes in total)**

**Office Hours: TBD**

**Discussion Session: 2 hours each week**

**Total Contact Hours: 64 contact hours (45 minutes each, 48 hours in total)**

**Credit: 4 units**

#### **Course Description:**

This course will deliver introductory programming concepts and problem solving techniques in C++ programming language. Topics to be covered include representation of data, input/output, output formatting, functions, strings, files, and arrays. Students will learn how to use an integrated development environment to code and debug. Students will learn some basic software engineering principles for software development including programming styles and code documentation.

#### **Course Goals:**

A student who satisfactorily completes this course should be able to accomplish the following:

1. Read C++ source code and trace through the expected execution showing changes to values in memory and output of the resulting program.
2. Write working programs in C++ that solve the input, output and processing needs of simple problems.
3. Design and implement algorithms that solve problems using a top-down, iterative approach.
4. Apply basic programming concepts: elementary data types, control structures (conditionals, functions, loops), file input and output, and arrays.

#### **Required Textbook:**

Introduction to Programming with C++, Y. Daniel Liang, Third Edition, Prentice Hall Publishers, ISBN 0-13-325281-7

**Grading Policy:**

|                          |     |
|--------------------------|-----|
| Programming Projects (4) | 30% |
| Lab Assignments (5)      | 20% |
| Midterms (2)             | 20% |
| Final                    | 20% |
| Attendance               | 10% |

**Grading Scale:**

Assignments and examinations will be graded according to the following grade scale:

|           |        |           |          |
|-----------|--------|-----------|----------|
| <b>A</b>  | 90-100 | <b>C+</b> | 72-74    |
| <b>A-</b> | 85-89  | <b>C</b>  | 68-71    |
| <b>B+</b> | 82-84  | <b>C-</b> | 64-67    |
| <b>B</b>  | 78-81  | <b>D</b>  | 60-63    |
| <b>B-</b> | 75-77  | <b>F</b>  | below 60 |

**Class Rules:**

- In order to provide the best possible learning environment for all students you are asked to forgo the use of electronic devices (laptops, tablets, cell phones, recording devices, etc.) during class. Special permission to use a specific electronic device may be granted on an individual basis, but it is the student's responsibility to get special permission from the instructor before use.
- All students are required to attend all classes and be responsible for all material covered in class and otherwise assigned. Any unexcused absence may impact a student's grade.
- All students are required to participate in class discussions and complete required work on time. Late work is not accepted.

**Attendance Policy:**

Summer school is very intense and to be successful, students are required to attend every class. Occasionally, due to illness or other unavoidable circumstance, a student may need to miss a class. Missing a class can be excused with a medical certificate, but the student is still responsible for the materials covered in the class and any assignments due that day. Any unexcused absence may affect the student's grade.

**Academic Integrity:**

Academic integrity is the hallmark of University studies, and is key to a successful professional career. If one or more students are found to be in violation of the academic honesty policy, the professor reserves the right to seek disciplinary action as allowable by university policy. Such actions may include (but are not limited to) giving the student a zero on the assignment and/or class.

## Course Schedule:

Day 1, Mon: Introduction to Programming Concepts and Terms & Formatting Guide

Day 2, Tues: C++ Overview: Statements, Identifiers, Libraries, etc.

Day 3, Wed: Output and Arithmetic

Day 4, Thurs: Types, Operators & Expressions

Day 5, Mon: Compiler, Errors and Their Types

Day 6, Tues: Input, Output and Constants

Day 7, Wed: Repeating with a Counter Controlled Loop/Function basics

Day 8, Thurs: Exam1

Day 9, Mon: Formatting with iomanip

Day 10, Tues: Functions, Function Prototypes & Parameter Passing

Day 11, Wed: Structured programming

Day 12, Thurs: Conditionals

Day 13, Mon: Loops/Repeating with a Sentinel Controlled Loop

Day 14, Tues: Strings

Day 15, Wed: Input /Output Streams & Files

Day 16, Thurs: Exam2

Day 17, Mon: Streams, Files & Loops

Day 18, Tues: Arrays & Loops

Day 19, Wed: Array-Based Algorithms: Searching and Sorting

Day 20, Thurs: Final exam