



Universidad
Tecnológica
de Pereira

Faculty of Business Science

Industrial Engineering

CODE SNIES: 271

Accredited Program :

Res. N° 3684 - April 19th - 2013 / Validity: 7 years

High Quality Certification:

Res. N° 1315 - Feb 12th - 2013 / Validity: 6 years



Be part of the Industrial world and contribute to the global change

Be a generator and promoter of ideas, develop your
technological and scientific skills.

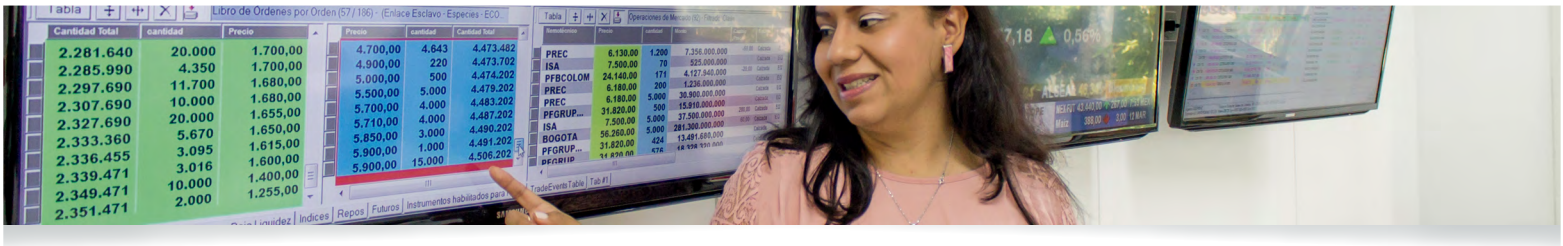
Sign Up!
Live the UTP!

Welcome to a world of endless experiences

www.utp.edu.co

Pereira - Colombia





Industrial Engineering

General information

Founded in 1962, the Industrial Engineering Program is well-known for its high quality education and extensive experience locally and nationally. It embraces qualified professors with master's and doctoral studies. We also have a great network of support from lecturers, in different fields of expertise, coming from various parts of the country in order to enhance our students' knowledge.

The Faculty of Business Sciences has a well-organized and comfortable infrastructure fitted with laboratories and flexible learning places for our under and post graduate students to achieve their academic practices.

University degree:	Bachelor of Industrial Engineering
Duration of the program:	10 semesters
Studying hours:	Daytime
Attendance policies:	Face-to-face courses
Admission process:	Every semester
SNIES code:	271
Accredited program:	Res. N° 4357 / April 19th - 2013 Validity period: 7 years
High Quality Certification:	Res. N° 1315 / February 12th - 2013 Validity period: 6 years

About us

We are an academic program devoted to preparing talented and remarkable professionals, recognized for contributing to the technological and scientific development in their sphere of influence, and for employing a set of skills with commitment and expertise.

Mission

The Faculty of Business Sciences, recognized for its academic quality, consists of a pluralistic and open-minded team that creates, develops, consolidates, and applies knowledge in the scientific, technological, social, humanistic, environmental, business, and organizational fields. It cultivates well-rounded business leaders, with a high degree of social sensitivity, founded in values, and committed to the economic and political development locally and globally.

Vision

To be a faculty outstanding for having high quality education and social recognition; enhancing competitiveness in teaching, research, and extension processes; and being effectively bonded with the national and international scientific community.

Professional profile

Universidad Tecnológica de Pereira (UTP) educates holistic industrial engineers with systemic thinking, able to perform socially and professionally. Graduates of the UTP Industrial Engineering Program contribute to local and worldwide development with a sense of social responsibility in a dynamic, globalized, and competitive environment by applying techniques, technology, and research theories to the integration and optimization of human, material, economic, information, and energy resources in the industrial systems.

The Industrial Engineer enrolled at UTP will be capable of fulfilling the following functions:

Researcher: to do research on complex problems in organizations, or surrounding environments putting into practice the acquired knowledge.

Administrative Manager: To manage and supervise either public or private organizations seeking to make an efficient and effective use of the resources allocated to those processes. To work with inter and multidisciplinary equipment to achieve business goals and targets in accordance with both the policies established by the organization, and the laws and regulations of the environment where it operates.

Production Manager: To design, develop, analyze, control, and manage processes generators of goods and services.

Sales and Logistics Manager: To conduct strategic marketing plans for short, medium and long terms supported by key performance indicators as well as marketing research by using qualitative and quantitative techniques.

