HO CHI MINH CITY UNIVERSITY OF
TECHNOLOGY AND EDUCATION

**FACULTY OF ELECTRICAL AND ELECTRONICS
ENGINEERING**

Programme: Biomedical Engineering

Programme Level: Undergraduate

Syllabus

1. Course name: Microproceesor Project

2. Course code: MIPR311165

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): Digital-Electronics Project
>
> Previous course(s): Microprocessor; Microprocessor Lab

6. Course Description

Students will investigate previuos research works using knowelege of electronics, digital, and microprocessors to calculate, design and impletment of biomedical circuits and systems. In addition, students must prepare reports which show contents of calculation and component selection, design, and results from simulation to real model. Students must also show presenting skills and contribution in group.

7. Learning Outcomes (CLOs)

CLOs	Descriptions *On successful completion of this course students will be able to:*	ELO(s) /PI(s)	Compe-tency
CLO1	Ability to apply professional knowledge to design and build an electronic circuits for biomedical applications.	ELO1/PI1.2	M
CLO2	Ability to apply knowledge for writing programs to produce results, and then analyze and evaluate them	ELO2/PI2.3	M
CLO3	Ability to demonstrate a real model and explain understanding about that model	ELO3/PI3.3	R
	Ability to calculate cost of an appropriate model and evaluate the successful level of the model	ELO3/PI3.4	
CLO4	Ability to apply new techniques, skills, and tools in the biomedical field	ELO4/PI4.2	M
CLO5	Ability to work in a team to successfully contribute on their the topic.	ELO5/PI5.2	M
CLO6	Ability to explain, write, and represent contents of report	ELO6/PI6.2	R
	Ability to read and understand technical English documents and apply and complete the topic	ELO6/PI6.4	
CLO7	Ability to analyze and change in building a hardware or software process in biomedical engineering system	ELO7/PI7.2	M
CLO8	Ability to do statistics, evaluate and optimize of applications in the biomedical engineering	ELO8/PI8.3	R
CLO9	Ability to connect components, apply new methodology,	ELO9/PI9.3	R

	calculation, design to create biomedical engineering systems.		

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 evaulating week contributions during the project.
- Discussing and assessing the student's progress each week.
- Reading and sendingcomments 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	Compe-tency	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 CLO7 CLO8 CLO9	M M R M M R M R R	Written/Oral	Rubric	*100*

11. Learning Materials:

- Textbook(s):

  [1] Nguyen Đinh Phu, *Microprocessor*, National University publisher, HCMUTE, 2012.

- References:

  [1] Richard H. Barnett, Sarah Cox, Larry O'Cull, *Embedded C Programming and the Microchip PIC*, Delmar Publishers Inc, 1 edition November 3, 2003.

  [2] Martin P. Bates, *Programming 8-bit PIC Microcontrollers in C*: With Interactive Hardware Simulation, Newnes, 1 edition July 29, 2008.

  [3] Previous projects at the HCMUTE library.

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

All contents of these lectures, including written materials distributed to the class, are under copyright protection from the HCMUTE's Intellectual Property Regulations. Notes based on these materials may not be sold or commercialized without the express permission of the instructor.

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: