MINISTRY OF INDUSTRY AND TRADE

HO CHI MINH CITY UNIVERSITY OF INDUSTRY AND TRADE

CURRICULUM
ELECTRICAL ENGINEERING PROGRAM

Program name: **Electrical Engineering**

Degree level: Doctoral

Major code: 9520201

Mode of training: Full-time

Managing faculty: Faculty of Electrical and Electronics Engineering

HO CHI MINH CITY, 2025

MINISTRY OF INDUSTRY AND TRADE
HO CHI MINH CITY UNIVERSITY OF INDUSTRY AND TRADE

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

CURRICULUM

(***Issued under Decision No. 5337/QĐ-DCT dated December 29th, 2025 by the Rector of Ho Chi Minh City University of Industry and Trade***)

Program name (English): Electrical engineering

Degree level: Doctoral

Major: Electrical Engineering

Major code: 9520201

Field of training: Engineering

Mode of training: Full-time

Information on program quality accreditation:

This academic program has been developed with the orientation of registering for external program-level accreditation in accordance with the *educational quality standards MOET*.

1. Objectives of Training Program

General objectives:

To train doctoral candidates with high-level theoretical and applied knowledge, research ethics, and independent, creative research capacity to develop new knowledge; discover and solve scientific - technological problems in power systems, industrial electronics, renewable energy, and modern control systems; guide scientific research, develop interdisciplinary approaches, meeting the demands of socio-economic development and international integration.

Specific objectives:

The doctoral training program in Electrical Engineering equips learners with advanced, in-depth, and interdisciplinary integrated knowledge in the fields of power systems, industrial electronics, renewable energy, and modern control systems, serving as a foundation for developing new knowledge and solving complex scientific – technological problems.

Forming the capacity to evaluate, synthesize, and expand scientific knowledge; mastering modern theories, methods, models, and research tools to design, implement, and evaluate independent research, thereby discovering new problems and proposing creative solutions.

The program helps doctoral candidates develop skills in presenting, critical thinking, and publishing research results in domestic and international scientific forums; enhances the capacity for academic collaboration, participating in and leading professional exchange activities, seminars, and specialized conferences.

In addition, the program develops in doctoral candidates the qualities of academic integrity, respect for intellectual property, research team leadership capacity, critical thinking, a sense of social responsibility, and the autonomy to manage research activities aimed at developing new knowledge in the field of Electrical Engineering.

2. Program Learning Outcomes

Upon completion of the program, graduates will possess the following knowledge, skills, and professional competencies:

Fill in the following table according to the approved PLOs corresponding to the degree level.

Code	Description of Program Learning Outcome	Level of Competency
a	**Knowledge**	
PLO1	**Synthesize knowledge on organizing scientific research and developing new technologies in the field of Electrical Engineering such as power systems, industrial electronics, renewable energy, and modern control systems**	**C5**
PLO2	**Synthesize and evaluate core, advanced, and in-depth knowledge in the field of Electrical Engineering**	**C5**
b	**Personal Skills and Attributes**	
PLO3	**Develop skills in synthesizing, enriching, and supplementing specialized knowledge; simultaneously mastering scientific theories methods and tools serving research and development activities in Electrical Engineering**	**P5**
PLO4	**Establish standards of academic integrity, respect for intellectual property rights and research ethics in all scientific activities related to Electrical Engineering**	**A5**
c	**Interpersonal Skills**	

Code	Description of Program Learning Outcome	Level of Competency
PLO5	**Develop skills in presenting scientific issues and research results related to Electrical Engineering**	**P5**
d	**Professional Competence (Autonomy and Responsibility)**	
PLO6	**Develop and evaluate the processes of managing, operating, and implementing research based on specialized and interdisciplinary knowledge to generate new knowledge in Electrical Engineering**	**R5**

Notes: The competency levels in this table are measured according to the following scales: ***Knowledge*** *(Bloom's Taxonomy- Cognitive domain);* ***Behavioral skills*** *(Bloom's Taxonomy – Psychomotor domain);* ***Affective skills/attitudes*** *(Bloom's Taxonomy – Affective domain) and* ***Competency levels*** *(Crawley-Proficiency Rating scale).*

