



UNIVERSITÀ DEGLI STUDI DI PALERMO

Department: Engineering

A.Y. 2020/2021

DEGREE COURSE IN CIVIL ENGINEERING

Characteristics



Class of Bachelor's Degree
(BSc) on Civil and
environmental engineering
(L-7)



3 YEARS



PALERMO



FREE ACCESS



2221

Educational objectives

The Degree Course in Civil Engineering specifically aims at educating professionals capable of having technical and technical-organizational positions in contexts requiring the knowledge of the methodological-operational aspects of core sciences as well as of civil engineering. For this reason, the course provides for the basic mathematics-physics and scientific-technical training needed to interpret, describe and solve specific problems, enabling students to learn, through individual study too and to update their competences, both autonomously and through specific teachings.

The objective is to enable undergraduates to enter the labour market with the autonomous capability of changing and adapting to various functions (technician releasing authorizations and the like in public agencies and administrations, yard technicians, planning support, etc...) without being limited in closed areas by an excessively sectorial training.

The course will provide basic knowledge with respect to:

- The principles, methods and tools for modelling and calculation of structures, as well as the criteria for the design of structural elements and structures of medium complexity in reinforced concrete and steel by means of recurrent patterns.
- The principles, methodologies and tools for the calculation of the design variables and the design of hydraulic structures of medium complexity in urban and suburban areas, through the application of recurring and consolidated computational methods.
- The criteria and methods for geometric design of road infrastructures and their safety, management and construction.
- The engineering of transport systems (urban collective, railroad, individual), with respect to the analysis of transport demand and supply.
- Survey Engineering and the criteria, problems and methodologies for the survey, control, monitoring and representation of structures and land, as well as the basic methods for data processing with respect to the system and the realization of topographic surveys of medium complexity at different scales and extension.
- The principles of the physical and mechanical characterization of land and the main experimental methods for the identification of the relevant parameters.
- The methods to perform experimental tests of medium difficulty and interpreting data in various fields of Civil Engineering.

The course is structured as follows:

- The first year provides the basic knowledge for achieving a scientific language in mathematics, chemistry, physics and representation, preparatory for further studies, and also the testing of at least one foreign language;
- During the second year students will study some disciplines in the fields of mathematics and physics as well as other disciplines of civil engineering, useful for the scientific and technical training needed to interpret, describe and solve the typical issues of the educational programme.
- The third year provides for the typical applied knowledge of the class L -7 aiming at the achievement of the above-mentioned specific objectives.

The educational methods and teaching tools through which the expected learning outcomes are achieved are the following: lectures and classroom exercises, laboratory activities, technical visits, internships at companies, government agencies, professional firms and engineering companies, seminars, participation in Conferences.

The programme is completed by elective courses (at least 12 credits), other activities, useful for entering the labour market (at least 3 credits) and the final examination (at least 3 credits), aiming at assessing the achievement of learning outcomes as well as students' independence of judgment and communication skills.

Legenda: Per. = periodo o semestre, Val. = Valutazione (V=voto, G=giudizio), TAF= Tipologia Attività Formativa (A=base, B=caratterizzante, C=Affine, S=stages, D=a scelta, F=altre)

Professional opportunities

Profile:

Civil Engineer

Functions:

1st cycle graduates in Civil Engineering may have the role of civil Construction Technician, carrying out activities based on the application of science, aiming at providing support and collaboration to:

- The design, supervision of works, estimation and testing of public works;
- Accounting activities related to simple civil construction, through the use of standardized methodologies;
- Various kinds of direct, instrumental and geometric surveys.

Skills:

Civil construction technicians possess adequate knowledge of:

- the principles, methods and tools for the modelling and calculation of structures, as well as the criteria underlying the design of structural elements and medium complexity structures, through the application of recurring patterns;
- the principles, methodologies and tools for calculating the project variables and for the design of medium complexity hydraulic works;
- the criteria and methods for the geometric design of road infrastructures and their safety;
- the criteria and methodologies for the survey, control, monitoring and representation of the structures and of the territory and of the basic methods in the processing of data relating to the plant and the implementation of medium complexity topographic surveys;
- the principles of the physical-mechanical characterization of the lands and the main methodologies for determining the relative parameters;
- The methods for conducting medium difficulty experimental tests and interpreting data in various sectors of Civil Engineering.

Professional opportunities:

The Civil Construction Technician can work in the following areas:

Private practice, public bodies with technical branches, public and private companies, engineering companies, civil construction industries.

Final examination features

To obtain the degree, students must have acquired 180 credits, including the credits related to the final examination. The final examination aims at ascertaining the maturity level and the critical skills of undergraduates, with respect to the acquired competences, as a completion of the activities provided by the degree course. The final examination consists of an oral exam, in accordance with the provision of the Course regulations for each academic year, and with the timing, the ministerial prescription and the relevant University guidelines.

Subjects 1 ^o year	CFU	Sem.	Val.	SSD	TAF
07873 - DESIGN AND CAD <i>Inzerillo(PA)</i>	9	1	V	ICAR/17	B
03675 - GEOMETRY <i>Lucchesi(PC)</i>	6	1	V	MAT/03	A
19109 - MATHEMATICAL ANALYSIS - INTEGRATED COURSE	12	Ann.	V		
- MATHEMATICAL ANALYSIS - MODULE 1 <i>Tornatore(PA)</i>	6	1		MAT/05	A
- MATHEMATICAL ANALYSIS - MODULE 2 <i>Triolo(PA)</i>	6	2		MAT/05	A
04677 - ENGLISH LANGUAGE	3	1	G		E
03657 - APPLIED GEOLOGY <i>Rotigliano(PO)</i>	6	2	V	GEO/05	B
15616 - CHEMISTRY <i>Bellardita(PA)</i>	6	2	V	CHIM/07	A
13867 - PHYSICS 1 <i>Agnello(PO)</i>	9	2	V	FIS/03	C
17716 - TECHNOLOGY OF MATERIALS <i>Fiore(PA)</i>	6	2	V	ING-IND/22	C

