COURSE SYLLABUS  
**CSC10001 – Introduction to Programming**

# GENERAL INFORMATION

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| Course name: | Introduction to Programming. |
| Course name (in Vietnamese): | Nhập môn lập trình. |
| Course ID: | CSC10001 |
| Knowledge block: | Fundamentals |
| Number of credits: | 4 |
| Credit hours for theory: | 45 |
| Credit hours for practice: | 30 |
| Credit hours for self-study: | 90 |
| Prerequisite: |  |
| Prior-course: |  |
| Instructors: | Phạm Minh Tuấn |

# COURSE DESCRIPTION

The course is designed to provide students with basic concepts of programming in C syntax. Students will learn how to construct a complete basic C program. Students will also learn how to use C programming structures, such as variables, conditions, loops, and functions. Moreover, students will practice using compound programming structures: struct, array 1-D, 2-D, and File IO, .etc to solve basic problems.

# COURSE GOALS

At the end of the course, students are able to

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| --- | --- | --- |
| **ID** | **Description** | **Program LOs** |
| G1 | Describe basic programming concepts. |  |
| G2 | Use basic programming structures. |  |
| G3 | Use compound programming structures. |  |
| G4 | Apply file IO functions to manipulate text files. |  |
| G5 | Write well-organized C programs to solve basic problems. |  |

# COURSE OUTCOMES

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| **CO** | **Description** | **I/T/U** |
| G1.1 | Describe program, statement, expression. | I, T, U |
| G1.2 | Describe algorithm, pseudo-code, flow-chart. | I, T, U |
| G2.1 | Use variables and constants. | I, T, U |
| G2.2 | Use branch and loop statements. | I, T, U |
| G3.1 | Use 1-D array and string. | I, T, U |
| G3.2 | Use 2-D array and struct. | I, T, U |
| G4.1 | Describe file stream and use file IO statements on text files. | I, T, U |
| G5.1 | Organize C program in functions and files. | I, T, U |

# TEACHING PLAN

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| --- | --- | --- | --- |
| **ID** | **Topic** | **Course outcomes** | **Teaching/Learning Activities** |
| 1 | Introduction to Programming. | G1.1 | Lecturing  Q&A, Group discussion |
| 2 | Algorithms. | G1.2 | Lecturing  Q&A, Group discussion |
| 3 | Basic Elements of C Program. | G1.1, G2.1 | Lecturing  Q&A, Group discussion |
| 4 | Control flow statements. | G2.2 | Lecturing  Q&A, Group discussion |
| 5 | Exercises. | G2.1, G2.2 | Lecturing  Q&A, Group discussion |
| 6 | Functions. | G5.1 | Lecturing  Q&A, Group discussion |
| 7 | Array and String. | G3.1 | Lecturing  Q&A, Group discussion |
| 8 | 2-D Array and Struct. | G3.2 | Lecturing  Q&A, Group discussion |
| 9 | File IO. | G4.1 | Lecturing  Q&A, Group discussion |
| 10 | Advanced Concepts. | G4.1, G5.1 | Case study  Q&A, Group discussion |
| 11 | Final Review |  | Q&A, Group discussion |

For the practical laboratory work, there are 10 weeks which cover similar topics as it goes in the theory class. Each week, teaching assistants will explain and demonstrate key ideas on the corresponding topic and ask students to do their lab exercises either on computer in the lab or at home. All the lab work submitted will be graded. There would be a final exam for lab work.

# ASSESSMENTS

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| --- | --- | --- | --- | --- |
| **ID** | **Topic** | **Description** | **Course outcomes** | **Ratio (%)** |
| **A1** | **Assignments** |  |  | **20%** |
| A11 | Assignment 1 |  |  | 10% |
| A12 | Assignment 2 |  |  | 10% |
| **A2** | **Exams** |  |  | **80%** |
| A21 | Lab midterm exam | In-class programming exam on computer |  | 10% |
| A22 | Lab final exam | In-class programming exam on computer |  | 20% |
| A23 | Final exam | Closed book exam.  Describe the understanding of different topics, analyze & program to solve problems |  | 50% |

# RESOURCES

# Textbooks

* K.N.King, C Programming, A Modern Approach 2nd Edition, Norton & Company 2008.
* Trần Đan Thư, Nguyễn Thanh Phương, Đinh Bá Tiến, Trần Minh Triết, Nhập môn lập trình, NXB Khoa học Kỹ thuật 2011.

# Others

# GENERAL REGULATIONS & POLICIES

* All students are responsible for reading and following strictly the regulations and policies of the school and university.
* Students who are absent for more than 3 theory sessions are not allowed to take the exams.
* For any kind of cheating and plagiarism, students will be graded 0 for the course. The incident is then submitted to the school and university for further review.
* Students are encouraged to form study groups to discuss on the topics. However, individual work must be done and submitted on your own.