2.2. Matrix of Courses and Program Learning Outcomes

No	Course Code	Internal Code	Course Title	Knowledge	Credits	Course Type	Program Learning Outcomes (PLO)					
							1	2	3	4	5	6
1	100408	11100012	Philosophy	Major	3 (3,0)	Compulsory	C3			A3		R3
2	101766	02100002	Advanced power electronics	Major	3 (3,0)	Compulsory		C4	P4		P4	
3	100464	02100004	Advanced power system analysis	Major	3 (3,0)	Compulsory	C4	C4	P4		P4	
4	101437	02100012	Power system operation and power distribution optimization	Major	3 (3,0)	Elective	C4	C4	P4		P4	
5	101518	02100005	Advanced control of electric machines	Major	3 (3,0)	Compulsory		C4	P4		P4	
6	102356	02100037	Renewable energy	Major	3 (3,0)	Compulsory		C4	P4		P4	
7	100473	02100010	Power system transient and stability	Major	3 (3,0)	Elective		C4	P4		P4	R4
8	103280	02400007	Scientific research method in Electrical Engineering	Major	3 (3,0)	Compulsory	C4			A4	P4	R4
9	100470	02100018	Power System Planning	Major	3 (3,0)	Elective	C4	C4			P4	R4
10	100471	02100009	Flexible AC transmission system and high voltage DC	Major	3 (3,0)	Elective	C4	C4	P4		P4	
11	100475	02100011	Electricity Market	Major	3 (3,0)	Elective	C4	C4			P4	R4
12	102357	02100032	Intelligent control systems	Major	3 (3,0)	Elective		C5	P5		P5	
13	102943	02100043	Power and Energy Conversion in Electric Vehicles	Major	3 (3,0)	Elective		C4	P4		P4	R4
14	102360	02100034	Machine learning and applications	Major	3 (3,0)	Elective	C4	C4	P4			R4
15	103281	02400013	Advanced power system modeling and simulation	Major	3 (3,0)	Compulsory	C5	C5	P5		P5	R5

16	103282	02400014	Computational and Optimization Methods in Power System Operation	Major	3 (3,0)	Elective		C4	P5		P5	
17	103283	02400016	Fast Electromagnetic Transient Control in Power Systems)	Major	3 (3,0)	Elective		C4	P5		P5	
18	103284	02400017	Strategies for Competitive Electricity Markets	Major	3 (3,0)	Elective	C5	C5			P5	R5
19	103285	02400018	System for monitoring, control and protection of electrical system	Major	3 (3,0)	Elective	C5	C5	P5		P5	R5
20	103286	02400019	Modern Electrical Load Forecasting Methods	Major	3 (3,0)	Elective		C4			P5	R5
21	103287	02400020	Advanced Electrical Drives and Performance Optimization	Major	3 (3,0)	Compulsory		C5	P5		P5	
22	103288	02400021	New Converter in Renewable Energy	Major	3 (3,0)	Elective		C5	P5			R5
23	103289	02400015	Modern Power Systems Integrating Renewable Energy and Energy Storage	Major	3 (3,0)	Elective		C4			P5	R5
24	103290	02400023	Predictive Control of Power Electronic Converters	Major	3 (3,0)	Elective		C5	P5		P5	
25	103291	02400025	Artificial intelligence in renewable energy systems	Major	3 (3,0)	Elective		C5	P5		P5	R5
26	103292	02400029	Internet of Things for smart grids	Major	3 (3,0)	Elective		C5	P5		P5	R4
27	103293	02400030	Advanced modern control systems	Major	3 (3,0)	Compulsory		C5	P5		P5	
28	103294	02400031	Predictive, Adaptive and Optimal Control	Major	3 (3,0)	Elective		C5	P5		P5	
29	103295	02400032	Data-Driven and Machine	Major	3 (3,0)	Elective		C5	P5		P5	

			Learning Control									
30	103296	02400033	Advance intelligent control systems	Major	3 (3,0)	Elective		C5	P5		P5	
31	103297	02400034	Cyber-Physical & Digital-Twin Control Systems	Major	3 (3,0)	Elective		C5	P5		P5	
32	103299	02400036	Research in electrical engineering 1	Research proposal	6 (0,6)	Compulsory	C4	C5	P5	A5	P5	R5
33	103300	02400037	Research in electrical engineering 2	Research proposal	6 (0,6)	Compulsory		C5	P5	A5	P5	R5
34	103301	02400038	Research in electrical engineering 3	Research proposal	6 (0,6)	Compulsory	C3	C5	P5	A4	P5	R5
35	103302	02406039	PhD dissertation	Thesis	60 (0,60)	Compulsory	C5	C5	P5	A5	P5	R5
Number of Courses Contributing to the Program Learning Outcomes							14	33	28	6	32	19

*<u>Notes:</u> This matrix indicates the contribution level of the courses to the Program Learning Outcomes (PLOs) according to the scales: Knowledge (Bloom's Taxonomy- **C**ognitive domain) ; Behavioral skills (Bloom's Taxonomy - **P**sychomotor domain) ; Affective skills/attitudes (Bloom's Taxonomy - **A**ffective domain) and Competency levels (Crawley-Proficiency **R**ating scale).*

3. Workload of Program

No	Content	Workload	
		Students with a Master's degree	**Students with a Bachelor's degree**
1	Specialized courses	12 credits	42 credits
2	Research topics	18 credits	18 credits
	2.1. Research topic 1	*6 credits*	*6 credits*
	2.2. Research topic 2	*6 credits*	*6 credits*
	2.3. Research topic 3	*6 credits*	*6 credits*
3	Dissertation	60 credits	60 credits
Total accumulated credits		**90 credits**	**120 credits**

4. Program Duration

The duration of the doctoral program is specified as follows:

- 04 years for students with a bachelor's degree (120 credits);

- 03 years for students with a master's degree (90 credits)

Maximum completion time includes the designed duration and any permitted extension in accordance with the Doctoral Training Regulations issued by the Ministry of Education and Training and the Graduate Training Regulations (issued together with Decision No. 3342/QĐ-DCT dated September 05, 2025, by the Rector of Ho Chi Minh City University of Industry and Trade).

5. Degree

The Doctoral degree is awarded to students who have successfully completed the program, accumulated the required number of credits, and satisfied all graduation requirements in accordance with the University’s Graduate Training Regulations.

6. Admission Requirements

6.1. Requirements for Applicants

- Applicants must hold a master's degree or a bachelor's degree classified as very good or above in a relevant major, or an equivalent Level 7 qualification under the Vietnamese National Qualifications Framework in certain specialized training fields appropriate to the doctoral program. For related fields, applicants must complete supplementary courses.

- Meet the input requirements according to the academic program standards issued by the Ministry of Education and Training and the specific doctoral program applied for.

- Have research experience demonstrated by a master's thesis from a research-oriented program; or published scientific articles and reports; or have at least 02 years (24 months) of working experience as a lecturer or researcher at educational institutions, or science and technology organizations.

- Applicants must have a draft research proposal aligned with the major's research orientation, a tentative study and research plan for the entire course, and a recommendation letter from a scientist holding a doctoral degree or higher.

- Vietnamese applicants must meet the foreign language proficiency requirements, demonstrated by one of the following degrees or certificates:

A bachelor's degree or higher awarded by a foreign educational institution, a branch of a foreign educational institution in Vietnam, or a Vietnamese educational institution to full-time learners studying entirely in a foreign language;

A bachelor's degree in a foreign language awarded by a Vietnamese educational institution;

One of the foreign language degrees or certificates at a level equivalent to Level 4 or higher according to the 6-level Foreign Language Proficiency Framework for Vietnam, or other equivalent certificates announced by the Ministry of Education and Training, valid up to the date of application registration.

- Foreign applicants registering for the doctoral program taught in Vietnamese must have: a Vietnamese language certificate of at least Level 4 according to the Vietnamese Language Proficiency Framework for Foreigners and must meet the second foreign language requirements determined by the training institution, unless they are native speakers of the language used in the doctoral training program.

