THE INTERNATIONAL UNIVERSITY (IU) – VIETNAM NATIONAL UNIVERSITY - HCMC
School of Electrical Engineering

Principles of Electrical Engineering II

1. Course number and name

EE055IU – Principles of Electrical Engineering II

2. Credits and contact hours

Credit hours: 3

3. Instructor's or course coordinator's name

Dr. Linh Mai

4. Textbooks and Other Required Materials:

J. W. Nilsson and S. A. Riedel, *Electric Circuits*, 9th Ed, Prentice Hall, 2010.

Class notes.

Reference:

1. R. C. Dorf and J. A. Svoboda, Introduction to Electric Circuits, 9th Ed, John Wiley & Sons, 2014.

5. Specific course information

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

This course covers the following topics: Transient analysis by classical methods and by Laplace transform analysis, step and impulse response, three-phase circuit and two-port networks. Passive and active filter circuit design. Introduction to Fourier series.

b. Pre-requisite :

MA023IU – Calculus 3 (for EE major) or EEAC002IU – Mathematics for Engineers (for AC major)

EE051IU – Principles of Electrical Engineering I

Co-requisite:

EE056IU – Principle of Electrical Engineering II Laboratory.

c. *indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program*

This is a required course.

6. **Specific goals for the course**

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

1. Apply Knowledge of Mathematics, Science, and Engineering for solving electrical engineering circuit.
2. Apply critical and analytic thinking to the principles of electrical engineering process;
3. Demonstrate creative thinking in the design of electrical engineering solutions;

b. The relationship between Course Outcomes (1-3) and Student Outcomes (a-k) is shown in the following table:

	a	b	c	d	e	f	g	h	i	j	k
1	x										
2			x								
3									x	x	

How course outcomes are assessed:

Homework Problem, Class conduct, and Quizzes (30%)

Mid-term exam (30%)

Final Exam (40%)

7. **Lecture Topics:**

- Response of first-order RL and RC circuit: natural and step responses, sequential switching and unbounded response.
- Response of second-order RLC circuits.
- Introduction to Laplace transform: definition, step and impulse functions, functional and operational transform, inverse transform, poles and zeros, initial and final value theorems.
- The application of the Laplace transform in circuit analysis.
- Frequency selective circuits, passive filter design.
- Active filter circuits.
- Fourier Series.
- Review and final exam.

Lecture hours: depends on semester calendar.
Office hours: based on detailed semester calendar, or by appointment @ O2.206
Contact information: mlinh@hcmiu.edu.vn or mlinh2009@gmail.com

Independent Learning Experiences:

Homework problems are assigned bi-weekly collected and graded.

Course Policies:

Assignments: 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 do their own work at all times. 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/**

Prepared by: Mai Linh

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