UNDERGRADUATE CURRICULUM

GOALS, OBJECTIVES AND EXPECTED

LEARNING OUTCOMES

Major of

ELECTRICAL AND ELECTRONICS ENGINEERING

❖ **The objectives and Expected Learning Outcomes**

1. Goals

Training engineers in Electrical and Electronic Engineering Technology have fundamental science knowledge, fundamental and advanced knowledge of Electrical-Electronics Engineering; have the ability to analyze, solve the problem and evaluate solutions; have the ability to build and manage electrical power supply and automatic electric drive systems; have the communication skill and team work; and have an appropriate professional attitude to meet the development requirements of industry and society. Students after graduation will able to work at:

– Power companies;

– Companies and factories have requirements on designing, operating and maintaining the electrical power supply, automatic electric drive systems,

– Research institutes, training institutions, vocational training centers related to the field of electrical and electronics engineering;

– Other companies.

2. Objectives

– Have the ability to work in the manufacturing practices of electrical and electronics engineering with the ability to identify and solve important issues in many areas of application areas.

– Have the ability to develop successful careers in industry, academic and community service, demonstrate the technical leadership in business, careers and communities.

– Have the ability to participate in the process of promoting comprehensive economic development in the Southern of Vietnam through a combination of technical proficiency, leadership spirit and entrepreneurship spirit.

– Have the ability easily adapt to new technologies, methods and tools to keep abreast of the development of electrical engineering industry with the ability to respond to the challenges of changing environments.

3. Program Learning Outcomes:

No.	Program outcomes	Competence level
1	**Knowledge and argument to solve technical problems**	
1.1	The ability to identify, propose and solve complex technical problems by applying the principles of engineering, science and math.	5
1.2	Applying natural science knowledge and mathematical analysis to build, test, operate and maintain electrical systems and similar systems.	5.5
1.3	The ability to use differential math and integral math to describe the operating characteristics of electrical systems.	5
2	**The ability to absorb and apply new knowledge, career skills and personal skills**	
2.1	The ability to receptive and apply new knowledge by using appropriate learning strategies.	5
2.2	The ability to perceive moral and professional responsibilities in technical situations and to make arguments based on consideration of the effects of technical solutions in the economic, social and environmental context, and global.	4
3	**Effective communication skills and skills to teamwork in a multidisciplinary environment**	
3.1	The ability to communicate effectively in a technical group, create a cohesive and collaborative environment, set goals, plan tasks to meet goals	5
3.2	The ability to read and present with images, technical drawings, text and speak effectively in technical and non-technical environments	5.5
4	**Skills of designing the electrical systems and automatic electric drive in the corporate and social context**	

4.1	The ability to analyze, design, implement and operating power supply and distribution systems, automatic electric drive systems to create solutions to meet specific needs consider to the health, safety and community welfare, as well as economic, environmental and social factors.	5.5
4.2	The ability to analyze, design the programmable control circuits, (digital and analog) components in the electrical system based on technical standards for construction, inspection, operation and maintenance of electrical systems	5.5
4.3	The ability to develop and implement experiments, analyze and interpret data, and use technical arguments to make conclusions.	5.5
4.4	The ability to apply project management techniques in works related to electrical systems	4.5

❖ **Describe the expected level of Expected Learning Outcomes**

Competence level		Description
$0.0 \leq CL \leq 1.0$	Basic	Remember: Students remember / recognize / recall knowledge by actions such as defining, repeating, listing, identifying, identifying, ...
$1.0 < CL \leq 2.0$	Qualified	Understand: Students create knowledge from materials and knowledge by actions such as explanation, classification, illustration, reasoning, ...
$2.0 < CL \leq 3.0$		Application: Students implement/ apply knowledge to create products such as models, real objects, simulation products, reports, ...
$3.0 < CL \leq 4.0$	Competently	Analysis: Students analyze materials / knowledge into details / parts and show their overall relationship by actions such as analysis, classification, comparison, synthesis, ...
$4.0 < CL \leq 5.0$		Assessment: Students make judgments, predictions about knowledge / information according to standards, criteria

		and indicators that have been determined by actions such as comments, criticisms, proposals, .. .
$5.0 < CL \leq 6.0$	Excellent	Creativity: Students create / arrange / organize / design / generalize details / parts in a new / new way to create new structures / models / products.