6.2. Application Documents

No.	List of application documents
1	Application form
2	Curriculum vitae (with a photo bearing an overlapping stamp, certified by the employer or local residential authority)
3	Certificate of good health for study, valid for 06 months from the date of issue to the date of application submission
4	Certified copy of master's degree and transcript Certified copy of bachelor's degree and transcript Certified copy of foreign language degree or certificate
5	Scientific curriculum vitae of the PhD candidate with a photo bearing an

	overlapping stamp, certified by the employer or local residential authority
6	Research proposal with the full signature of the Supervisor (attached with a PDF copy)
7	Scientific curriculum vitae of the Supervisor, certified by the employer
8	Letter of agreement to supervise the PhD candidate from the Supervisor
9	Recommendation letter from a scientist holding the title of professor, associate professor, or holding a doctor of science / doctoral degree in a relevant specialized field, who is knowledgeable about the applicant's intended research area.
10	Certificate of work seniority if being a lecturer or researcher at educational institutions, or science and technology organizations (if any)
11	Copies of scientific publications published within the last 5 years (if any, attached with a PDF copy)
12	Certified copy of Citizen Identity Card

- In case the master's degree and transcript are issued by a foreign educational institution, they must be translated and notarized into Vietnamese and submitted together with the recognition document from the Quality Management Department.

7. Assessment Methods

In accordance with the Graduate Training Regulations (issued together with Decision No. 3342/QĐ-DCT dated September 05, 2025, by the Rector of Ho Chi Minh City University of Industry and Trade) and the Regulations on Examinations, Testing, and Learning Assessment (issued together with Decision No. 2402/QĐ-DCT dated August 22, 2023, by the Rector of Ho Chi Minh City University of Industry and Trade).

8. Training Regulations and Graduation Requirements

Graduation consideration and recognition: In accordance with the Graduate Training Regulations (issued together with Decision No. 3342/QĐ-DCT dated September 05, 2025, by the Rector of Ho Chi Minh City University of Industry and Trade).

9. Career Opportunities after Graduation

After graduation, graduates may take on the following positions:

- Teach and conduct research at domestic and international universities and academies.
- Manage and conduct research and development at agencies and enterprises operating in the field of Electrical Engineering.

- Undertake professional management at educational and training institutions, and scientific and technological research establishments in the field of Electrical Engineering.
- Participate in internship programs, collaborative research, and postdoctoral research domestically and internationally.
- Experts in the field of Electrical Engineering.

10. Further Study Opportunities

Capable of continuing to conduct in-depth research or postdoctoral research.

11. Program Curriculum Content

(The names of the knowledge blocks in this table must correspond to the Workload specified in Section 3 and align with the Announcement on the structure of the academic program)

No	Course Code	Internal Code	Course Title	Credits
I. Supplementary courses for students with a bachelor's degree				**30**
I.1. Compulsory section				**18**
1.	100408	11100012	Philosophy	3 (3,0)
2.	101766	02100002	Advanced power electronics	3 (3,0)
3.	100464	02100004	Advanced power system analysis	3 (3,0)
4.	101518	02100005	Advanced control of electric machines	3 (3,0)
5.	102356	02100037	Renewable energy	3 (3,0)
6.	103280	02400007	Scientific research method in Electrical Engineering	3 (3,0)
I.2. Elective section *(Select 4 courses)*				**12**
1.	100471	02100009	Flexible AC transmission system and high voltage DC	3 (3,0)
2.	100470	02100018	Power System Planning	3 (3,0)
3.	100475	02100011	Electricity Market	3 (3,0)
4.	102357	02100032	Intelligent control systems	3 (3,0)

