



UNIVERSIDAD AUTÓNOMA DEL ESTADO DE HIDALGO

Instituto de Ciencias Básicas e Ingeniería

School of Engineering and Basic Sciences

Área Académica de Ingeniería y Arquitectura

Department of Engineering and Architecture

Educational Goals of the Educative Program

The educational goals of the Degree in industrial engineering of the Autonomous University of the State of Hidalgo imply that after five years of professional experience:

- **EO1: Production and Manufacture**

Graduates will have the ability to analyze, design, implement, efficiently evaluate, manage, and direct production and manufacturing areas of companies in public and private sectors through a suitable administration, supervision, continuous improvement, and control of human resources as well as production processes, to meet environmental, safety and health requirements related to the organization's activities; improving productivity, costs, quality standards and the level of service.

- **EO2: Services**

Graduates will be able to analyze, design, efficiently implement, evaluate, manage, and direct service companies in consulting, banking, marketing, and hospital services or create their own companies in the public and private sectors by organizing workloads and using management skills. Personnel management and coordination for collaborative work, keeping an appropriate organizational climate, to increase the company's profitability and efficiency.

- **EO3: Quality**

Graduates will be able to analyze, design, implement, efficiently evaluate, manage, and direct quality areas of companies in the public and private sectors through the application of systems established in the following phases: planning, design, development, validation, evaluation, feedback, and corrective actions of products and processes. Additionally, they could implement quality tools in productive or service sectors, achieve processes under control conditions, and comply with international standards, ensuring profitable and smooth operations.

Ciudad del Conocimiento
Carretera Pachuca-Tulancingo km 4.5 Colonia
Carboneras, Mineral de la Reforma, Hidalgo,
México. C.P. 42184
Teléfono: +52 (771) 71 720 00 ext. 4000, 4001
Fax 2109
aai_icbi@uaeh.edu.mx



www.uaeh.edu.mx



UNIVERSIDAD AUTÓNOMA DEL ESTADO DE HIDALGO

Instituto de Ciencias Básicas e Ingeniería

School of Engineering and Basic Sciences

Área Académica de Ingeniería y Arquitectura

Department of Engineering and Architecture

- **EO4: Logistics and chain of supply**

Our graduates are not just equipped with theoretical knowledge, but also with the practical skills to analyze, design, implement, and efficiently evaluate logistics and supply chain areas of companies in both the public and private sectors. They are adept at managing and directing warehouse, shipping, distribution, and transportation processes, utilizing cutting-edge computer tools and information technologies. This practical application of skills ensures satisfaction for internal and external customers, partners, and suppliers, demonstrating the real-world effectiveness of our program.

Graduation profile

Observable results in graduates with a bachelor's degree in industrial engineering from the Autonomous University of the State of Hidalgo involve the development of the following attributes:

Generic:

- Communication:** Students develop the ability to communicate in Spanish and in a second language for social interaction through signs and systems of messages that can be written or oral, establishing personal links with their social, cultural, political, economic, and religious environment, among other things.
- Training:** Students integrate multiple contents in various situations (academic, professional, social, productive, laboral, and research) for solving problems through the use of methods and strategies focused on learning (problem-based, cooperative, collaborative, meaningful learning, consulting and projects, among others) with autonomy and with values that are expressed in convictions, as well as in its commitment to quality and its way of acting congruently with established standards.
- Critical Thinking:** Students apply critical and self-critical thinking to identify, pose, and solve problems through abstraction, analysis, and synthesis, processing information from various sources that allow significant learning and permanent updating.

Ciudad del Conocimiento
Carretera Pacitica-Tulancingo Km 45 Colonia
María Caran, Jirón de Independencia, Hidalgo,
México. C.P. 42184
Teléfono: +52 (771) 71 720 00 ext. 4000, 4001
Fax 2109
aai_icbi@uaeh.edu.mx



www.uaeh.edu.mx



UNIVERSIDAD AUTÓNOMA DEL ESTADO DE HIDALGO

Instituto de Ciencias Básicas e Ingeniería

School of Engineering and Basic Sciences

Área Académica de Ingeniería y Arquitectura

Department of Engineering and Architecture

- D. **Creativity:** Students apply creativity to detect, formulate, and solve problems in an original and innovative way, integrating content and didactic strategies that generate divergent, problematic, investigative, cooperative, and innovative thinking, among other things.
- E. **Collaborative Leadership:** Students apply collaborative leadership to identify and develop ideas and/or projects in the professional and social field through planning and decision-making processes, ensuring collaborative work, motivation, and driving towards common goals.
- F. **Citizenship:** Students act before the different groups by the general principles of respect for cultural diversity with social responsibility and citizen commitment to face and resolve professional conflicts, exercising their democratic citizenship, which allows them to solve problems in a multicultural and diverse context based on universal values and ethical principles accepted and considered by their own, thereby promoting the development of society.
- G. **Use of Technology:** Students apply information and communication technologies as a support tool for solving problems in the professional and social fields. They use appropriate resources and methodologies to develop learning, communication, disciplinary training, and research, achieving efficiency in the search and processing of information and communication.

a) Specific:

1. **Supply Chain Management:** Students evaluate the operation of productive companies and companies of services to guarantee the optimal production, availability, and reliability of equipment, the profitability of new products or projects through production management techniques, maintenance, and project evaluation, respecting the company's policies on quality, as well as the national and international legal provisions applicable to the environment and sustainable development.

Ciudad del Conocimiento
Carretera Pachuca-Tulancingo km 4.5 Colonia
Carboneras, Mineral de la Reforma, Hidalgo,
México. C.P. 42184
Teléfono: +52 (771) 71 720 00 ext. 4000, 4001
Fax 2109
aai_icbi@uaeh.edu.mx



www.uaeh.edu.mx



UNIVERSIDAD AUTÓNOMA DEL ESTADO DE HIDALGO

Instituto de Ciencias Básicas e Ingeniería

School of Engineering and Basic Sciences

Área Académica de Ingeniería y Arquitectura

Department of Engineering and Architecture

2. Location and Distribution of Productive Organizations of Goods and Services:

Students evaluate the location and distribution of productive organizations of goods and services to optimize costs through the design and implementation of a layout and distribution technique.

3. Design, Implementation, and Control of Conditions of Optimal Work: Students design the optimal conditions of work environments, evaluating working areas in organizations through tools that involve studying work, ergonomics, safety, and hygiene by applicable national and international standards.

4. Design, Implementation, and Control of Quality Systems: Students implement or improve quality systems in productive or service companies to increase their performance and achieve better profitability and competitiveness. They use techniques such as statistics, methodologies, tools, and quality management systems and consider current national and international standards.



Universidad Autónoma del Estado de Hidalgo

Ciudad del Conocimiento
Carretera Pachuca-Tulancingo km 4.5 Colonia
Carboneras, Mineral de la Reforma, Hidalgo,
México. C.P. 42184
Teléfono: +52 (771) 71 720 00 ext. 4000, 4001
Fax 2109
aai_icbi@uaeh.edu.mx



www.uaeh.edu.mx