Degree Profile for the Industrial Engineering program

The Industrial Engineer from UDLA is a competent professional, an entrepreneur with an international/global vision, and a person capable of designing and optimizing operations through quality assurance, increased productivity, and the development of innovation in the operational processes of the manufacturing and services industry, in a safe environment for the worker and using environmentally friendly methods.

The UDLA Industrial Engineer applies the tools and methodologies of research, development, and innovation (R + D + I), simulation, manufacturing, operational information systems, supply chains, quality assurance, industrial safety, and environmental safety. With a focus on excellence, global and transversal, he/she diagnoses, analyzes, and improves the processes of an organization. In support of its work, he/she interprets and applies manufacturing technologies, as well as analyzing and evaluating the costs and economic profitability of processes and projects. He/she is effectively engaged with multidisciplinary work teams, applying their technical knowledge and integral training with efficiency and effectiveness in the operation of all types of companies or organizations.

It is expected that the Industrial Engineer from UDLA will perform different roles, working as a director, consultant, or entrepreneur in national and international contexts, contributing to the needs of competitiveness, productivity, and quality for the development of the country, and guided by the ethical values of social responsibility, environmental awareness, and service to the community.

Educational Objectives

The Industrial Engineering Program at UDLA expects graduates to achieve the following within a few years of graduation:

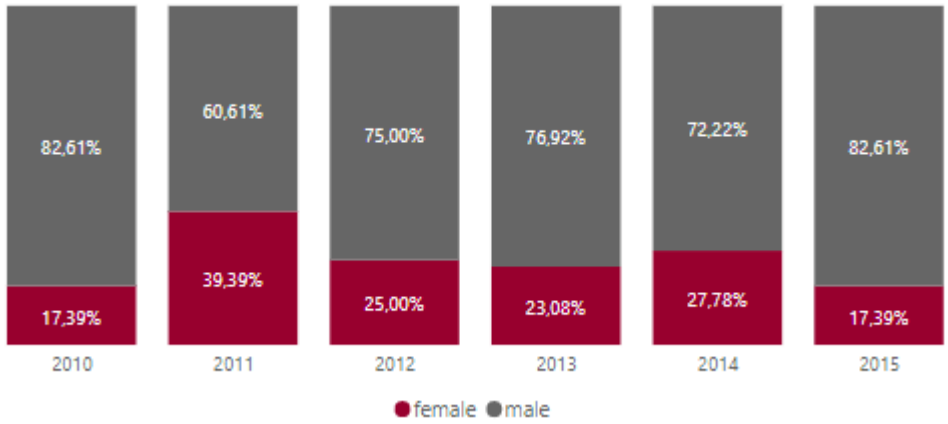
1. Apply logical thinking, mathematical foundations, algorithmic principles, and specialized software in process optimization, productivity and quality improvement, new product design, along with industrial and environmental safety enhancement by applying and developing relevant scientific methodologies and tools.
2. Design, analyze, and improve the processes of manufacturing/service organizations, focusing on supply chain management and optimizing product planning and distribution to enhance company productivity and quality and thus strengthen competitiveness, a major objective of the National Development Plan.
3. Apply the UDLA Industrial Engineer's competencies, founded on a constructivist model that strives for the constant blending of theory with practice (learning by doing) and promotes entrepreneurship through product and process innovation techniques.
4. Integrate industrial engineering knowledge and skills to increase productivity and quality of all types of companies, improving communities' living conditions while promoting citizenship development at large.

Program's Academic Information

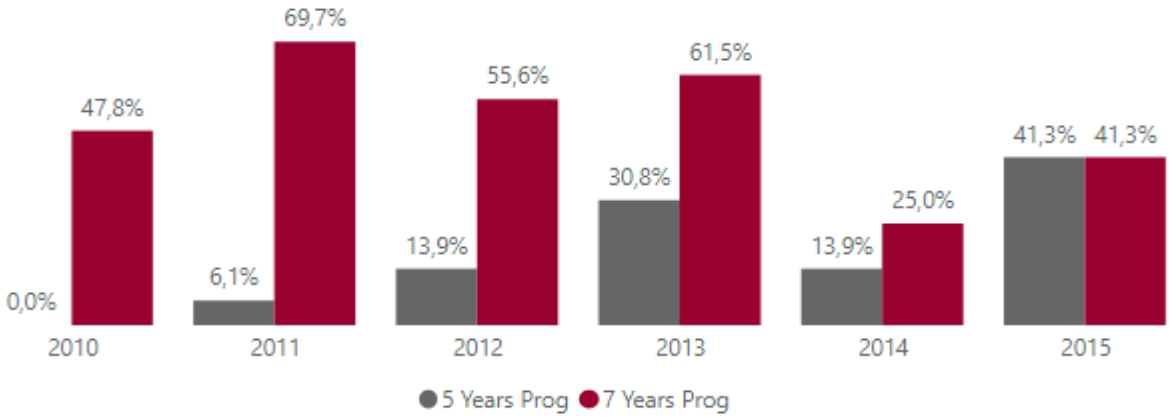
Retention and graduation rates are calculated through the 2019- 2020 academic year, based on new, first-time students entering in the fall semester, regardless of whether they enroll in the daytime or evening version of their program (if available). These rates do not consider incoming transfer students.

