

School of Civil Engineering of Barcelona UPC BARCELONATECH

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Curriculum

Bachelor's Degree in Civil Engineering Technologies (2020-2021)

| FIRST YEAR | | SECOND YEAR | | THIRD YEAR | | | FOURTH YEAR | | |
|--|---|--|---|---------------------------------------|---|-----|----------------------------------|----|--|
| Fall semester | | Fall semester | | Fall semester | | | Fall semester | | |
| Physics | 6 | Differential geometry & differential equations | 6 | Soil mechanics | 6 | | Optional subjects | 6 | |
| Mathematics | 6 | Urbanism | 6 | Numerical modelling | 6 | 1 1 | Optional subjects | 6 | |
| Materials chemistry | 6 | Strength of materials & structures | 6 | Structural analysis | 6 | 1 1 | Optional subjects | 6 | |
| Economics, business & law | 6 | Probability & statistics | 6 | Structural technology I | 6 | 1 | Optional subjects | 6 | |
| Metric geometry & representation systems | 6 | Mobility & transport networks | 6 | Surface & groundwater hydrology | 6 | | Optional subjects | 6 | |
| Spring semester | | Spring semester | | Spring semester | | | Spring semester | | |
| Algebra & geometry | 6 | Mathematical models of physics | 6 | Communication techniques | 6 | | Optional subjects | 6 | |
| Geology | 6 | Hydraulics & hydrology | 6 | Structural technology II | 6 | 1 | Optional subjects | 6 | |
| Rational mechanics | 6 | Geomatics & geographic information | 6 | Maritime & port engineering | 6 | 1 | Projects & business organisation | 6 | |
| Calculus | 6 | Environmental engineering | 6 | Geotechnical & geological engineering | 6 | | Bachelor's Final Thesis | 12 | |
| Construction materials | 6 | Boads & railways | 6 | Construction procedures & | 6 | ן י | | | |

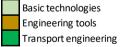
OPTIONAL SUBJECTS

Construction materials

| Fall semester | Spring semester | | | | | |
|---|--------------------------------------|--|--|--|--|--|
| Risk assessment for natural hazards | Software tools for civil engineering | | | | | |
| Instrumentation and remote sensing | Urban mobility and decision support | | | | | |
| Machine learning and data science | Digital twins and augmented reality | | | | | |
| Programming for science and engineering | Entrepeneurship and innovation | | | | | |
| Sustainability, social and environmental impact | | | | | | |

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Basic sciences Engineering applied sciences



Roads & railways

Structural analysis and technologies Water cycle engineering Geotechnical engineering

electrotechnics

Optional subjects related to civil engineering

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Project and construction of public works and infrastructures