

GRADUATE PROGRAMME

Name of program:	Mechatronics Engineering
Education level:	Master
Major:	Mechatronics
Program code:	8520114
Duration:	1,5-2 years
Degree	Master
Credits in total:	61 credits

1. Program Goals

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

- 1.1. Update knowledge and new technology; mastering in-depth knowledge about Mechatronics engineering; analyze and synthesize to create and innovate in the field of manufacturing related to Mechatronics engineering, ready to integrate, adapt to the 4.0 revolution.
- 1.2. Knowledge and quality of professional ethical values, effectively contributing to the sustainable development of society Using modern knowledge, techniques, skills and tools to design, innovate and innovating Mechatronics engineering systems / processes / production; effectively and creatively apply scientific and technical achievements in Mechatronics engineering to solve practical problems; organize research, evaluate and experiment effectively in the environment of teaching and scientific research.
- 1.3. Scientific and professional working methods, systematic and analytical thinking, independent autonomy in approaching, organizing implementation and solving technical problems of Mechatronics engineering; ability to discuss, present professionally and participate, effectively lead in working groups (multidisciplinary), international integration.
- 1.4. Ability to self-training, self-update knowledge and self-scientific research, deployment of technical applications; have the knowledge base to continue studying at the doctorate level.

2. Program Learning Outcomes

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

2.1. Have good knowledge base to adapt jobs that are relevant to the discipline, focusing on the ability to independently design, analyze, synthesize, and evaluate systems / processes/ technology products of mechatronics engineering and have ability to research or study at a higher level.

2.1.1. *Ability to apply advanced mathematical and scientific knowledge to calculate, design and build systems / processes / mechatronics engineering products.*

2.1.2. *Ability to apply basic knowledge of the field of study to analyze, improve and improve Mechatronic engineering systems / processes / products.*

2.1.3. *The ability to apply innovative knowledge of specialized knowledge, exploit and use modern methods and tools to analyze, design and evaluate solutions / systems / processes / technical products Mechatronics and as a basis for scientific research and teaching.*

2.1.4. *The ability to independently apply in-depth knowledge to detect, analyze, design and develop, lead and operate Mechatronic engineering systems / processes / products; participating in proposing orientations and scientific researches; teaching and learning at a higher level.*

2.2. Be equipped with personal and professional skills and attributes to get achievements in career:

2.2.1 Analytical reasoning and identifying technical problems.

2.2.2. Abilities to test, study and explore knowledge.

2.2.3. Systematic thinking and critical thinking.

2.2.4. Dynamic, creative and serious.

2.2.5. Ethics and professional responsibilities.

2.2.6. Capture contemporary issues and be self-study.

2.3. Social skills needed to work effectively in a multidisciplinary team and in an international environment integration:

2.3.1 *Collaborative, working, organizing, and leadership skills in multidisciplinary and multi-field groups.*

2.3.2 *Effective communication skills through writing, presenting, discussing, negotiating, mastering situations, effectively using modern tools to teach and participate in scientific conferences.*

2.3.3 *Skills to use English effectively at work*

2.4 Ability to self-training, self-update knowledge and self study; be able to explore practical problems, creatively apply knowledge and scientific and technical achievements to solve practical problems in the mechatronics field:

2.4.1. *Clearly aware of the close connection and influence of scientific and technical solutions to economic, social and environmental factors in the context of globalization.*

2.4.2. *Ability to self-training, self-update knowledge, self-identify problems, the ability to give and create innovative solutions to practical problems in mechatronics engineering.*

2.4.3. *Capacity to explore practical problems, design systems / processes / products / innovative technical solutions in the field of Mechatronics; Capacity to detect and organize research to solve practical problems.*

2.4.4. *Capacity of executing / manufacturing / implementing systems / processes / products / technical solutions for mechatronics creation..*

2.4.5. *Leadership of working groups operating / using / operating systems / processes / products / innovative technical solutions.*

2.5. Political qualities, a sense of service to the people, good health, meet the requirements of building and defending the homecountry:

Having a political qualification under the general program of the Ministry of Education and Training