Major of

ELECTRONICS AND COMMUNICATION ENGINEERING TECHNOLOGY

❖ **The Goals, Objectives, and Expected Learning Outcomes**

1. **Goals:**

Training Engineers of Electronics and Communication Engineering Technology (ECET) major have basic science knowledge, basic and professional knowledge about electronics and communication, analytic capacities, solving problems and evaluating solutions, constructing abilities and managing electronics and communication systems, having abilities about communication and group work, profession attitudes which meet development requirements of field and society. Graduated students can work offices and organizations in electronics and communication fields, electronics-communication-applied units, training establishments in electronics and communication.

2. **Objectives:**

PEO-01	Excel in their engineering careers and/or postgraduate education by utilizing the fundamental mathematical, scientific, and engineering technology principles in formulating and solving electronics and communication engineering problems
PEO-02	Communicate and work effectively in multidisciplinary teams and continue career-long professional development through engagement in lifelong learning
PEO-03	Fulfill the needs of society in solving technical problems using engineering principles, tools and practices, in an ethical and professional manner
PEO-04	Make technical contributions to design, development, and manufacturing in their practice of electronics and communication engineering technology)

3. **Expected Learning Outcomes:**

ELO-01	An ability to apply knowledge of mathematics, science, computer fundamentals, and engineering
ELO-02	An ability to identify, formulate and solve engineering problems and to design a system, component, or process to meet desired needs

ELO-03	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
ELO-04	An ability to apply written, oral, and graphical communication in both technical and non-technical environments
ELO-05	An ability to communicate in English
ELO-06	An ability to work effectively as a member and leader in teams, preferably in a multi-disciplinary setting
ELO-07	A recognition of the need for continuous learning, and an ability to engage in life-long learning
ELO-08	An ability to understand the tenants of professional codes of ethics and to apply ethical considerations to realistic problems
ELO-09	Recognize the importance of the global, economic, environmental and societal context in engineering practice
ELO-10	An ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments related to electronics and communication engineering technology
ELO-11	Demonstrate the application of circuit analysis and design, computer programming, associated software, analog and digital electronics, and microcomputers, and engineering technology standards to the building, testing, operation, and maintenance of electronics/ communication systems

Major of

AUTOMATION AND CONTROL ENGINEERING TECHNOLOGY

❖ **The objectives and Expected Learning Outcomes**

1. Goals

Training human resources, improving intellectual standards of the people, fostering talents; researching science and technology for new knowledge & product creation to meet the requirements of development of economics& society, to ensure national defense, security and international integration.

Training learners have political quality, morality, knowledge, professional practice skills, research capacity, development of scientific applications and technologies that are commensurate with the level of training. They have a healthy body, creative capability and professional responsibility, adaptability to the work environment; spirit of serving the people.

Training Engineers of Automation and Control Engineering Technology (ACET) major have basic scientific knowledge, fundamental knowledge, specialized knowledge of automation and control major, analysis capability, solve problem skills and solutions assessment, ability contribution, design, operation of automation and control systems, communication skills and work in a team, professional attitudes, meet the development requirements of major and society. After graduation, the graduates are able to work in companies, factories, industrial manufacturer or operation of automatic control systems and ACET education organizations.

2. Objectives
- PO1: Form a stable foundation of general knowledge, foundation and core knowledge and specialized/ major knowledge of Automation and Control Engineering Technology.
- PO2: Use proficiently self-studying skills major, problem solving skills and professional skills in the major of Automation and Control Engineering Technology.
- PO3: Communicate effectively, organize, lead and conduct teamwork.
- PO4: Apply well competences of brainstorming, designing, deploying, and operating the Automation Control System, Robotic systems, PLC System, Electric Drive, to improvement or creation of electrical and electronic products.

PO5: Be able to grasp society's needs, carry out social responsibilities, respect work ethics and be aware of life-long learning.

3. Program outcomes

➢ **General knowledge, fundamental and specialized knowledge of Automation and Control major:**

- ELO 1.1. Apply fundamental knowledge of mathematics, natural science and social science; achieve more specialized knowledge and study further at higher levels.
- ELO 1.2. Construct the basis of core technological knowledge about Automation and Control.
- ELO 1.3. Create the combination of advanced specialized knowledge in the fields Automation and Control systems.

➢ **Specialized and professional skills in electrical and electronics major:**

- ELO 2.1. Analyze and argue for technical matters; brainstorm systematically, and solve automatic control system matters.
- ELO 2.2. Examine and experiment electrical and electronic matters.
- ELO 2.3. Implement proficiently professional skills in the Automation and Control field.
- ELO 2.4. Be aware of life-long learning.
- ELO 2.5. Realize the roles and responsibility of engineers and social circumstances which have impacts on the technical activities of the electrical and electronic industry.

➢ **Communication skills and ability to work in multidisciplinary areas:**

- ELO 3.1. Work independently; lead and work in a team.
- ELO 3.2. Communicate effectively in various methods: written communication, electronics communication, graphics and presentation.
- ELO 3.3. Comprehend business culture, work ethics principles, and working style of industrial organizations.

➢ **Skills to take shape of ideas, design, deploying and operate industrial electrical system**

- ELO 4.1. Recognizing the importance of social environment on technical activities in the field of control and automation.
- ELO 4.2. Ability to implement small and medium automatic control systems for industrial, service and public systems.

- ELO 4.3. Ability to propose implementation solutions, management of control and automation systems.
- ELO 4.4. Ability to apply information technology in hardware and software design for automation systems.
- ELO 4.5. Participate in building, organizing, operating and managing projects on effective control and automation.
- ELO 4.6. Ability to design and operate control systems, industrial communication networks in manufacturing plants.
- ELO 4.7. Able to lead in technical departments related to control and automation.
- ELO 4.8. Be aware of business opportunities that can apply technology and create new products

Major of

MECHANICALENGINEERING TECHNOLOGY

❖ **The objectives and Expected Learning Outcomes**

1. **Goals**

Training human resources, improving intellectual standards of the people, fostering talents; researching science and technology for new knowledge & product creation to meet the requirements of development of economics& society, to ensure national defense, security and international integration.

Training learners havepolitical quality, morality, knowledge, professional practice skills, research capacity, development of scientific applications and technologies that are commensurate with the level of training. They have a healthy body, creative capability and professional responsibility, adaptability to the work environment; spirit of serving the people.

MechanicalEngineering Technology major is aimed to train mechanical engineers with solid background on fundamental sciences and professional knowledge related to manufacturing engineering; good skills at critical thinking, problem solving and evaluation; good ability of planning of production processes, participating in organizing, operation and management duties; proficient communication and teamwork skills; appropriate professional attitudes adapted to the development requirements of the major and society.

After graduation, graduates can work in the mechanical engineering factories and companies. They can also work in the fields of engineering services or R&D departments under the role of direct operators, facilitators or managers.

2. **Objectives**
- PO1: Form a stable foundation of general knowledge, foundation and core knowledge and specialized/ major knowledge of **Mechanical Engineering Technology**.
- PO2: Use proficiently self-studying skills major, problem solving skills and professional skills in the major of **Mechanical Engineering Technology**.
- PO3: Communicate effectively, organize, lead and conduct teamwork.
- PO4: Conceive, design, implement and operate successfully mechanical eengineering systems.

- PO5: Be able to grasp society's needs, carry out social responsibilities, respect work ethics and be aware of life-long learning

3. **Program outcomes**

❖ **General knowledge, fundamental and specialized knowledge of Mechanical Engineering:**

- ELO 1. Apply fundamental knowledge of mathematics, natural science and social science; achieve more specialized knowledge and study further at higher levels.
- ELO 2. Construct the basis of core technological knowledge about Mechanical Engineering.
- ELO 3. Create the combination of advanced specialized knowledge in the fields of Mechanical Engineering.

❖ **Specialized and professional skills in Mechanical Engineering:**

- ELO 4. Analyze and argue for technical matters; brainstorm systematically, and solve mechanical matters.
- ELO 5. Examine and experiment mechanical matters.
- ELO 6. Implement proficiently professional skills in the Mechanical Engineering field.

❖ **Communication skills and ability to work in multidiscipline areas:**

- ELO 7. Work independently; lead and work in a team.
- ELO 8. Communicate effectively in various methods: written communication, mechanical drawing communication, graphics and presentation.
- ELO 9. Use English in communication.
- ELO 10. Realize the roles and responsibility of engineers and social circumstance which has impacts on the technical activities of industry.
- ELO 11. Comprehend business culture, work ethics principles, and working style of industrial organizations.
- ELO 12. Be aware of life-long learning.

❖ **Skills to take shape of ideas, design, deploying and operate mechanical engineeringsystems**

- ELO 13. Conceive, plan and manage the projects in accordance to the industrial requirements.
- ELO 14. Design and stimulate technological equipment and processes.
- ELO 15. Operate and maintain CNC systems.

Major of

MACHINE MANUFACTURING TECHNOLOGY

❖ **The objectives and Expected Learning Outcomes**

1. Goals

Training human resources, improving intellectual standards of the people, fostering talents; researching science and technology for new knowledge & product creation to meet the requirements of development of economics& society, to ensure national defense, security and international integration.

Training learners have political quality, morality, knowledge, professional practice skills, research capacity, development of scientific applications and technologies that are commensurate with the level of training. They have a healthy body, creative capability and professional responsibility, adaptability to the work environment; spirit of serving the people.

Training **Machine Manufacturing Technology** major have basic scientific knowledge, fundamental knowledge, specialized knowledge of electrical and electronics major, analysis capability, solve problem skills and solutions assessment, ability contribution, design, operation of mechanical systems, communication skills and work in a team, professional attitudes, meet the development requirements of major and society. After graduation, the graduates are able to work in companies, factories, industrial manufactories.

2. Objectives

- PO1: Form a stable foundation of general knowledge, foundation and core knowledge and specialized/ major knowledge of **Machine Manufacturing Technology**.
- PO2: Use proficiently self-studying skills major, problem solving skills and professional skills in the major of **Machine Manufacturing Technology**.
- PO3: Communicate effectively, organize, lead and conduct teamwork.
- PO4: Apply well competences of brainstorming, designing, deploying, and operating the systems of **Machine Manufacturing** System.
- PO5: Be able to grasp society's needs, carry out social responsibilities, respect work ethics and be aware of life-long learning

3. Program outcomes

- **General knowledge, fundamental and specialized knowledge of electrical and electronics major**
- ELO 1. Apply fundamental knowledge of mathematics, natural science and social science; achieve more specialized knowledge and study further at higher levels.
- ELO 2. Construct the basis of core technological knowledge about **Machine Manufacturing Technology**.
- ELO 3. Create the combination of advanced specialized knowledge in the fields of **Machine Manufacturing Technology**.

- **Specialized and professional skills in electrical and electronics major**
- ELO 4. Analyze and argue for technical matters; brainstorm systematically, and solve mechanical matters.
- ELO 5. Examine and experiment mechanical matters.
- ELO 6. Implement proficiently professional skills in the mechanical field.
- **Communication skills and ability to work in multidiscipline areas**
- ELO 7. Work independently; lead and work in a team.
- ELO 8. Communicate effectively in various methods: written communication, mechanical drawing communication, graphics and presentation.
- ELO 9. Use English in communication.
- ELO 10. Realize the roles and responsibility of engineers and social circumstance which has impacts on the technical activities of industry.
- ELO 11. Comprehend business culture, work ethics principles, and working style of industrial organizations.
- ELO 12. Be aware of life-long learning.
- **Skills to take shape of ideas, design, deploying and operate system of Machine Manufacturing**
- ELO 13. Take shapes of ideas, set up requirements, determine functions and elements of the Power System, Renewable Energy, Machine Manufacturing, and Automatic System.
- ELO 14. Design required elements of the Power System, Renewable Energy, Machine Manufacturing, and Automatic System.

Major of

AUTOMOTIVE ENGINEERING TECHNOLOGY

❖ **The objectives and Expected Learning Outcomes**

1. Program Goals

After completing this training course, the students should be able to have basic scientific knowledge, fundamental knowledge, specialised knowledge of automobile major, analysis capability, solve problem skills andsolutions assessment, ability contribution, design, operation of automobile systems, communication skill teamwork, professional attitudes, meet the development requirements of major and society. After graduation, the graduates are able to work in companies, factories, industrial manufactories or operation of automotive systems, ensure national defense, security and international integration.

2. Program Objectives

- PO1. Knowledge and technical arguments.
- PO2. Developing the capacity to explore knowledge, system thinking and solve automotive technical specialized issues.
- PO3. Have working skills
- PO4. Develop skills of forming ideas, designing, implementing and operating systems in the field of automotive engineering technology in accordance with social needs.

3. Program outcomes

Symbol	Expected Learning Outcomes	Competence level
1.	**KNOWLEDGE AND TECHNICAL ARGUMENTS**	
1.1	Application of basic knowledge of mathematics and natural sciences in engineering.	**3**
1.2	Application of basic and specialized knowledge in the field of automotive engineering technology	**3**

