



# PROGRAMS INFORMATION

**Program Educational Objectives (PEO), Student Outcomes and Statistics**

**Programs: Civil Engineering, Electronics Engineering, Industrial Engineering and Systems Engineering.**

## Contents

Civil Engineering.....	3
Program Educational Objectives (PEO) .....	3
Student Outcomes .....	3
Statistics .....	4
Electronics Engineering.....	5
Program Educational Objectives (PEO) .....	5
Student Outcomes .....	5
Statistics .....	6
Industrial Engineering .....	7
Program Educational Objectives (PEO) .....	7
Student Outcomes .....	7
Statistics .....	8
Systems Engineering .....	9
Program Educational Objectives (PEO) .....	9
Student Outcomes .....	9
Statistics .....	10

## Civil Engineering

### Program Educational Objectives (PEO)

The Civil Engineer graduated from the Pontificia Universidad Javeriana will have a solid technical foundation in all areas of his profession; with analytical skills for the solution of engineering problems related to the life cycle of building and infrastructure projects; supported by knowledge of the sustainable and regulatory framework of the context, with the ethical commitment of the professional activity.

Additionally, he/she will have the ability to lead projects and interact effectively in interdisciplinary work teams; with an attitude of autonomous learning and willingness to serve.

The Program Educational Objectives (PEO) for the Civil Engineering program at Pontificia Universidad Javeriana are designed so that in three to five years following graduation, graduates will:

- Apply scientific and technical knowledge in the solution of engineering problems related to the life cycle of building and infrastructure projects.
- Make decisions from the ethical commitment and willingness to serve the needs of a country or regions, aware of the social and environmental responsibility involved in their interventions in public and private projects.
- Lead multidisciplinary work teams and promote the use of technological tools for the efficient development of building and infrastructure projects.
- Advance in their professional growth through postgraduate studies, continuing education or autonomous learning during their professional life.

### Student Outcomes

The Civil Engineering Student Outcomes (SO) are a set of knowledge, skills, and attitudes that every student should be able to demonstrate when they receive their Civil Engineering degree. The Student Outcomes for Civil Engineering are the following:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## Statistics

<b>Semester</b>	<b>Students</b>	<b>New Entry Students (First Semester)</b>	<b>Graduates</b>
2016-1	853	207	39
2016-3	836	61	40
2017-1	855	110	50
2017-3	828	84	57
2018-1	877	133	64
2018-3	835	56	49
2019-1	826	93	54
2019-3	772	40	50
2020-1	752	65	47
2020-3	691	35	71
2021-1	660	58	78
2021-3	610	39	65
2022-1	553	53	85*

\*Until March, 2022

# Electronics Engineering

## Program Educational Objectives (PEO)

The Program Education Objectives (PEOs) of the electronics engineering program at Javeriana University (PUJ) are designed so that in the years following graduation, electronics engineering graduates can demonstrate the following characteristics:

1. Our graduates will be recognized by their professional or academic leadership, generating multidisciplinary projects through the conception, design and implementation of high value electronics engineering systems and technologies, with social and environmental responsibility.
2. Our graduates will have opted for graduate engineering or complementary studies as an alternative for professional growth.
3. Our graduates will generate innovative and entrepreneurial projects under competitive business models.

## Student Outcomes

The Electronics Engineering (EE) program adopted the ABET Student Outcomes (1-7).

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## Statistics

<b>Semester</b>	<b>Students</b>	<b>New Entry Students (First Semester)</b>	<b>Graduates</b>
2016-1	579	127	43
2016-3	551	41	48
2017-1	600	122	41
2017-3	558	37	38
2018-1	583	90	32
2018-3	553	39	41
2019-1	548	57	26
2019-3	515	20	17
2020-1	499	41	34
2020-3	445	16	17
2021-1	426	30	38
2021-3	392	21	46
2022-1	328	29	65*

\*Until March, 2022

# Industrial Engineering

## Program Educational Objectives (PEO)

A few years after graduation, industrial engineers from Pontificia Universidad Javeriana will have:

1. Played a leadership role in improving the performance of an industrial or service systems by working in multidisciplinary teams
2. Incorporated the social, environmental, and ethical dimensions in their professional lives
3. Updated their knowledge and stayed connected to professional networks
4. Developed and participated in entrepreneurial endeavors

## Student Outcomes

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## Statistics

<b>Semester</b>	<b>Students</b>	<b>New Entry Students (First Semester)</b>	<b>Graduates</b>
2016-1	1377	130	128
2016-3	1363	159	107
2017-1	1404	189	95
2017-3	1352	121	121
2018-1	1344	149	113
2018-3	1287	85	106
2019-1	1272	126	90
2019-3	1198	83	93
2020-1	1128	118	114
2020-3	1068	74	117
2021-1	1088	129	104
2021-3	1025	79	94
2022-1	978	95	89*

\*Until March, 2022



# Systems Engineering

## Program Educational Objectives (PEO)

The Systems Engineering professional from Javeriana University, after 5 years of graduation, will:

### **Problem solving:**

- Practiced Systems Engineering through the identification, analysis and creative solution of problems, exercising critical thinking and with a systemic perspective, and through the design, implementation and effective management of IT solutions and services, applying principles of the discipline.

### **Collaboration:**

- Developed a professional career in which he/she puts at the service, of the groups in which he/she works, his/her communication, leadership, cooperation, autonomy, continuous learning and adaptation skills, in order to support and guide the fulfillment of common objectives.

### **Social responsibility:**

- Obtained recognition for being an integral professional, who pursues advanced studies, who is aware of the impact that must generate in society, committed to an ethical behavior and who contributes to sustainable development with innovative and context-appropriate solutions.

## Student Outcomes

1. An ability to identify Systems engineering problems and opportunities in several contexts; establish solution alternatives and select the most appropriate, implementing it using information technology by applying knowledge of mathematics, basic sciences and Systems Engineering.
2. An ability to design IT systems and services to solve problems and take advantage of opportunities in several contexts, to meet desired needs and constraints and consideration of economic, environmental, social, political, ethical, health and safety, as well as global factors
3. An ability to communicate in an assertive manner in oral and written form, using appropriate tools, with a range of audiences. Listen and reflect in order to ensure effective communication in technical and non-technical environments

4. An ability to recognize professional and ethical responsibility and the willingness to act accordingly. Have an attitude of service to society considering the impact of technology in a global, economic, environmental, and societal context.
5. An ability to function effectively on a team, whose members participate in collective leadership, creating a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to design protocols to test, evaluate and manage the quality of IT systems and services, and an ability to integrate, analyze, interpret data and draw conclusions
7. An ability to acquire new concepts, technologies and tools and apply them in professional development.

## Statistics

<b>Semester</b>	<b>Students</b>	<b>New Entry Students (First Semester)</b>	<b>Graduates</b>
2016-1	340	59	15
2016-3	350	49	23
2017-1	393	100	25
2017-3	394	42	22
2018-1	436	87	28
2018-3	421	41	33
2019-1	457	73	18
2019-3	441	42	22
2020-1	465	73	30
2020-3	458	47	29
2021-1	537	103	23
2021-3	544	79	36
2022-1	620	157	61*

\*Until March, 2022