Finance Manager: to analyze, validate, audit, and diagnose business situations based on financial information and statements taking into account short, medium, and long investments.

Operations Research Analysis Manager: To design, develop, and solve problems related to situations involving the optimization of a function subject to restrictions by using varied mathematical programming techniques and computing resources.

Entrepreneur: To build businesses with high productivity, profitability, and quality levels, which contribute to social, economic, and political development of the country through job creation and environmental friendliness.

industrial.utp.edu.co/ingenieria-industrial/

Faculty of Business Science - UTP
Industrial Engineering
Building N° 5

Program Objectives (PO)

P01. Prepare students to solve autonomously complex problems applying the knowledge learned through basic science, social studies, and engineering.

P02. Prepare students to optimize the use of resources for the company to achieve a competitive advantage through mathematical and statistical modeling.

P03. Prepare students to produce goods and services according to business environment demands.

P04. Prepare students to manage organizations with strategic planning according to the established regulations.

P05. Prepare students for an effective financial and economic management of organizations.

P06. Develop students holistically for them to use personal and professional skills with ethical, qualifying, and humanistic criteria.

P07. Boost students to develop entrepreneurial and social changing mindsets.

Program Outcomes (PO)

At the time of graduation, the UTP students completing the Industrial Engineering Program will be able to demonstrate the following outcomes:

P01. Solve problems autonomously in accordance with the procedures, the laws, and the languages concerning natural sciences and mathematics.

P02. Apply knowledge of the basics of engineering for the identification and handling of materials in the manufacturing processes, taking into account the quality characteristics of the product.

P03. Recognize the most important business and legal aspects of the own engineering discipline, acting in an ethical way.

P04. Design processes for the creation, innovation and production of goods and services to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, and health and safety.

P05. Design supply chains in accordance with the product requirements, the market needs, and the company restrictions.

P06. Develop strategic management in order to improve the efficiency and effectiveness of business processes taking into consideration the necessary machinery and resources.

P07. Develop marketing strategies for goods and services in terms of opportunity and sustainability criteria in a globalized world.

P08. Analyze business processes under the circumstances of the necessary resources through the use of mathematical optimization and statistical techniques.

P09. Employ mathematical models for collecting, processing, presenting, and analyzing information based on statistical principles and laws.

P010. Develop methods that allow to design new goods and services, showing an aptitude for creating added value through the highest financial, economic and social returns.

P011. Create business proposals aiming at generating social change and contributing to environmental sustainability.

P012. Apply business ethics and legal aspects of the own engineering discipline responding to local and global needs through sustainable solutions.

P013. Participate in the processes of citizenship construction and critical thinking development.

P014. Identify continually the need to learn more and have the capacity to successfully carry it out.

P015. Have the ability to communicate in Spanish and in a foreign language.

P016. Integrate research projects of industrial developments into organizational and societal needs.

Career perspective

UTP industrial engineers are skillful at:

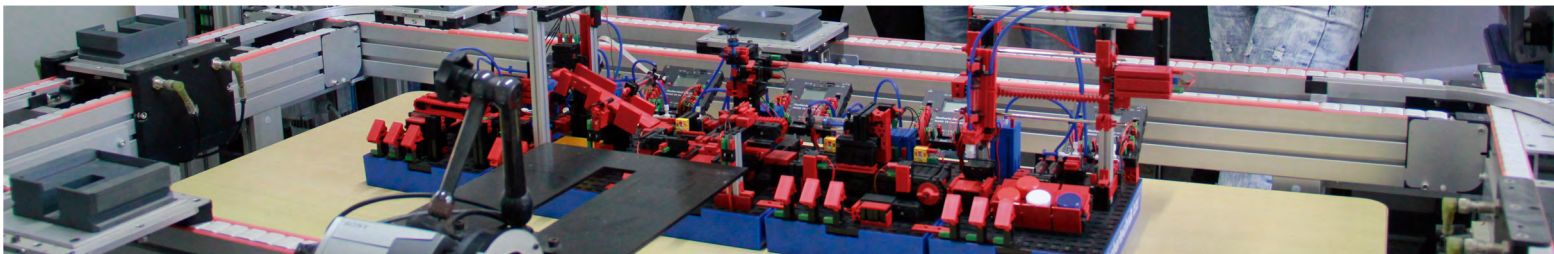
- Leading, administrating, controlling, and managing either public or private organizations based on relevant ethical principles as well as social responsibility.
- Participating in inter and intra disciplinary teams in a local, national, and international context, committed to the development of the country.
- Solving complex problems applying optimization tools and methods to seek productivity, quality, and competitiveness improvement.
- Investigating, innovating, and developing processes for the production and distribution of goods and services in all kind of organizations, searching for the highest financial, economic and social returns.
- Pursuing postgraduate studies.