1.3	Application of expertise in designing, calculating, testing and diagnosing automotive systems or managing business, automotive services	3
2.	**PERSONAL SKILLS AND PROFESSIONAL SKILLS**	
2.1	Analysis, explanation and argument to solve automotive technical problems	**4**
2.2	Experiment and explore knowledge of automotive engineering issues	**4**
2.3	The ability to think and Systemic thinking in automotive engineering issues	**3**
2.4	Having professional and managerial skills to improve operational efficiency in the automotive major	**3**
2.5	Having professional ethics, a sense of environmental protection and professional working manner.	**3**
3.	**COMMUNICATION AND TEAMWORKING SKILLS**	
3.1	Creative skills and entrepreneurship	**3**
3.2	Ability to work in groups and lifelong learning	**3**
3.3	Communication skills and use specialized English	**3**
4.	**ESTABLISHING IDEAS, DESIGN, IMPLEMENTATION, AND OPERATION IN THE CONTEXT OF ENTERPRISES, SOCIAL AND ENVIRONMENT - CREATIVE PROCESS**	
4.1	Awareness and analysis are outside the social context and businesses	**4**
4.2	Able to formulate ideas about vehicle systems	**4**
4.3	Capable of calculating, designing, simulating and operating the components of automotive systems	**5**
	EXPANSION OF EXPECTED LEARNING OUTCOMES	

| 4.4 | Able to lead, work in groups and solve related technical issues in the automotive industry | 3 |
| 4.5 | Knowledge entrepreneurship, business in the automotive major | 3 |

4. Capacity scale

Competence level		Short description
0.0 ≤ Level ≤ 1.0	Basic	Remember: Students memorize / recognize / recall knowledge by actions such as definition, repetition, listing, identification, identification, ...
1.0 < Level ≤ 2.0	Satisfaction	Understand: Students create their own knowledge from documents, knowledge by actions such as explanation, classification, illustration, reasoning, ...
2.0 < Level ≤ 3.0		Application: Students implement / apply knowledge to create products such as models, real objects, simulation products, reports, ...
3.0 < Level ≤ 4.0	Proficiency	Analysis: Students analyze materials / knowledge into details / parts and indicate their relationships as a whole by actions such as analysis, classification, comparison, synthesis, ...
4.0 < Level ≤ 5.0		Assessment: Students make judgments, predictions about knowledge / information according to standards, criteria and measurement indicators which have been determined by actions such as comments, criticisms, recommendations, .. .
5.0 < Level ≤ 6.0	Excellent	Creation: Students create / organize / organize / design / generalize parts / parts in other / new ways to create new structures / models / products.

Major of

CONSTRUCTION ENGINEERING TECHNOLOGY

❖ **Program Objectives and Program Outcomes**

1. Program Goals

With objectives of all-sided developments in knowledge, skills, attitudes, practical competence and having consciousness of responsibility for society, students specializing in Construction Engineering Technology are trained for needs of recruitment, wholly developments of "hard skills" and "soft skills" to be able to rapidly adapt to continuous changes in working environment.

2. Program Objectives

- PO1: Are proficient in the general knowledge of engineering science, the fundamental and specialized knowledge of construction engineering.

- PO2: Grow professionally in their careers through continued development of technical and management skills, roles of responsibility in professional activities, and life-long learning ability.

- PO3: Adapt effectively in the professional environment, leadership and teamwork in the context of construction engineering.

- PO4: Are able to apply these knowledge and skills to design, develop and select sound solutions to construction engineering projects.

3. Program Outcomes

➢ **General knowledge, fundamental and specialized knowledge of construction engineering**

- ELO1: Apply knowledge of mathematics and science.

- ELO2: Analyze core fundamental knowledge of construction engineering.

- ELO3: Analyze advanced fundamental knowledge of construction engineering necessary for construction engineering practice.

➢ **Specialized and professional skills in construction engineering major**

- ELO4: Analyze and solve construction engineering problems.

- ELO5: Measure and interpret experimental data related to construction materials and structures.

- ELO6: Select possible solutions of construction engineering within the context of society, enterprise and technique.
- ELO7: Adapt for life-long learning.
- ELO8: Perceive professional practice skills in construction engineering including professional and ethical responsibility.

➢ **Communication skills and ability to work in multidiscipline areas**
- ELO9: Evaluate the goals and characteristics of individuals to engage technical collaboration with team members towards the sound solution of multi-disciplinary projects.
- ELO10: Choose various communication skills such as technical writing, sketching and drawing, persuasive arguments, and presentation to support the need needs and character of the audience.
- ELO11: Demonstrate the ability to use English in construction engineering, emphasizing on reading and writing skills.

➢ **Skills to take shape of ideas, design, deploying and operate in construction industry**
- ELO12: Judge the impact of construction engineering solution in global, economic, environmental, and societal context, and vice versa.
- ELO13: Adapt different enterprise cultures and develop professional behaviors to work successfully in organizations.
- ELO14: Select appropriate models of construction engineering performance to meet desired needs within realistic constraints such as economic, environmental, social, and sustainability.
- ELO15: Design a part or complete construction project by means of design experiences integrated throughout the professional component of the curriculum.
- ELO16: Develop appropriate processes of construction engineering practice.
- ELO17: Select suitable procedure to operate a construction project including inspection, maintenance, repair and upgrade.

Major of

INFORMATION TECHNOLOGY

❖ **Program Objectives and Expected Learning Outcomes**

1. Goals

The High-Quality Training program majored in Information Technology is developed based on the IT Training program that has been approved by the President of UTE (2018) in accordance with the requirements from circular no. 23/2014/TT-BGDDT about high-quality training.

The program aimed at building up learners with strong personal competency, foster soft skills like teamwork, presentation, problem-solving, analysis, substantial foundational understanding of Information Technology and related areas, and ability a adapt him/herself to the continuous changes of the working environment and the ever-growing feature of

2. Objectives

- To provide students with fundamental knowledge of social and natural sciences and Information Technology (IT).
- To develop student's ability to discover knowledge, to solve problems, to think systematically, the personal and professional skills are shaped as well.
- To develop students' ability to work effectively in team, especially multidisciplinary teams.
- To develop student's ability to generate ideas, design, deployment, and operating IT systems along with running IT business in the real world.

3. **Program outcomes**

➢ To provide students with fundamental knowledge of social and natural sciences and Information Technology (IT). Students will have:
- Ability to present principles in social and natural sciences (such as Maths, Physics);
- Ability to apply general principles and core technical basics to the IT field.
- Ability to demonstrate solid knowledge in application to practice with areas of concentration: Computer networks (CN), Information systems (IS), and Software engineering (SE).
➢ To develop student's ability in discovering knowledge, solving problems, systematically

thinking, as well as forming personal and professional skills. Students will have:

- Ability to analyze and solve IT problems;
- Ability to perform survey and experiments relating to solutions for IT problems;
- Ability to think systematically things that are IT-related;
- personal skills to help improving their work performance: creativity, flexibility, learning skills, time management, etc.;
- professional skills to help improve their work performance: ethics, integrity, career planning;

➢ To develop students' ability to work effectively in teams, especially multidisciplinary teams. Students will have:

- Ability to work effectively in teams and leadership skills;
- Ability to perform effective communication in text, email, graphics, oral presentation;
- Ability to communicate in foreign languages.

➢ To develop student's ability to generate ideas, design, deployment, and operating IT systems in the real world. Students will have:

- Awareness of the important role of the social environment to IT systems' operation.
- Ability to judge correctly the differences in corporate cultures and to work effectively in different cultural environments.;
- Ability to generate ideas, create requirement specification, identify features, and model IT systems;
- Ability to design IT systems;
- Ability to deploy hardware and software for IT systems;
- Ability to operate IT systems.

➢ **Studying condition:**

- Well-equipped classrooms with modern Teaching and Learning facilities to match international standard.
- The students are taken privilege to use the most modern labs of the University.
- Class size is small and most suitable for a best teaching/learning environment.
- The faculty are among the most experienced Professors, Ass. Professors, Senior lecturers from UTE or the Universities around the area.

What makes this program differs from the other programs:

- Honor training programs that are taken from the advanced higher education of G7 countries.
- More than 75% of faculty are PhDs, Senior lectures who are graduated from spoken English countries.
- The curriculum is project-based.
- English competency of graduates is qualified at B2 or EILTS ≥ 5.5 equivalent.
- Strong soft skills established.
- Strong ability to research and innovate.
- The Teaching Assistance (TA) policy proves to efficiently support the weak students.
- The family-connected policy to inform the academic status of the students proved to foster the students' studying progress.

Major of

FOOD TECHNOLOGY

❖ **The objectives and Expected Learning Outcomes**

1. Goals

Training human resources, improving intellectual standards of the people, fostering talents; researching science and technology for new knowledge & product creation to meet the requirements of development of economics & society, to ensure national defense, security and international integration.

Training learners have political quality, morality, knowledge, professional practice skills, research capacity, development of scientific applications and technologies that are commensurate with the level of training. They have a healthy body, creative capability and professional responsibility, adaptability to the work environment; spirit of serving the people.

Training Food Technology major have basic scientific knowledge, fundamental knowledge, specialized knowledge of food technology majors, analysis capability, solve problem skills and solutions assessment, ability contribution, design, operation of mechanical systems, communication skills and work in a team, professional attitudes, meet the development requirements of major and society. After graduation, the graduates are able to work in companies, factories, industrial manufactories, institutes, colleges and universities.

2. Objectives

- PO1: Form a stable foundation of general knowledge, foundation and core knowledge and specialized/ major knowledge of Food Technology.
- PO2: Use proficiently self-studying skills major, problem solving skills and professional skills in the major of Food Technology.
- PO3: Communicate effectively, organize, lead and conduct teamwork.
- PO4: Apply well competences of brainstorming, designing, deploying, and operating the systems of Food System.
- PO5: Be able to grasp society's needs, carry out social responsibilities, respect work ethics and be aware of life-long learning

3. Program outcomes

➢ *General knowledge, fundamental and specialized knowledge of food technology major:*

- ELO 1. Apply fundamental knowledge of mathematics, natural science and social science; achieve more specialized knowledge and study further at higher levels.
- ELO 2. Construct the basis of core technological knowledge about Food Technology.
- ELO 3. Create the combination of advanced specialized knowledge in the fields of Food Technology.

➢ *Specialized and professional skills in food technology major:*

- ELO 4. Analyze issues related to Food Technology.
- ELO 5. Examine and evaluate experimental results in the field of Food Technology.
- ELO 6. Implement proficiently professional skills in the field of Food Technology.

➢ *Communication skills and ability to work in multidiscipline areas:*

- ELO 7. Work independently; lead and work in a team.
- ELO 8. Communicate effectively in various methods: written communication, mechanical drawing communication, graphics and presentation.
- ELO 9. Use English in communication.
- ELO 10. Realize the roles and responsibility of engineers and social circumstance which has impacts on the technical activities of industry.
- ELO 11. Comprehend business culture, work ethics principles, and working style of industrial organizations.
- ELO 12. Be aware of life-long learning.

➢ *Skills to take shape of ideas, design, deploying and operate system of food technology*

- ELO 13. Take shapes of ideas, set up requirements, determine functions and elements of food technology fields.
- ELO 14. Design required elements of food technology fields.

Major of

COMPUTER ENGINEERING TECHNOLOGY

❖ **The Goals, Objectives, and Expected Learning Outcomes**

1. **Goals:**

The Computer Engineering Technology (CET) Program at HCM-UTE offers students a solid foundation in computer engineering skills, such as circuit design, performance evaluation, and analysis through hardware-software integration in embedded systems. Graduates are well-prepared for development and implementation of the modern computing systems and integrated application systems centered around computers; they enhance their ability to communicate and acquire an understanding and appreciation for other areas of human intellectual achievement.

2. **Objectives:**

PEO-01	Our graduates will engage in the productive practice of computer engineering to identify and solve significant problems across a broad range of application areas.
PEO-02	Our graduates will engage in successful careers in industry, academia, and public service, providing technical leadership for their business, profession and community.
PEO-03	Our graduates will enhance the economic well-being of Southern Vietnam through a combination of technical expertise, leadership and entrepreneurship.
PEO-04	Our graduates will adapt to new technologies, tools and methodologies to remain at the leading edge of computer engineering practice with the ability to respond to the challenges of a changing environment.

3. **Expected Learning Outcomes:**

ELO-01	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
ELO-02	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

ELO-03	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
ELO-04	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
ELO-05	An ability to communicate effectively with a range of audiences
ELO-06	An ability to communicate effectively in English in both general and technical contexts
ELO-07	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
ELO-08	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

Major of

THERMAL ENGINEERING TECHNOLOGY

❖ **Objectives and Expected learning outcome**

1. Objectives

- To train engineers in Thermal Engineering Technology (TET) with political and ethical qualities; have a comprehensive knowledge of the principles, rules of nature - social science, general knowledge of science, fundamental knowledge and specialized in thermodynamics, practical skills, ability to work independently, create and solve problems in the field of heating and refrigeration; have the ability to improve their learning; To have health, professional responsibility and adapt to the working environment of organizations and units engaged in the field of heating and refrigeration, meeting the social demands and international integration.

- Fully meet the requirements of the Circular No. 23/2014 / TT-BGDDT - regulations on high-quality university training, issued on 18/07/2014. Accordingly, the high quality of the program (CLC) will be guaranteed higher than the conventional program.

2. Goals

- Having technical knowledge and reasoning
- Developing personal and professional skills and attributes
- Interpersonal skills: teamwork and communication
- Conceiving, designing, implementing, and operating thermal systems to meet social demands.