The duration of the Industrial Engineer program has historically been 5 years (10 semesters). Nevertheless, until Fall 2015, students had to first complete all coursework and then the capstone, which extended the time required to finish the program by at least one semester. Therefore, the graduation rate is calculated according to a duration of 5 years and 150% of that amount. The percentage of graduates in each cohort by gender considers only actual graduates, not the original makeup of the cohort.

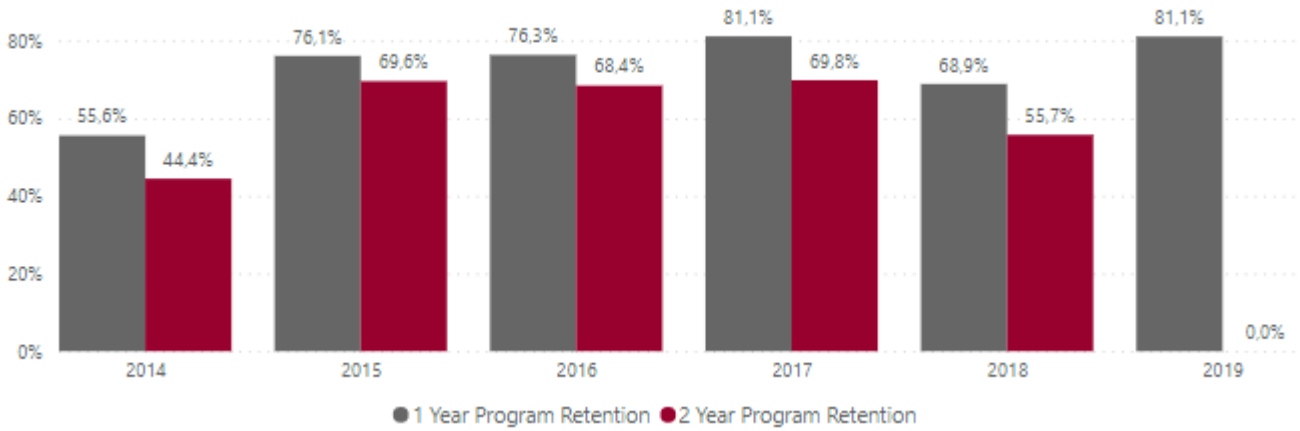
GRADUATION BY GENDER



GRADUATION



RETENTION



Program Learning Outcomes

In every semester, the program provides assessment results according to its Multiannual Assessment Plan (MAP), which typically considers one or more of its program learning outcomes (PLOs). Most programs utilize the platform Brightspace to collect and assess student work and to present the data and evidence of student achievement. These results and their analysis, with the objective of identifying areas for improvement, are presented in the program's annual assessment report.

In the graphic below, the most recent period in which a PLO has been assessed is indicated, with the percentage indicating achievement of the expected performance standard for that PLO, according to the rubric used to evaluate the student work. This standard can be designated at an introductory, intermediate, or final level, depending upon how the course learning outcomes (CLOs) align to each PLO in the program's curriculum map.

A graduate of the Industrial Engineering program will be able to:

1. Manage processes in manufacturing and service organizations, applying administrative and technological tools.
2. Manage production and quality management systems as well as continuous improvement projects at all levels of the organization.
3. Design and optimize organizational supply chains and their operations through the use of tools and methods to improve customer service.
4. Implement operations research systems, applying mathematical models and simulations to increase organizational productivity.
5. Evaluate the technical feasibility and economic profitability of industrial projects.
6. Evaluate labor risks and environmental impacts of the operations of a manufacturing and services organization, in accordance with the regulations in force.