

Expected Learning Outcomes

After graduated from Hanoi University of Science and Technology (HUST), Engineers in Control Engineering and Automation (CEA) have to attain the following outcomes:

1. Solid professional knowledge to adapt to different jobs such as research, development, consulting, management and production in the broad field of Automation and Control Engineering:
 - 1.1 The ability to apply basic knowledge of mathematics, physics and computing science in the modeling, calculation and simulation of instrumentation, control and automated devices and systems.
 - 1.2 The ability to apply basic knowledge of electrical circuit theory, signals and systems, control theory, electronics and computer engineering in the research and analysis of instrumentation, control and automated devices and systems.
 - 1.3 Ability to apply core and specialized knowledge of automation and control engineering in combination with an ability to utilize software tools in the design and evaluation of solutions to industrial automated systems.
2. Professional skills and personal qualities needed to succeed in the profession:
 - 2.1 Technical argumentation, analysis and problem-solving skills.
 - 2.2 Ability to test, do research and explore knowledge
 - 2.3 Systematic and critical thinking
 - 2.4 The dynamic, creativity and seriousness
 - 2.5 Ethics and professional responsibility.
 - 2.6 Understanding of contemporary issues and a sense of lifelong learning.
3. Social skills needed to work effectively in multidisciplinary team and in the international environment:
 - 3.1 Organizational, leadership and (multidisciplinary) teamwork skills,.
 - 3.2 Effective communication skills through writing, presentations, discussions, negotiation and problem handling ability, effective use of tools and modern facilities.
 - 3.3 Effective English skill at work, TOEIC score ≥ 450 .
4. The capacity for project formulation, design, implementation and operation of instrumentation, control and automated devices and systems to fit the context of economic, social and environmental.
 - 4.1 Awareness of intimate relationship between technical solutions in automation and control engineering and factors related to economics, society and environment in the world of globalization.
 - 4.2 Capacity for recognizing problems and ideation, proposing and building control systems and automation projects.

- 4.3 Capacity for designing systems and devices in instrumentation, control and automation.
 - 4.4 Ability to deploy, modify and put into operation systems and devices in instrumentation, control and automation.
 - 4.5 Ability to operate, maintain systems and devices in instrumentation, control and automation.
5. Political qualities, awareness of serving people, good health that meet the requirements of national construction and defense:
- 5.1 Having the political debate program general regulations of the Ministry of Education and Training.
 - 5.2 A certificate of Physical Education and Military Education Certification and Security program general regulations of the Ministry of Education and Training. Program duration and number of credits