

Why
Enroll ?

Analyze, experiment, design safe and sustainable structural and geotechnical works

The Structural and Geotechnical Engineering Master Course trains engineers characterized by a solid basic culture, a good knowledge of the fundamental application subjects and a more in-depth training in specific application and professional sectors of Civil Engineering. This is aimed at setting up, carrying out and managing even complex design activities, which allow various professional outlets.



Polytechnic and Basic Sciences School

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DiSt - Department of Structures for Engineering and Architecture

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Master of Science in Structural and Geotechnical Engineering

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UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II
SCUOLA POLITECNICA E DELLE SCIENZE DI BASE

ENGINEERING

INTERNATIONAL
MASTER OF SCIENCE
**STRUCTURAL AND
GEOTECHNICAL
ENGINEERING**
STReGA



PROGRAM ORGANIZATION

The Master of Science in Structural and Geotechnical Engineering (StreGa) is a two-years Master of Engineering course, all provided in English.

The program aims to train experts with special attention to topics such as earthquake engineering, innovative structural materials, retrofit and upgrading of existing constructions, innovative systems of structural control, new monitoring and diagnostic technologies, advanced technologies for foundation and excavation engineering, seismic geotechnical engineering, wind engineering and structural fire engineering.

The various range of skills acquired by the STREGA Graduates can find applications related to the following types of structures and infrastructures: residential buildings, industrial plants, roads and rail infrastructures (bridges, viaducts, tunnels), hydraulic works (dams and reservoirs), great sport facilities, marine facilities both inshore and offshore, shallow and deep foundations, supporting structures, loose materials embankments, underground constructions.



ADMISSION REQUIREMENTS

For admission, a bachelor (3 or 4 years) degree in Civil/ Architectural/Building/Environmental Engineering released by a recognized Italian or foreign University is required. A committee appointed by the faculty council of StreGa decides about admissions and (if necessary) indicates specific pre-requisite courses needed to be completed before admission.

Every year, Italian Ministry of Foreign Affairs launches a call that offers scholarship to students from all around the world who want to study in Italy. The deadline for application is usually towards the end of May.

MASTER OF SCIENCE COURSE

TRAINING PATH (120 ECTS)

FIRST YEAR

ECTS

Additional training requirements, if necessary*	18
Earthquake engineering and structural control	9
Static and seismic foundation design	9
Limit analysis of structures	9
Advanced applied engineering mathematics	9
Theory and design of steel constructions	9

SECOND YEAR

FEM in non-linear structural analysis	9
Design and retrofit of r.c. constructions	9
Mechanics of composite and advanced materials (<i>or alternatively</i> , Structural reliability)	9
Advanced metallic structures	9
Innovative building materials	9
Tunnels and underground structures <i>or alternatively</i> Geotechnical modelling	9
Internship	9
Thesis dissertation	12

*Additional training requirements:

Continuum mechanics (9 ECTS):

Structural engineering (9 ECTS):

All courses and activities are provided in English

language; therefore, the program is open to students of any nationality with a certified knowledge of English language. The program duration is two years (four semesters) and corresponds to the acquisition of 120 ECTS (European Credit Transfer System). The first three semesters are dedicated to course-work, which consists of in-class teaching, practice, design and laboratory activities. During the fourth semester a final masters thesis is to be completed, usually in cooperation with Italian and foreign research centers, industries, construction companies and design consulting firms.

PROFESSIONAL OPPORTUNITIES

Examples of professional job opportunities and career paths for StreGa's graduates are:

- Executive positions in governmental agencies and construction firms
- Designer positions for ordinary and special structures
- Designer positions for geotechnical works
- Risk analyst for insurance and reinsurance companies
- Catastrophe modeller for insurance and reinsurance companies
- Design of safety systems for industrial plants
- Design of interventions for the stability of the territory
- Rehabilitation design for the built environment
- Responsible for quality and safety-checking of critical facilities
- Consultant of public stakeholders for land-use planning
- Consultant for private and public bodies in general.

HEADQUARTERS

The building that houses the Polytechnic School in Piazzale Tecchio is the work of the 1950s by Prof. Ing. Luigi Cosenza, one of the greatest exponents of the rationalist architecture of the twentieth century, who has reinterpreted in a modern key the typical elements of the Neapolitan building.

