



Syllabus

1. **Course name:** Electronics-Digital Project

2. **Course code:** PREL311065

3. **Credits:** 1 credits (0:1:1) (0 lecture periods, 1 lab period, 2 self-study periods per week)

4. **Instructors**

- a. Chief lecturer: Assoc. Prof. Dr. Nguyen Thanh Hai
- b. Co-lecturers: Lecturer list

5. **Course Requirements**

Prerequisite course(s): None

Previous course(s): Basic Electronics Lab; Digital Systems Lab

6. **Course Description**

Students will be required to read previous projects and use knowledge of electronics and digital systems to calculate, design, test and construct or simulate real circuits or systems. In addition, students must complete a report which show contents of calculation and selection of components, design, and results obtained from simulation and real model. Students also perform presentation skills and send reports to lecturers for assessing.

7. **Learning Outcomes (CLOs)**

CLOs	Descriptions	ELO(s) /PI(s)	Compe- tency
	<i>On successful completion of this course students will be able to:</i>		
CLO1	Ability to apply professional knowledge to design and build an electrical circuit for biomedical applications.	ELO1/PI1.2	M
CLO2	Ability to apply knowledge of doing experiments, simulating circuits to produce results, analyze and evaluate results	ELO2/PI2.3	M
CLO3	Ability to demonstrate clear understanding and interpret the designed system	ELO3/PI3.3	R
	Ability to calculate cost of the appropriate model, evaluate the successful level of the model	ELO3/PI3.4	
CLO4	Ability to apply relevant new techniques, skills, and tools in the biomedical field	ELO4/PI4.2	R
CLO5	Ability to interpret, write, and present report contents	ELO6/PI6.2	R
	Ability to read and understand technical English documents, apply and complete the topic	ELO6/PI6.4	
CLO6	Ability to analyze and then change for building a hardware system or software process	ELO7/PI7.2	R

8. **Content outline**

- Introduction to reference materials at the HCMUTE library such as books, projects, graduation theses
- Requiring and instructing how to do the project, in which the project direction is exchanged, the topic title is selected, how to implement the model based on information from the collected documents.

- Dividing works between members to perform the topic and send to instructors.
- Working plan sheet for evaluating week contributions during the project.
- Discussing and assessing the student's progress each week.
- Reading and sending comments on the chapters of the report.
- Evaluation and suggestions for students.
- Students submit their reports to lecturers for evaluation

9. Teaching Methods

- Powerpoint presentation
- Teamwork

10. Assessment(s)

- Grading scale: **10**
- Assessment plan:

No.	Content	CLOs	Competency	Assessment methods	Assessment tools	Weighting %
Summative assessment						100
1	Report with calculation and design, real and simulation model, powerpoint slide	CLO1 CLO2 CLO3 CLO4 CLO5 CLO6	M M R R R R	Written/Oral	Rubric	100

11. Learning Materials

- Textbook(s):
[1] Nguyen Truong Duy, Vo Duc Dung, Nguyen Thanh Hai, Nguyen Duy Thao, *Digital Systems*, National University publisher, HCMUTE, 2019.
- References:
[2] Ronald J. Tocci, Neal S. Widmer, Gregory L. Moss, *Digital Systems: Principles and Applications*, 12th Ed. Peason, 2017.

12. General Information:

Academic Integrity

All students in this class are subject to HCMUTE's Academic Integrity Policy (<http://sao.hcmute.edu.vn/>) and should acquaint themselves with its content and requirements, including a strict prohibition against plagiarism. Any violations will be reported to the Faculty of Electrical and Electronic Engineering Dean's office.

Flexibility Notice

Any information in this syllabus (other than grading and absence policies) may be subject to change with reasonable advanced notice. Students need to regularly update the information of their registered class.

Intellectual Property

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13. Approval Date: <dd/mm/yyyy>

14. Endorsement:

Dean	Head of Department	Chief Lecturer
Assoc. Prof. Dr. Nguyen Minh Tam	Assoc. Prof. Dr. Nguyen Thanh Hai	<Full Name>

15. Revision History:

1st Revision: <dd/mm/yyyy>	Lecturer: Head of Department: Assoc. Prof. Dr. Nguyen Thanh Hai
2nd Revision: <dd/mm/yyyy>	Lecturer: Head of Department: