

## Expected Learning Outcomes

Expected learning outcomes (ELOs) of the program are clearly presented right at the beginning of the curriculum as follows:

On successful completion of the programme, students will be able to:

1. Be equipped with comprehensive core and advanced engineering knowledge to get adapted successfully to jobs relevant to their disciplines, with due focus on abilities to apply core and advanced transport mechanical engineering knowledge and modern instruments to design and develop transport mechanical engineering products, including:
  - 1.1. Abilities to apply knowledge of underlying mathematics and science to design transport mechanical engineering systems/machines.
  - 1.2. Abilities to use core and advanced engineering knowledge to analyze mechanical engineering systems/machines.
  - 1.3. Abilities to use advanced engineering knowledge, modern methods and instruments to design and assess mechanical engineering systems/machines.
2. Be equipped with personal and professional skills and attributes, lifelong learning and self-studied abilities to pursue higher levels of education to get adapted to the ongoing scientific and technological development, including:
  - 2.1. Abilities to identify, determine and model technical problems, to estimate and analyse them quantitatively, to identify random factors, to come up with conclusions, solutions and recommendations.
  - 2.2. Abilities to develop hypothesis and probabilities, to understand and select information from paper-based, electronic formats or internet, to conduct experimental surveys, to verify and prove hypothesis.
  - 2.3. Abilities to develop a holistic view of any problems, to identify emerging problems and interactions in systems, to arrange and determine key factors as well as to analyse strengths and weaknesses and come up with solutions.
  - 2.4. Abilities to be persistent and flexible, willing to take risks, and know how to make full use of creative and critical thinking, to conduct self-evaluation of one's own knowledge, skills and attitudes, to know how to study for lifelong learning; to manage time and resources.
  - 2.5. Professional ethics and conduct, honesty and sense of responsibility, proactive career planning, regular self-updating of technical information.
3. Be equipped with communication and teamwork skills, including:
  - 3.1. Abilities to set up, develop teams including technical, multi-disciplinary ones, and to organize team activities.
  - 3.2. Abilities to select effective communication strategies, to develop communication structures, to communicate effectively in writing, multimedia and graphic media with good presentation skills.

- 3.3. Good English proficiency at work with minimum TOEIC score of 500.
4. Conceive ideas for the purpose of design, development and operation in enterprise and social settings, including:
  - 4.1. Understanding roles and responsibilities that engineer holders should have in the society, impact that technological applications can have on the society, related legislations and regulations, historical and cultural contexts, global current development issues and prospects.
  - 4.2. Respecting multicultural values, mastering business strategies, objectives and plans of the respective organization, having technical commercialization mindset, being adaptable to different working environments.
  - 4.3. Being able to develop objectives, requirements for technical systems, to define their functions, concepts and structures; to do technical system modelling for feasibility, and to develop project implementation plans.
  - 4.4. Being able to develop and analyze design processes and approaches, to apply technical knowledge and analytical results in designs, to design and work in multidisciplinary teams, to understand multi-objective designing.
  - 4.5. Being able to plan system development, implementation and analysis; to apply control system knowledge, to program diagnosis integrated with both software and hardware, to understand relevant sets of testing standards, to test, verify and validate, monitor and manage the implementation process.
  - 4.6. Being able to develop and optimize operation process and operation process training, to understand other support options related to the system operation process, system improvement and development, system demobilization, operation process management.
5. Have political quality and willingness to serve people, to have good health and meet requirements in developing and defending the country, including:
  - 5.1. Political theory qualifications in line with general programs and regulations of the Vietnam Ministry of Education and Training.
  - 5.2. Physical Education Certificate and Military Training Certificate in line with general programs and regulations of the Vietnam Ministry of Education and Training.