THE INTERNATIONAL UNIVERSITY (IU) – VIETNAM NATIONAL UNIVERSITY - HCMC

School of Electrical Engineering

Programming for Engineers Laboratory
(LEVEL 1: INTRODUCTORY KNOWLEDGE)

1. Course number and name

EE058IU – Programming for Engineers Laboratory

Credits and contact hours

Credit hours: 1, four periods (50 minutes per period), once per week, eight weeks.

Instructor's or course coordinator's name

Dr. Minh, Nguyen Ngoc Truong

2. Textbooks and Other Required Materials:

Paul Deitel and Harvey Deitel, C How to Program, 7th edition, Pearson, 2013

Class notes.

Reference:

1. Brian Kernighan and Dennis Ritchie, The C Programming Language, 2nd edition, Prentice Hall, 1988
2. Stephen G. Kochan, Programming in C, 4th edition, Sams Publishing, 2014

5. Specific course information

a. ***brief description of the content of the course (catalog description)***

This laboratory is associated with the Programming for Engineers course and considered as the kick-off course in EE major. It covers everything that students will need to understand the basic concepts covered in the theory course, as well as the implementation of simple-to-complex C programs especially in the field of engineering.

b. **Pre-requisite:**

N/A

Co-requisite:

Programming for Engineers (EE057IU)

c. ***indicate whether a required, elective, or selected elective course in the program***

This is a major required course.

6. Specific goals for the course

a. Upon the successful completion of this course students will be able to:

1. formulate algorithms to solve simple programming problems
2. frame and solve unstructured problems, create practical applications to accomplish useful goals
3. design, implement and test programs using the C techniques (selections, loops, functions, arrays, pointers, characters and strings, structures, etc.) with applications to engineering
4. recognize modern computing technology, and the place that programming has within the engineering domain

b. The relationship between Course Outcomes (1-4) and Student Outcomes (1-7) is shown in the following table:

	SO1	SO 2	SO 3	SO4	SO 5	SO6	SO 7
CLO1	x						
CLO2	x					x	
CLO3						x	
CLO4				x			
Total (%)	40			20		40	
ABET Evidences	Lab reports Content: Understanding and formulate algorithms to solve problems Evaluation: - 50% pass the lab report			Professional & Ethic Quizzes Content: Professional & ethics quiz (multiple choices questions) Evaluation: - 50% pass the quiz		Lab reports & Final Exams Content: Apply C techniques to design and implement programs with applications Evaluation: - 50% pass the lab report - 50% pass question 2 in final exam	

** Pass Percentange means the required score over the maximum grading for the assessment rubric, i.e. Pass 70% over 100 grading item means that students need to achieve at least 70 marks to be considered passing this assessment rubric.*

Total ABET Evidence: 03 Lab reports, 03 Ethic Quizzes, 03 Final exams

Course grading policies:

- Presence in laboratory (10%)
- Laboratory experimental sessions (60%): laboratory experimental report.
- Final Exam (30%).

7. **Lecture Topics:**

- Variables, Data Types, Type Conversion
- Making Decisions, Branching and Looping
- Algorithm and Flow-Charting
- I/O operations
- Functions/Recursion
- Arrays
- Pointers/Function Pointers
- Structures/Unions/Enumerates
- Characters and Strings
- Operations on Bits/Linked Lists
- Dynamic Memory Allocation/File Processing

Lecture hours: depends on the semester calendar .
Office hours: based on detailed semester calendar, or by appointment @ A2.206

Contact information: nntminh@hcmiu.edu.vn or ngoctruongminh.nguyen@gmail.com

Independent Learning Experiences:

A pre-lab exercises are given before formal lab time. These exercises are required to be finished by each student and presented to the lab instructor.

Lab reports are collected weekly and graded.

Course Policies:

Assignments: Students must use the official SEE template to write their reports. All assignments need to be submitted on the due date. Otherwise, a penalty of 20% per day can be considered for each assignment.

Policy on dishonesty: Students are expected to always do their own work. Any evidence of plagiarism or cheating will be treated as grounds for failure in the class.

Link to download materials: **http://blackboard.hcmiu.edu.vn/**

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Ho Chi Minh City, … / … / 2025	Ho Chi Minh City, … / … / 2025
Head of Department	**Dean of School of Electrical Engineering**