3. Expected learning outcome

➢ **Knowledge, skills, and attitude**

No.	Expected learning outcome	Ability level
1.	**TECHNICAL KNOWLEDGE AND REASONING**	
1.1	Applying basic knowledge of mathematics and science into engineering and attaining the ability to learn at a higher level.	3
1.2	Applying fundamental knowledge in Thermal Engineering Technology.	3

1.3	Applying specialized knowledge in designing, calculating, testing, diagnosing thermal systems.	**3**
2.	**PERSONAL AND PROFESSIONAL SKILLS AND ATTRIBUTES**	
2.1	Analyzing, explaining, and reasoning to solve Thermal engineering problems.	**4**
2.2	Experimenting and discovering Thermal engineering knowledge.	**4**
2.3	Attaining the ability to think critically and systematically about Thermal engineering problems.	**3**
2.4	Having professional skills in Thermal Engineering Technology.	**3**
2.5	Possessing professional ethics and the professional working manner in Thermal Engineering Technology.	**3**
3.	**INTERPERSONAL SKILLS: TEAMWORK AND COMMUNICATION**	
3.1	Having creative and entrepreneurial skills	**3**
3.2	Being able to lead, function in teams, and communicate well in writing and speaking forms.	**3**
3.3	Being able to communicate in technical English.	**3**
4.	**CONCEIVING, DESIGNING, IMPLEMENTING, AND OPERATING SYSTEMS IN THE ENTERPRISE AND SOCIETAL CONTEXT – CREATIVE ABILITY**	
4.1	Recognizing and analyzing the context of society and business	**4**
4.2	Conceiving ideas of thermal systems.	**4**
4.3	Calculating, designing, simulating, implementing, and operating thermal components and systems.	**5**
	EXPECTED LEARNING OUTCOME EXPANDED	
4.4	Having the ability to lead, team work and solve related technical issues in the thermal engineering	**3**
4.5	Knowing start-up, business in the thermal engineering	**3**

> **Ability level**

Ability level (AL)			Description
$0.0 \leq AL \leq 1.0$	Basic concept		Remember: Students define, duplicate, list, memorize, repeat, state,...
$1.0 < AL \leq 2.0$	Satisfactory		Understand: Students classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, ...
$2.0 < AL \leq 3.0$			Apply: Students execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch,...
$3.0 < AL \leq 4.0$	Proficiency		Analyze: Students differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test,...
$4.0 < AL \leq 5.0$			Evaluate: Students appraise, argue, defend, judge, select, support, value, critique, weigh,...
$5.0 < AL \leq 6.0$	Excellence		Create: Students design, assemble, construct, conjecture, develop, formulate, author, investigate,...

Major of

INDUSTRIAL MANAGEMENT

❖ **The objectives and Expected Learning Outcomes**

1. Goals

Graduates have the ability to administer production and business operations in many areas such as production management, quality management, human resource management and marketing management. Having communication skills in business environment and international integration; teamwork and leadership skills. Ability to analyze, synthesize and handle problems; capable of proposing solutions to improve the operational efficiency of enterprises.

2. Objectives

- PO1: Apply knowledge of foundation sciences, economics and management
- PO2: Self-study, think systematically, and solve problems in production systems
- PO3: Lead and work in a team, communicate effectively
- PO4: Conceive ideas, design, implement, and operate production systems in enterprises

3. Program Expected Learning Outcomes

➢ **Apply knowledge of foundation sciences, economics and management**

- ELO 1. Apply knowledge of basic science in industrial management
- ELO 2. Illustrate general knowledge of management in production, business, trade and service
- ELO3. Implement knowledge of industrial management such as production management, quality management, human resources management, and marketing management

➢ **Self-study, think systematically, and solve problems in production systems**

- ELO 4. Analyze, evaluate and solve problems in production and business
- ELO 5. Do a research in business operations
- ELO 6. Conduct systematic thinking
- ELO 7. Show professional working attitudes, international integration and lifelong learning capacity
- ELO 8. Be aware of professional ethics

➢ **Lead and work in a team, communicate effectively**

- ELO 9. Work independently; lead and work in a team.
- ELO 10. Communicate effectively in various methods: written communication, electronics communication, graphics and presentation.
- ELO 11. Use English in communication.
- ➢ **Conceive ideas, design, implement, and operate production systems in enterprises**
- ELO 12. Conceive ideas of production system improvement
- ELO 13. Design production system and planning
- ELO 14. Implement a plan or a project
- ELO 15. Operate and manage production systems
- ELO 16. Form ideas of start-up