ANNEX 1.2
DIDACTIC COURSE REGULATIONS
MASTER'S DEGREE IN STRUCTURAL AND GEOTECHNICAL ENGINEERING
CLASS LM- 23

School: Polytechnic and Basic Sciences

Department: Structures for Engineering and Architecture

Regulations in force as from academic year 2026/2027

CURRICULUM

LEGEND
TYPE OF TRAINING ACTIVITY (TAF):
B = Characterising
C = Related or supplementary
D = Activity of choice
E = Final examination and language knwoledge
F = Further training activities

Course in English
Possibility for the student to opt for the route entirely in English

I YEAR

Name Teaching	SSD	Module	CFU	Hours	Type Activities *(lecture, workshop, etc.)*	Mode *(in presence, remote)*	TAF	Disciplinary scope	Mandatory / optional
Fondazioni - I semester	CEAR-05/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory (one of your choice)
Static and seismic foundation design - II semester	CEAR-05/A	single		72		In presence			
Dinamica delle Costruzioni ed ingegneria Sismica - I semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil engineering	Mandatory (one of your choice)
Earthquake engineering and structural control - I semester	CEAR-07/A	single		72		In presence			
Course of your choice from **Table B**	various	single	9	72	Frontal lesson	In presence	C	Related or supplementary	Mandatory (one of your choice)
Teoria e Progetto delle costruzioni in c.a. - II semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory (one of your choice)
Theory and design of reinforced concrete structures - II semester	CEAR-07/A	single		72		In presence			
Teoria e Progetto delle costruzioni in acciaio - II semester	CEAR-07/A	single		72		In presence			
Theory and design of steel constructions - II semester	CEAR-07/A	single		72		In presence			

Analisi limite delle Strutture - II semester	CEAR-06/A	single	9	72	Lesson front	In presence	B	Civil Engineering	Mandatory (one of your choice)
Limit analysis of structures - I semester	CEAR-06/A	single		72		In presence			
Course of your choice from **Table** B	various	single	9	72	Frontal lesson	In presence	C	Related or supplementary	Mandatory (one of your choice)

II YEAR									
Name Teaching	**SSD**	**Module**	**CFU**	**Hours**	**Type Activities *(lecture, workshop, etc.)***	**Mode *(in presence, remote)***	**TAF**	**Disciplinary scope**	**Mandatory / optional**
Consolidamento delle strutture in c.a. - I semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory (one of your choice)
Progetto e consolidamento di strtutture in murature - I semester	CEAR-07/A	single		72		In presence			
Strutture speciali e Progetto di strutture resistenti al fuoco - I semester	CEAR-07/A	single		72		In presence			
Teoria e Progetto di ponti - I semester	CEAR-07/A	single		72		In presence			
Opere di sostegno - I semester	CEAR-05/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory (one of your choice)
Dinamica dei terreni e geotecnica sismica - I semester	CEAR-05/A	single		72		In presence			
Curricular activities of the student's choice from **Table A3**	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory (one of your choice)
Curricular training activities chosen by the student from **Table B (see note §)**	various	single	9	72	Frontal lesson	In presence	C	Related or supplementary	Mandatory (one of your choice)
Curricular activities of the student's own choice from **Table B (see notes § and +)**	various	single	9	72	Frontal lesson	In presence	D	Activity of choice	Mandatory (one of your choice)
Knowledge of the English language		single	1	--	--	--	F	Further training activities	Mandatory
Internship	various	single	8	200	internship	In presence	F	Further training activities	Mandatory
Thesis dissertation	--	--	12	--	--	--	E	Other Activities	Mandatory

(§) Teaching may possibly be brought forward with regard to the year.

(+) CFU may be spent in whole or in part on teaching or on internship activities coordinated with the final examination. It is in principle possible for the student to choose an examination other than from table B, provided that it is congruent with the training pathway of the STReGA degree course. Any such choice is subject to the approval of the educational coordination committee, whereas the choice from table B is automatically approved.

Course in English

YEAR I									
Title Course	**SSD**	**Module**	**ECTS**	**Hours**	**Type activities**	**Course modalities**	**TAF**	**Disciplinary Area**	**Mandatory / optional**
Fundamentals of Structural and Geotechnical Engineering - Module 1: Geotechnical Engineeirng - Module 2: Continuum Mechanics Module 3: Structural Engineering	CEAR-05/A CEAR-06/A CEAR-07/A	3	9	-	Frontal lesson	In person	B	Civil Engineering	Mandatory
Earthquake engineering and structural control - I semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory
Limit analysis of structures - I semester	CEAR-06/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory
Structural mechanics (I semester)	CEAR-06/A	single	9	72	Frontal lesson	In presence	C	Civil Engineering	Optional
Structural analysis and design (I semester)	CEAR-07/A	single		72		In presence			
Static and seismic foundation design - II semester	CEAR-05/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory
Theory and design of renforced concrete structures - II semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory (one of your choice)
Assessment and retrofit of structures - I semester	CEAR-07/A	single		72		In presence			
Theory and design of steel constructions - II semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory (one of your choice)
Advanced metallic structures - II semester	CEAR-07/A	single		72			B		
Advanced applied engineering mathematics - II semester	MATH-04/A	single	9	72	Frontal lesson	In presence	C	Related or supplementary	Optional

YEAR II									
Title Course	**SSD**	**Module**	**ECTS**	**H**	**Type activities**	**Course modalities**	**TAF**	**Disciplinary Area**	**Mandatory / optional**
FEM in non-linear structural analysis - I semester	CEAR-06/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory (two of your choice)
Mechanics of composite and advanced materials - I semester	CEAR-06/A	single	9	72	Frontal lesson	In presence	C	Related or supplementary	
Assessment and retrofit of r.c. structures - I semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	
Theory and design of bridges - I semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	
Structural reliability - I semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	C	Related or supplementary	
Advanced metallic structures - II semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	Mandatory (two of your choice)
Advanced applied engineering mathematics - II semester	MATH-04/A	single	9	72	Frontal lesson	In presence	C	Related or supplementary	

Innovative building materials[(1)] - II semester	CEAR-07/A	single	9	72	Frontal lesson	In presence	B	Civil Engineering	
Geotechnical modelling[(1)] - II semester	CEAR-05/A	single	9	72	Frontal lesson	In presence	C	Related or supplementary	
Tunnels and underground structures[(1)] - II semester	CEAR-05/A	single	9	72	Frontal lesson	In presence	C	Related or supplementary	
Activity of choice from **table B (see notes § and +)**	--	single	9	72	Frontal lesson	In person	D	Activity of choice	Mandatory (one of your choice)
Internship	--	--	9	225	internship	In presence	F	Further training activities	Mandatory
Thesis dissertation	--	--	12	--	--	--	E	Final examination	Mandatory

[(1)] Second-year - II semester subjects that can be brought forward to the first year, subject to verification of the Bachelor's degree course and individual study plan by the Study Plan Committee.

Table A1 - Geotechnical Engineering List

Teaching or training activity	CFU	SSD	TAF
I YEAR			
Stabilità dei pendii (LM Environmental and Land Engineering) (II semester)	9	CEAR-05/A	C
Geotecnica delle Infrastrutture (II semester)	9	CEAR-05/A	C
Consolidamento dei terreni e delle rocce (II semester)	9	CEAR-05/A	C
(°) *Static and seismic foundation design* (II semester)	9	CEAR-05/A	B
II YEAR			
Opere di sostegno (I semester)	9	CEAR-05/A	B
Dinamica dei terreni e geotecnica sismica (I semester) ((if not chosen (°))	9	CEAR-05/A	B
Indagine e monitoraggio geotecnico (II semester)	9	CEAR-05/A	C
Tunnels and underground structures (II semester)	9	CEAR-05/A	C
Geotechnical modelling (II semester)	9	CEAR-05/A	C

