



Electrical Engineering Educational Program

Graduate Profile

The Electrical Engineer Educational Program trains competent professionals for solving problems related to the quality and rational use of electrical energy through the application of current standards and regulations for electrical systems; therefore, graduates from this program will be competent for:

- Planning electrical systems through the integration of techniques, tools, specialized hardware and software, and by applying current standards and regulations, in order to improve the reliability and quality of electrical energy and to reduce the environmental impact in the social and productive sectors at the national level, with leadership and creativity.
- Maintaining electrical systems and equipment in service, by applying research, using current techniques and tools in compliance with national and international standards and regulations, ensuring the continuity and quality of electrical energy while using it efficiently, with objectivity, integrity and teamwork.
- Implementing control systems through electromechanical and power electronic circuits, and by applying specialized knowledge, tools, hardware and software, in order to improve electrical energy control systems, with creativity, honesty and teamwork.
- Managing human and material resources in companies and/or departments related to electric energy through the use of tools, administrative and communication techniques in both English and Spanish, in order to achieve the objectives established by the company, with social responsibility and honesty.

Graduate Attributes

Graduate attributes constitute the indicative components of a graduate's potential to acquire the skills or abilities to practice engineering at an appropriate level.

1. Identify, formulate and solve electrical engineering problems related to the efficiency, quality, reliability, continuity and security of the electric power supply by applying the principles of basic sciences and engineering.
2. Apply, analyze and describe processes for the design of electrical systems for their protection, control and construction using current standards and regulations according to the user's needs.



3. Conduct tests and measurements that allow the analysis and interpretation of results of electrical systems and equipment, using engineering judgment and applying current standards and regulations to ensure the continuity, efficiency and quality of electrical energy.
4. Use appropriate technical language to communicate with different professionals and audiences.
5. Be familiar with, apply and evaluate the compliance of national and international standards related to the measurement and construction of electrical systems, while taking care of the natural, social and economic environment, acknowledging their ethical and professional responsibilities.
6. Recognize the need to keep current on topics related to the social, economic and scientific fields of electrical engineering, in order to apply the acquired information and knowledge in an appropriate manner.
7. Execute projects that involve collaborative work, complying with their specifications in a proper and timely manner, applying logical, critical, creative and proactive thinking.

Program Educational Objectives

Graduates from the Electrical Engineer Educational Program:

- Contribute to the development of public, private and service companies, related to the design, maintenance, administration and construction of high and low voltage electrical systems.
- Promote environmental well-being by applying current standards and regulations in the design, construction and operation of high and low voltage electrical systems.
- Promote multidisciplinary work for a better use of electrical energy, in a rational and effective way.
- Encourage updating and research in training processes to adapt to technological changes and advances.