No	Course Code	Internal Code	Course Title	Credits
5.	102360	02100034	Machine learning and applications	3 (3,0)
6.	102943	02100043	Power and Energy Conversion in Electric Vehicles	3 (3,0)
7.	101437	02100012	Power system operation and power distribution optimization	3 (3,0)
8.	100473	02100010	Power system transient and stability	3 (3,0)
II. Specialized courses of the doctoral training program				**12**
Power Systems Orientation				
II.1. Compulsory section				**3**
1.	103281	02400013	Advanced power system modeling and simulation	3 (3,0)
II.2. Elective section *(Select 3 courses)*				**9**
1.	103282	02400014	Computational and Optimization Methods in Power System Operation	3 (3,0)
2.	103283	02400016	Fast Electromagnetic Transient Control in Power Systems	3 (3,0)
3.	103284	02400017	Strategies for Competitive Electricity Markets	3 (3,0)
4.	103285	02400018	System for monitoring, control and protection of electrical system	3 (3,0)
5.	103286	02400019	Modern Electrical Load Forecasting Methods	3 (3,0)
Industrial Electronics and Renewable Energy Orientation				
II.3. Compulsory section				**3**
1.	103287	02400020	Advanced Electrical Drives and Performance Optimization	3 (3,0)
II.4. Elective section *(Select 3 courses)*				**9**
1.	103288	02400021	New Converter in Renewable Energy	3 (3,0)

No	Course Code	Internal Code	Course Title	Credits
2.	103289	02400015	Modern Power Systems Integrating Renewable Energy and Energy Storage	3 (3,0)
3.	103290	02400023	Predictive Control of Power Electronic Converters	3 (3,0)
4.	103291	02400025	Artificial intelligence in renewable energy systems	3 (3,0)
5.	103292	02400029	Internet of Things for smart grids	3 (3,0)
Modern Control Systems Orientation				
II.5. Compulsory section				**3**
1.	103293	02400030	Advanced modern control systems	3 (3,0)
II.6. Elective section *(Select 3 courses)*				**9**
1.	103287	02400020	Advanced Electrical Drives and Performance Optimization	3 (3,0)
2.	103294	02400031	Predictive, Adaptive and Optimal Control	3 (3,0)
3.	103295	02400032	Data-Driven and Machine Learning Control	3 (3,0)
4.	103296	02400033	Advance intelligent control systems	3 (3,0)
5.	103297	02400034	Cyber-Physical & Digital-Twin Control Systems	3 (3,0)
III. Research topics				**18**
1.	103299	02400036	Research in electrical engineering 1	6 (0,6)
2.	103300	02400037	Research in electrical engineering 2	6 (0,6)
3.	103301	02400038	Research in electrical engineering 3	6 (0,6)
IV. Thesis				**60**
1.	103302	02406039	PhD dissertation	60 (0,60)

No	Course Code	Internal Code	Course Title	Credits
Total Credits for the Overall Program (for students with a Master's degree)				**90**
Total Credits for the Overall Program (for students with a Bachelor's degree)				**120**

12. Training Plan

12.1. Doctoral training plan for students with a bachelor's degree

No	Course Code	Internal Code	Course Title	Credits	Notes
Semester 1: 15 credits					
Compulsory courses				**15**	
1.	100408	11100012	Philosophy	3 (3,0)	
2.	101766	02100002	Advanced power electronics	3 (3,0)	
3.	100464	02100004	Advanced power system analysis	3 (3,0)	
4.	101518	02100005	Advanced control of electric machines	3 (3,0)	
5.	102356	02100037	Renewable energy	3 (3,0)	
Semester 2: 15 credits					
Compulsory courses				**3**	
1.	103280	02400007	Scientific research method in Electrical Engineering	3 (3,0)	
Elective courses *(Select 4 courses)*				**12**	
1.	100471	02100009	Flexible AC transmission system and high voltage DC	3 (3,0)	
2.	100470	02100018	Power System Planning	3 (3,0)	
3.	100475	02100011	Electricity Market	3 (3,0)	
4.	102357	02100032	Intelligent control systems	3 (3,0)	

