



REINFORCED CONCRETE STRUCTURES

Enrollment year	2021/2022
Academic year	2021/2022
Regulations	DM270
Academic discipline	ICAR/09 (CONSTRUCTION TECHNIQUES)
Department	DEPARTMENT OF CIVIL ENGINEERING AND ARCHITECTURE
Course	CIVIL ENGINEERING FOR MITIGATION OF RISK FROM NATURAL HAZARDS
Curriculum	Reduction of seismic risk
Year of study	1°
Period	1st semester (20/09/2021 - 13/10/2021)
ECTS	6
Lesson hours	51 lesson hours
Language	English
Activity type	WRITTEN TEST
Teacher	MIHAYLOV BOYAN ILIEV (titolare) - 3 ECTS GUERRINI GABRIELE - 3 ECTS
Prerequisites	---
Learning outcomes	The main objective of the course is to develop knowledge and skills necessary for the design of a variety of important reinforced and prestressed concrete members and structures.
Course contents	The focus is placed on using fundamental principles (flow of forces, compatibility and deformations, stress-strain relationships, equilibrium) to solve different design problems from 1D (beams and girders) to 3D members and structures (single foundations, pile caps and wall systems). In this manner, the course develops a fundamental understanding of structural design which the students can apply to any other type of concrete structures not covered in the syllabus.

Teaching methods

To maximize the learning outcome, the course will use a variety of different learning methods. The classess will include a combination of slide presentations, blackboard lectures, solved demonstration problems, individual and group work of the students for solving challenging problems, video materials, reading and critically analysing materials in classroom. The students will participate actively by using first principles to solve analysis and design problems which are aimed at providing an important insight into the behaviour of concrete structures. They will be guided towards the final solution by solving intermediate problems with increasing complexity.

**Recommeneded or required
readings**

The evaluation will be based on homework assignments and a written final exam. The exam will consist of two parts: exercises (open book) and theory (closed book).

