



### FIRST YEAR

Fall semester (Q1)	
Mathematics fundamentals	6
Linear algebra	6
Física aplicada	6
Geología aplicada	6
Expresión gráfica	6

Spring semester (Q2)	
Cálculus	6
Urbanism & regional systems	6
Mechanics I	6
Business & construction legislation	6
Chemistry of materials	6

### SECOND YEAR

Fall semester (Q1)	
Geomatics	6
Construction materials	6
Vector calculus & differential equations	6
Mechanics II	6
Probability & statistics	6

Spring semester (Q2)	
Hydraulics	6
Strength of materials	6
Numerical methods in engineering	6
Representation techniques	6
Environmental technology	6

### THIRD YEAR

Fall semester (Q1)	
Geotechnics	6
Structures	6
Transportation infrastructures	6
Surface & groundwater hydrology I	6
Construction management	6

Spring semester (Q2)	
Reinforced concrete	6
Metallic constructions	6
Construction methods & electrical engineering	6
Public works project	6
Transportation systems	6

### FOURTH YEAR

#### STUDY LOAD

Common mandatory	9 ECTS
Mandatory by itinerary	19.5 ECTS
Common elective	10.5 ECTS
Elective by itinerary	9 ECTS
Bachelor's thesis	12 ECTS
<b>Total</b>	<b>60 ECTS</b>

#### Common elective courses (Q1)

Graphic design & numerical analysis	4.5
GIS & remote sensing	4.5
Social impact of public constructions	4.5
History of civil engineering	4.5

#### Common elective courses (Q1)

Machine learning & data science (in English)	4.5
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#### ITINERARY IN TECHNOLOGY APPLIED TO CIVIL CONSTRUCTIONS

Fall semester (Q1)	
Maritime constructions	4.5
Geotechnical engineering	4.5
Structural design	6
Construction of bridges & other structures	6
Prestressed concrete	4.5

Spring semester (Q2)	
Building construction & prefabrication	7.5
Introduction to structure management	4.5
Construction management	4.5
Geotechnical constructions	4.5
Bachelor's thesis	12

#### ITINERARY IN TECHNOLOGY APPLIED TO HYDROLOGY

Fall semester (Q1)	
Maritime constructions	4.5
Geotechnical engineering	4.5
Hydraulic constructions	6
Sanitary engineering	4.5
Environmental impact on maritime works	4.5

Spring semester (Q2)	
Surface & groundwater hydrology II	4.5
Port engineering	4.5
Water supply	4.5
Design & analysis tools in hydraulic engineering	4.5
Bachelor's thesis	12

#### ITINERARY IN TECHNOLOGY APPLIED TO URBAN TRANSPORTATION & SERVICES

Fall semester (Q1)	
Maritime constructions	4.5
Geotechnical engineering	4.5
Construction of transportation infrastructures	6
Transportation management	6
Elements of urban sustainability	4.5

Spring semester (Q2)	
Administration, urban planning & public services	7.5
Infrastructure preservation	4.5
Urban logistics & transportation terminals	4.5
Bachelor's thesis	12

#### COMMON MANDATORY

- Basic sciences
- Applied sciences for engineering
- Structural & foundation engineering

- Introduction to technology
- Engineering tools

- Water technology
- Transportation technology
- Project & construction of works and infrastructures

#### ITINERARY COURSES

- Elective common to the 3 itineraries
- Mandatory by itinerary
- Elective by itinerary