No	Course Code	Internal Code	Course Title	Credits	Notes
5.	102360	02100034	Machine learning and applications	3 (3,0)	
6.	102943	02100043	Power and Energy Conversion in Electric Vehicles	3 (3,0)	
7.	101437	02100012	Power system operation and power distribution optimization	3 (3,0)	
8.	100473	02100010	Power system transient and stability	3 (3,0)	
Semester 3: 12 credits					
Power Systems Orientation					
Compulsory courses				**3**	
1.	103281	02400013	Advanced power system modeling and simulation	3 (3,0)	
Industrial Electronics and Renewable Energy Orientation					
Compulsory courses				**3**	
1.	103287	02400020	Advanced Electrical Drives and Performance Optimization	3 (3,0)	
Modern Control Systems Orientation					
Compulsory courses				**3**	
1.	103293	02400030	Advanced modern control systems	3 (3,0)	
Power Systems Orientation					
Elective courses *(Select 3 courses)*				**9**	
1.	103282	02400014	Computational and Optimization Methods in Power System Operation	3 (3,0)	
2.	103283	02400016	Fast Electromagnetic Transient Control in Power Systems	3 (3,0)	
3.	103284	02400017	Strategies for Competitive Electricity Markets	3 (3,0)	

No	Course Code	Internal Code	Course Title	Credits	Notes
4.	103285	02400018	System for monitoring, control and protection of electrical system	3 (3,0)	
5.	103286	02400019	Modern Electrical Load Forecasting Methods	3 (3,0)	
Industrial Electronics and Renewable Energy Orientation					
Elective courses *(Select 3 courses)*				**9**	
1.	103288	02400021	New Converter in Renewable Energy	3 (3,0)	
2.	103289	02400015	Modern Power Systems Integrating Renewable Energy and Energy Storage	3 (3,0)	
3.	103290	02400023	Predictive Control of Power Electronic Converters	3 (3,0)	
4.	103291	02400025	Artificial intelligence in renewable energy systems	3 (3,0)	
5.	103292	02400029	Internet of Things for smart grids	3 (3,0)	
Modern Control Systems Orientation					
Elective courses *(Select 3 courses)*				**9**	
1.	103287	02400020	Advanced Electrical Drives and Performance Optimization	3 (3,0)	
2.	103294	02400031	Predictive, Adaptive and Optimal Control	3 (3,0)	
3.	103295	02400032	Data-Driven and Machine Learning Control	3 (3,0)	
4.	103296	02400033	Advance intelligent control systems	3 (3,0)	
5.	103297	02400034	Cyber-Physical & Digital-Twin Control Systems	3 (3,0)	
Semester 4: 6 credits					
Compulsory courses				**6**	

No	Course Code	Internal Code	Course Title	Credits	Notes
1.	103299	02400036	Research in electrical engineering 1	6 (0,6)	
Semester 5: 6 credits					
Compulsory courses				**6**	
1. .	103300	02400037	Research in electrical engineering 2	6 (0,6)	
Semester 6: 6 credits					
Compulsory courses				**6**	
1. .	103301	02400038	Research in electrical engineering 3	6 (0,6)	
Semester 7 and 8: 60 credits					
Compulsory courses				**60**	
1.	103302	02406039	PhD dissertation	60 (0,60)	

12.2. Doctoral training plan for students with a master's degree

No	Course Code	Internal Code	Course Title	Credits	Notes
Semester 1: 12 credits					
Power Systems Orientation					
Compulsory courses				**3**	
1.	103281	02400013	Advanced power system modeling and simulation	3 (3,0)	
Elective courses *(Select 3 courses)*				**9**	
1.	103282	02400014	Computational and Optimization Methods in Power System Operation	3 (3,0)	
2.	103283	02400016	Fast Electromagnetic Transient Control in Power Systems	3 (3,0)	
3.	103284	02400017	Strategies for Competitive Electricity	3 (3,0)	

