Course Syllabus

1. **Program of Study** Bachelor of Science (Computer Science)
   Faculty/Institute/College Mahidol University International College

2. **Course Code** ICCS201 **Course Title** Computer Programming 1

3. **Number of Credits** 4(Lecture/Lab) (3-2)

4. **Prerequisite(s)** ICNS 102 or ICMA 211

5. **Type of Course** Core

6. **Trimester/ Academic Year** First and Second trimester / every academic year

7. **Course Description**

This course is focused on fundamental principles of computer programming. Course emphasis is on the techniques of algorithmic problem analysis and solving. The tool that will be a powerful guide to implement various paradigms and problem solving during this course is based on ANSI C. This language is widely used and is well known for its flexibility and powerful. It contains many reusable modules hence we can take advantages of the modular design and structured programming from this language. During the lab session, students are going to use Turbo C++ as a compiler. Students are expected to do homework assignments in problem solving and program design together with laboratory assignments to reinforce the lecture material.

8. **Course Objective(s)**

1. To understand the algorithmic problem solving
2. To be able to use problem solving techniques such as algorithm development, pseudo code, and flowchart
3. To be able to understand and develop structured programming.
4. To be able to manage simple data and composite data in C language
5. To be able to debug C programs and fix bugs

9. **Course Outline**

Week	Lecture Topic	Hour
1	Course Outline, Software development technique	4

2	Algorithm and problem solving: Flow Chart understanding and writing	4
3	C Language elements, Variable declaration and simple data types in C	4
4	Statements in programming language	4
5	Top-down Design with functions	4
6	Selection structure, Repetition, and looping	4
7	Modular design, Recursion	4
8	Composite data structure: Array and String	4
9	Modular design, Recursion	4
10	Pointer	4
11	Structure, Union and enumerated type	4
	Total	**44**

10. Teaching Methods

Lecturing, Laboratory practices and presentations

11. Teaching Media

Slides, handouts

12. Course Achievement

Assessment made from the set-forward criteria according to the MUIC's grading policy.

13. Course Evaluation

Midterm Examination	30 %
Final Examination	35 %
Three Case Studies	30 %
Quiz	5 %

14. References

- Hanly and Koffman, *Problem solving and program design in C*, 5th edition, Addison Wesley

- Schaum's outlines of programming with C, John R. Hubbard, McGrawHill

15. Instructors

Mr.Poramin Bheganan