



THE PROGRAM OF THE UNDERGRADUATE PROFESSIONAL STUDY OF CIVIL ENGINEERING

The undergraduate professional study of Civil Engineering at the Faculty of Civil Engineering, Architecture and Geodesy lasts three academic years and is organised in six semesters.

The syllabus (curriculum) consists of compulsory and elective courses. It is aligned with the European Credit Transfer and Accumulation System (ECTS) of the European Higher Education Area (EHEA) and students accumulate minimum of 60 ECTS each academic year. In order to obtain qualification (bachelor degree, first cycle) students have to accumulate minimum of 180 ECTS.

Upon completion students are awarded the academic title and corresponding qualification stručni prvostupnik/prvostupnica (baccalaureus/baccalaurea) inženjer/inženjerka građevinarstva (Professional Bachelor in Civil Engineering). Students may continue their studies at graduate professional study in civil engineering or similar engineering fields, or enter the labour market. In Croatia, students may also continue their studies at graduate professional study in civil engineering after achieving additional learning outcomes.

Syllabus

The tables below show information for the actual (spring) and the former (autumn) semester. Detail plans for specific semesters and academic years are published on the following Faculty's web site: [this link](#).

| Teacher | Course | Related learning outcomes | Teaching and learning | Assessment | Code | Hours | ECTS |
|------------------------------------|--|---------------------------|-----------------------|------------|--------|-------|------|
| I. semester | | | | | | | |
| S. Pavasović | Mathematics | a | 1,2 | 1,2 | GAB021 | 60+60 | 9,0 |
| V. Kozulić | Technical Mechanics I | a,b | 1,2,3 | 1,2 | GAD021 | 30+45 | 7,0 |
| M. Vulević | Basics of Engineering Informatics I | a,f | 1,3 | 3 | GAB022 | 15+45 | 4,0 |
| T. Duplančić-Leder | Geodesy | f,h | 1,2,3,4 | 1,2 | GAF021 | 30+30 | 5,0 |
| V. Kukoč | Building Elements I | g,h,l,m | 1,2,3 | 1,2,3 | GAM021 | 30+30 | 5,0 |
| II. semester | | | | | | | |
| I. Nižetić | Building Elements II | g,h,l,m | 1,2,3 | 1,2 | GAM022 | 30+30 | 5,0 |
| Ž. Nikolić, N. Živaljić | Building Physics | a,h,i,l,m | 1,2,3 | 1 | GAM023 | 15+15 | 2,0 |
| M. Andrić | Descriptive Geometry | a,f | 1,2,3, | 1,2 | GAC021 | 30+30 | 5,0 |
| V. Kozulić | Technical Mechanics II | a,b | 1,2,3 | 1,2 | GAD022 | 30+45 | 7,0 |
| S. Juradin | Building Materials | g,h,i,m | 1,2,3,5 | 1,2 | GAN021 | 30+30 | 6,0 |
| V. Denić-Jukić | Hydrology | d,e,m | 1,2,3,4 | 1,2 | GAI021 | 30+30 | 5,0 |
| III. semester | | | | | | | |
| I. Balić | Designing and Analysing Structures by Computer | a,b,c,h,l,m | 1,2,3 | 1,2,3 | GAO121 | 15+45 | 5,0 |
| S. Knezić | Construction Technology | g,h,i,l,m | 1,2,3 | 1,2 | GAL121 | 30+30 | 5,0 |
| P. Miščević, N. Štambuk Cvitanović | Soil Mechanics and Foundations | a,h,j | 1,2,3,4,5 | 1,2 | GAG021 | 30+30 | 5,0 |
| D. Cvitanić, D. Breški | Roads | f,l,m | 1,2,3 | 1,2 | GAF121 | 30+30 | 5,0 |
| J. Margeta | Water Supply and Sewerage System | d,e,h | 1,2,3 | 1,2,3 | GAJ121 | 30+30 | 5,0 |
| V. Herak-Marović | Concrete Structures I | a,b,c,h,i | 1,2,3 | 1 | GAE121 | 45+15 | 5,0 |
| IV. semester | | | | | | | |
| V. Herak-Marović, N. Grgić | Concrete Structures II | a,b,c,h,i,m | 1,2,3,4 | 1,2 | GAE122 | 30+45 | 6,0 |
| B. Trogrlić | Masonry Structures | a,b,c,h,i | 1,2,4 | 1,2 | GAO122 | 30+30 | 5,0 |
| I. Boko | Metal Structures | a,b,c,h,i | 1,2,3,4 | 1,3 | GAP122 | 30+30 | 5,0 |
| D. Bojanić | Basics of Water Engineering | a,d,h | 1,2,3,4,5 | 1,2 | GAH121 | 30+30 | 5,0 |
| T. Vlahović, P. Miščević | Engineering Geology and Earthworks | g,h,i,j,l | 1,2,3,4 | 1,2 | GAG022 | 30+15 | 4,0 |
| N. Torić | Timber Structures | a,b,c,h,i | 1,2,3,4 | 1,3 | GAP121 | 30+30 | 5,0 |