Table A2 - Construction Science List

Teaching or training activity	CFU	SSD	TAF
I YEAR			
Limit analysis of structures (I semester)	9	CEAR-06/A	B
Analisi strutturale con gli elementi finiti (II semester)	9	CEAR-06/A	C
Modellazione strutturale (II semester)	9	CEAR-06/A	C
Structural Mechanics (I semester)	9	CEAR-06/A	C
II YEAR			
Analisi sperimentale dei materiali e diagnostica delle strutture (II semester)	9	CEAR-06/A	C
FEM in nonlinear structural analysis (I semester)	9	CEAR-06/A	B
Mechanics of composite and advanced materials (I semester)	9	CEAR-06/A	C

Table A3 – Structural Engineering List

Teaching or training activity	CFU	SSD	TAF
I YEAR			
Complementi di tecnica delle costruzioni [compulsory, if the same teaching or Construction Technology II, has not already been taken for the degree (I semester)]	9	CEAR-07/A	C
** Teoria e Progetto delle costruzioni in cemento armato (II semester)	9	CEAR-07/A	B
* ** Teoria e Progetto delle costruzioni in acciaio (II semester)	9	CEAR-07/A	B
*Theory and design of steel constructions (*if not chosen *) (II semester)	9	CEAR-07/A	B
Theory and design of reinforced concrete structures (if not chosen **) (II semester)	9	CEAR-07/A	B
Structural analysis and design (I semester)	9	CEAR-07/A	C
II YEAR			
*** Consolidamento delle strutture in cemento armato (I semester)	9	CEAR-07/A	B
*** Progetto e consolidamento di strutture in muratura (I semester)	9	CEAR-07/A	B
Strutture speciali e Progetto di strutture resistenti al fuoco (I semester)	9	CEAR-07/A	B
**** Teoria e Progetto di ponti (I semester)	9	CEAR-07/A	B
Teoria e Progetto delle Costruzioni in Legno (LM Construction Engineering) (I semester)	9	CEAR-07/A	C
Diagnosi e terapia dei dissesti strutturali (LM Construction Engineering) (I semester)	9	CEAR-07/A	C
Assessment and retrofit of reinforced concrete structures (if not chosen ***) (I semester)	9	CEAR-07/A	B
Strutture Prefabbricate (II semester)	9	CEAR-07/A	C
BIM e AI per l'Ingegneria Strutturale (BIM) (II semester)	9	CEAR-07/A	C
Innovative building materials (II semester)	9	CEAR-07/A	B
Theory and design of bridges (if not chosen ****) (I semester)	9	CEAR-07/A	B
Advanced metallic structures (II semester)	9	CEAR-07/A	B
Structural reliability (I semester)	9	CEAR-07/A	C

Table B - Lectures in Tables A1, A2, A3 and further lectures recommended below (Related or Supplementary Subjects)

Teaching or training activity	CFU	SSD	TAF
Insegnamento tratto dai Manifesti degli Studi delle Lauree Magistrali e a Ciclo Unico dell'area Civile-Edile (LM ICIT, LM IEDI, LM IAMT, LM TEAM, LMU IEAR)			C
# Modelli e metodi numerici per l'ingegneria (I semester)	9	MATH-04/A	C
*Advanced applied engineering mathematics (*if not chosen #) (II semester)	9	MATH-04/A	C
Geologia Applicata (if not already taken for degree) (II semester)	6	GEOS-03/B	C
Rischi Geologici nella progettazione di opere di ingegneria civile (I semester)	9	GEOS-03/B	C
Project Management per le opere civili (II semester)	9	IEGE-01/A	C

Table of Lessons Activated in the STReGA CdLM for the 'Minor TT - Smart Infrastructure Developer' (Minor Table A: Transversal training activities in the technical-scientific area specifically developed for the Minor)

Teaching or training activity	CFU	SSD	TAF
Metodi Computazionali in dinamica Nonlineare – II Semester	9	CEAR-06/A	D
Valutazione e monitoraggio delle strutture - II Semester	9	CEAR-07/A	D