57

Legenda: Per. = periodo o semestre, Val. = Valutazione (V=voto, G=giudizio), TAF= Tipologia Attività Formativa (A=base, B=caratterizzante, C=Affine, S=stages, D=a scelta, F=altre)

Subjects 2 ° year	CFU	Sem.	Val.	SSD	TAF
06313 - MECHANICS OF MATERIALS AND THEORY OF STRUCTURES <i>Di Paola(PQ)</i>	9	1	V	ICAR/08	B
07870 - PHYSICS II <i>Valenti(PO)</i>	6	1	V	FIS/01	A
04954 - RATIONAL MECHANICS <i>Sammartino(PO)</i>	9	1	V	MAT/07	A
03769 - HYDRAULICS <i>Ferreri(PA)</i>	9	2	V	ICAR/01	B
01463 - TECHNICAL ARCHITECTURE <i>Vinci(PA)</i>	9	2	V	ICAR/10	B
07626 - TOPOGRAPHY <i>Dardanelli(PA)</i>	6	2	V	ICAR/06	B
Free subjects	12				D

60

Subjects 3 ° year	CFU	Sem.	Val.	SSD	TAF
07189 - APPLIED CONSTRUCTIONS <i>La Mendola(PO)</i>	9	1	V	ICAR/09	B
09128 - ROAD DESIGN <i>Grana'(PO)</i>	9	1	V	ICAR/04	B
03318 - TECHNICAL PHYSICS	9	1	V		
- MODULE I <i>La Gennusa(PA)</i>	6	1		ING-IND/11	B
- MODULE II <i>La Gennusa(PA)</i>	3	1		ING-IND/09	C
17613 - TRANSPORTATION TECHNIQUE AND ECONOMICS AND VALUATION - INTEGRATED COURSE	12	Ann.	V		
- TRANSPORTATION TECHNIQUE AND ECONOMICS <i>Salvo(PA)</i>	6	1		ICAR/05	B
- ECONOMICS AND LAND VALUATION <i>Napoli(PA)</i>	6	2		ICAR/22	C
03699 - GEOTECHNICS <i>Ferrari(PO)</i>	9	2	V	ICAR/07	B
03787 - HYDROLOGY <i>Cannarozzo(PA)</i>	6	2	V	ICAR/02	B
05917 - FINAL EXAMINATION	3	2	V		E
Stage and others	6				F

63

OPTIONAL SUBJECTS

Stage and others	CFU	Sem.	Val.	SSD	TAF
21167 - INTERNSHIP 2 CREDITS	2	1	G		F
11033 - INTERNSHIP 3 CREDITS	3	1	G		F
15458 - INTERNSHIP 4 CREDITS	4	1	G		F
11351 - INTERNSHIP 5 CREDITS	5	1	G		F
11028 - INTERNSHIP 6 CREDITS	6	1	G		F
11034 - OTHER EDUCATIONAL ACTIVITIES - 1 CREDIT	1	1	G		F
11035 - OTHER EDUCATIONAL ACTIVITIES - 2 CREDITS	2	1	G		F

Legenda: Per. = periodo o semestre, Val. = Valutazione (V=voto, G=giudizio), TAF= Tipologia Attività Formativa (A=base, B=caratterizzante, C=Affine, S=stages, D=a scelta, F=altre)

OPTIONAL SUBJECTS

Stage and others	CFU	Sem.	Val.	SSD	TAF
11036 - OTHER EDUCATIONAL ACTIVITIES - 3 CREDITS	3	1	G		F
11037 - OTHER EDUCATIONAL ACTIVITIES - 4 CREDITS	4	1	G		F
11038 - OTHER EDUCATIONAL ACTIVITIES - 5 CREDITS	5	1	G		F
11039 - OTHER EDUCATIONAL ACTIVITIES - 6 CREDITS	6	1	G		F

PROPAEDEUTICAL TEACHINGS

- 03699 - GEOTECHNICS
 - 03657 - APPLIED GEOLOGY
 - 06313 - MECHANICS OF MATERIALS AND THEORY OF STRUCTURES
 - 03769 - HYDRAULICS
- 03769 - HYDRAULICS
 - 19109 - MATHEMATICAL ANALYSIS - INTEGRATED COURSE
- 03787 - HYDROLOGY
 - 03769 - HYDRAULICS
- 04954 - RATIONAL MECHANICS
 - 19109 - MATHEMATICAL ANALYSIS - INTEGRATED COURSE
- 06313 - MECHANICS OF MATERIALS AND THEORY OF STRUCTURES
 - 03675 - GEOMETRY
 - 04954 - RATIONAL MECHANICS
- 07189 - APPLIED CONSTRUCTIONS
 - 06313 - MECHANICS OF MATERIALS AND THEORY OF STRUCTURES
- 07626 - TOPOGRAPHY
 - 19109 - MATHEMATICAL ANALYSIS - INTEGRATED COURSE
- 09128 - ROAD DESIGN
 - 07626 - TOPOGRAPHY
 - 07873 - DESIGN AND CAD
- 17716 - TECHNOLOGY OF MATERIALS
 - 15616 - CHEMISTRY

Legenda: Per. = periodo o semestre, Val. = Valutazione (V=voto, G=giudizio), TAF= Tipologia Attività Formativa (A=base, B=caratterizzante, C=Affine, S=stages, D=a scelta, F=altre)