| Teacher | Course | Related learning outcomes | Teaching and learning | Assessment | Code | Hours | ECTS |
|-------------------------|--|--|-----------------------|------------|--------|-------|------|
| V. semester | | | | | | | |
| N. Ostojčić-Škomrlj | Construction Management I | g,h,k,l,m | 1,2,3 | 1,2 | GAL122 | 30+30 | 5,0 |
| D. Mateššan | Bridges | b,h,l | 1,2,3,4 | 1,2,3 | GAE221 | 30+30 | 6,0 |
| V. Srzić | Marine Structures | a,c,h | 1,2,3,5 | 1,2,3 | GAK221 | 30+30 | 6,0 |
| B. Trogrlić | Execution of Building Works | g,h,j,k,l,m | 1,4 | 1,2,3 | GAP221 | 50+10 | 5,0 |
| I. Balić | Building Regulations | h,k,l,m | 1,3 | 2,3 | GAP021 | 30+00 | 3,0 |
| N. Jajac | Basics of Entrepreneurship | g,l,m | 1,2,3 | 1,2 | GAL021 | 30+30 | 5,0 |
| VI. semester | | | | | | | |
| N. Ostojčić-Škomrlj | Construction Management II | g,h,k,l,m | 1,2,3 | 1,2 | GAL123 | 30+30 | 5,0 |
| N. Jajac | Internship | h,k,l,m | 6 | 3 | GAL221 | | 5,0 |
| | Elective courses (min 15 ECTS) | | | | | | |
| | Final work | a,h,k,l,m | 7 | 3 | GAX221 | | 5,0 |
| Elective courses | | | | | | | |
| I. Nižetić | Building Design | As listed in the detail plans at the Faculty's web site. | 1,2,3 | 1,2 | GAM121 | 30+30 | 5,0 |
| A. Harapin, M. Galić | Installations | | 1,2,3 | 1,3 | GAM122 | 30+15 | 4,0 |
| B. Viđak | Railways | | 1,2,3 | 1,2 | GAF122 | 30+30 | 5,0 |
| D. Bojanić | Tunnels and Underground Structures | | 1,2,3,4 | 1,2 | GAH221 | 30+30 | 5,0 |
| D. Jukić | Water Protection | | 3 | 1,3 | GAJ122 | 30+30 | 5,0 |
| N. Jajac | Basics of Business Economy | | 1 | 1,2,3 | GAL022 | 30+00 | 2,0 |
| A. Mršić Zdilar | English Language | | 1,2 | 1,2 | GAA022 | 30+30 | 5,0 |

Learning outcomes – Undergraduate professional study of civil engineering

| Label | Units of learning outcomes |
|-------|---|
| a | To apply mathematical analysis and linear algebra methods to solve engineering problems |
| b | To recognise and solve stability and mechanical strength problems of simple, statically determinate and indeterminate structures. |
| c | To design reinforced concrete, metal, masonry, timber and coastal structures with simple geometry. |
| d | To perform calculation of simple problems of open channel flow and pressurised systems |
| e | To interpret results of hydrological calculation of free surface flows. |
| f | To create a conceptual design of a rural road. |
| g | To interpret construction processes and manage construction site. |
| h | To participate in the design process, construction work and issuing of legal documents related to the construction work |
| i | To recognise, classify and compare characteristics of construction materials. |
| j | To classify and determine physical and mechanical properties of soil, to determine dimensions of foundations and retaining structures, as well as to calculate slope stability. |
| k | To participate in documentation management at the construction site. |
| l | To participate in appraisal of various solutions with associates and stakeholders in the construction process respecting ethical principles. |
| m | To stand for and present attitude with respect to civil and related engineering problems in order to adapt to and participate in the teamwork. |

Teaching and learning:

1. Lectures: a teacher teaches ex-cathedra or uses some forms of interactive lectures.
2. Theoretical exercises: teacher demonstrates to students how to solve standard mathematical or engineering tasks.
3. Practical exercises: students solve and prepare practical assignments under supervision of the teacher in standard or IT equipped classrooms.
4. Field exercises: students and teachers visit, or students perform small-scale practical work at construction sites, factories, production plants, etc.
5. Lab exercises: the teacher demonstrates experiments/tasks to students, or students perform their own experiments/tasks in the laboratory under the supervision of teachers and/or technicians.

6. Internship: students perform practical work at construction sites during semester or summer vacations.
7. Independent work: theoretical or practical assignment under the supervision of a teacher.

Assessment:

1. Written exams: students solve tasks as the paperwork or by a computer in IT equipped classrooms. They may be performed throughout the semester or during the examination period.
2. Oral exams: a teacher poses questions to students in a spoken form.
3. Presentation or defence of a practical or written assignment.