No	Course Code	Internal Code	Course Title	Credits	Notes
			Markets		
4.	103285	02400018	System for monitoring, control and protection of electrical system	3 (3,0)	
5.	103286	02400019	Modern Electrical Load Forecasting Methods	3 (3,0)	
Industrial Electronics and Renewable Energy Orientation					
Compulsory courses				**3**	
1.	103287	02400020	Advanced Electrical Drives and Performance Optimization	3 (3,0)	
Elective courses *(Select 3 courses)*				**9**	
1.	103288	02400021	New Converter in Renewable Energy	3 (3,0)	
2.	103289	02400015	Modern Power Systems Integrating Renewable Energy and Energy Storage	3 (3,0)	
3.	103290	02400023	Predictive Control of Power Electronic Converters	3 (3,0)	
4.	103291	02400025	Artificial intelligence in renewable energy systems	3 (3,0)	
5.	103292	02400029	Internet of Things for smart grids	3 (3,0)	
Modern Control Systems Orientation					
Compulsory courses				**3**	
1.	103293	02400030	Advanced modern control systems	3 (3,0)	
Elective courses *(Select 3 courses)*				**9**	
1.	103287	02400020	Advanced Electrical Drives and Performance Optimization	3 (3,0)	
2.	103294	02400031	Predictive, Adaptive and Optimal Control	3 (3,0)	
3.	103295	02400032	Data-Driven and Machine Learning	3 (3,0)	

No	Course Code	Internal Code	Course Title	Credits	Notes
			Control		
4.	103296	02400033	Advance intelligent control systems	3 (3,0)	
5.	103297	02400034	Cyber-Physical & Digital-Twin Control Systems	3 (3,0)	
Semester 2: 6 credits					
Compulsory courses				**6**	
1.	103299	02400036	Research in electrical engineering 1	6 (0,6)	
Semester 3: 6 credits					
Compulsory courses				**6**	
1. .	103300	02400037	(Research in electrical engineering 2	6 (0,6)	
Semester 4: 6 credits					
Compulsory courses				**6**	
1. .	103301	02400038	Research in electrical engineering 3	6 (0,6)	
Semester 5 and 6: 60 credits					
Compulsory courses				**60**	
1.	103302	02406039	PhD dissertation	60 (0,60)	

13. Training Quality Control and Assurance

Units are responsible for developing and implementing the Training Quality Control and Assurance Plan in accordance with the approved Curriculum and current Regulations on Teaching.

14. Implementation Guidelines

14.1. For Faculties and Departments

- Responsible for organizing the proper implementation of the program's content requirements and advising and guiding learners in registering for courses.

- Assign lecturers in charge of each course and provide course syllabi to the lecturers to execute the teaching plan.

- Fully prepare textbooks, reference materials, and facilities to ensure the successful implementation of the program.

- Pay attention to the logic of transferring and acquiring knowledge areas, stipulate prerequisite and prior courses, and prepare lecturers to meet the teaching requirements of elective courses.

- Inspect and supervise the teaching activities of lecturers in accordance with the current Regulations on Teaching and ensure activities related to the innovation of teaching and assessment methods.

14.2. For Lecturers

- Lecturers must carefully study the content of the course syllabus to prepare suitable lectures, teaching methods, and teaching aids.

- Lecturers guiding research topics/dissertations must thoroughly understand the course syllabus and relevant regulations to prepare appropriate guidance content.

- Lecturers must fully prepare textbooks and study materials and provide them to learners so they can prepare before coming to class.

- Utilize diverse teaching and learning methods in line with the educational philosophy of "Active learning, creative working", and properly implement the testing and assessment methods specified in the course syllabus.

- Draw experiences from personal teaching activities and actively participate in activities to innovate teaching methods in accordance with the current Regulations on Teaching..

14.3. For Learners

- Must consult with academic advisors/homeroom teachers to select courses suitable for their orientation and learning capacity.

- Must ensure full attendance in class or participation in practical sessions as prescribed.

- Promote autonomy, the spirit of self-study and self-research, while actively participating in group learning, fully attending discussions, seminars, and practical sessions.

- Actively exploit online resources and the university's library to serve self-study, self-research, and dissertation writing.

- Strictly comply with the Regulations on Examinations, Testing, and Learning Assessment.

15. Approval of the Training Program

Ho Chi Minh City, 15th Dec. 2025

DEAN OF FACULTY

Signed √

Ho Chi Minh City, 25th Dec. 2025
CHAIRMAN OF THE SCIENCE AND TRAINING COUNCIL
Signed √

Ho Chi Minh City, 29th Dec. 2025
RECTOR

Signed √

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