Student's perspective

This program is well suited for those students who possess critical thinking and are good at optimizing industrial resources. Typically, these same students have a research and analytical oriented spirit. If you excel at creativity, innovation, competitiveness, leadership, teamwork, and tolerance, the Industrial Engineering degree may be the right opportunity for you.

industrial.utp.edu.co/ingenieria-industrial/

Faculty of Business Science - UTP
Industrial Engineering
Building N° 5



Industrial Engineering

Curriculum program

Semester	Course	AC
1^o Semester	Oral and Written Communication	2
	Humanities I	2
	Industrial Chemistry	2
	Mathematics I	5
	Computer Science Engineering I	3
	Introduction to Industrial Engineering	3
2^o Semester	Engineering Drawing and Design I	2
	Mathematics II	5
	Linear Algebra	3
	Computer Science Engineering II	2
	Biological Engineering	2
	Humanities II	2
3^o Semester	Engineering Management	3
	Physics I	4
	Physics Laboratory I	2
	Mathematics III	4
	Professional ethics	2
	Economics	3
4^o Semester	Physics II	4
	Physics Laboratory II	3
	Mathematics IV	2
	Managerial Accounting and Finance	3
	Statistics	3
	Organizational Psychology	2
5^o Semester	Physics III	2
	Physics Laboratory III	4
	Personnel Management	3
	Statistics II	3
	Costing Systems	3
	Engineering Mechanics I	3

Semester	Course	AC
6^o Semester	Electrotechnical Engineering	3
	Statistics III	2
	Financial Analysis	3
	Salary Administration	3
	Materials Resistance I	3
	Thermodynamics I	3
	Materials Resistance Laboratory	1
7^o Semester	Operations Research I	3
	Engineering Economics	3
	Engineering Methods	3
	Stochastic Models	3
	Markets I	3
	Social Science and Humanities elective	8
8^o Semester	Production I	3
	Operations Research II	3
	Occupational Health	3
	Civic and Political Constitution	2
	Research Seminar	2
	Markets II	3
9^o Semester	Production II	3
	Project Formulation and Evaluation	3
	Simulation	3
	Plant Design	3
10^o Semester	Production III	3
	Total Quality Management	4
	Specialized Seminar	5
	Thesis Work	5
	Propaedeutic Formation	5
	Community extension services	5

AC Academic credit

Number of courses: 58 / Number of credits: 175

industrial.utp.edu.co/ingenieria-industrial/

Faculty of Business Science - UTP
Industrial Engineering
Building N° 5

DINÁMICOS • Ajedrez de la quincena

Ht: @xencuentro2014. Fb:



Industrial Engineering

Faculty of Business Science

Layout: Computing and Educational Resources CRIE
CRIE - UTP - Tels: 313 7140

For more information about the program

Industrial Engineering
Faculty of Business Sciences - UTP
Building N° 5 Office 5- 438

Web: industrial.utp.edu.co/ingenieria-industrial/

Email: faciem@utp.edu.co - pii@utp.edu.co

Tel: (57) (6) 313 72 05

Registration

www.utp.edu.co/inscripciones/



Admissions, Registration and Academic Record's Office - Building 3 – UTP

Email: inscripcion@utp.edu.co

Tel: (57) (6) 313 71 39 - Switchboard (57) (6) 313 73 00

Exts: 7176 - 7177 - 7178 - 7179 - 7182 - 7183

UTP Adress: Cra. 27 N° 10 - 02 Los Álamos - Pereira - Risaralda - Colombia



Universidad
Tecnológica
de Pereira

Social Media:



Monitored by MINEDUCACION

Resolution 12220 of 2016

Do you need financing to pay your tuition?

Visit: www.utp.edu.co/fasut

Email: fasutup@utp.edu.co - icetex@utp.edu.co

Tels: (57) (6) 321 00 29 - 313 74 05



industrial.utp.edu.co/ingenieria-industrial/

Faculty of Business Science - UTP
Industrial Engineering
Building N° 5