UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

ASSESSMENT OF EXISTING STRUCTURES

Enrollment year	2020/2021
Academic year	2021/2022
Regulations	DM270
Academic discipline	ICAR/09 (CONSTRUCTION TECHNIQUES)
Department	DEPARTMENT OF CIVIL ENGINEERING AND ARCHITECTURE
Course	CIVIL ENGINEERING
Curriculum	Strutturistico
Year of study	2°
Period	2nd semester (07/03/2022 - 17/06/2022)
ECTS	3
Lesson hours	34 lesson hours
Language	Italian
Activity type	WRITTEN AND ORAL TEST
Teacher	SILVA MOURA PINHO RUI JORGE (titolare) - 3 ECTS
Prerequisites	The course foresees that students will have already successfully followed the courses on Structural Mechanics and Structural Engineering.
Learning outcomes	The course aims not only at providing students with knowledge and tools for an accurate modelling of the nonlinear response of existing RC structures subjected to seismic action, but also at introducing the principal seismic assessment methods and retrofitting techniques used for this type of structures.
Course contents	The course is structured in six main parts, listed below. In addition, during the course the students will also be asked to undertake a design project in which an existing building will first need to be seismically assessed and then retrofitted through one or more proposed interventions. - Notes on modelling challenges and issues

	- Nonlinear behaviour of RC structures - Nonlinear dynamic analysis (time-history) - Nonlinear static analysis (pushover) - Seismic assessment of existing RC structures - Seismic retrofitting of existing RC structures
Teaching methods	ectures (hours/year in lecture room): 29 Tutorials (hours/year in lecture room): 5 Workshops (hours/year in lecture room): 0
Reccomended or required readings	Pinho R., Bianchi F., Nascimbene R. (2019) "Valutazione Sismica e Tecniche di Intervento per Edifici Esistenti in C.A.", Maggioli Editore, Italy. M.A. Pisani., S. Cattaneo, T. D'Antino (2019) “Consolidamento delle strutture”. Hoepli.
Assessment methods	A course project is compulsory and its progress will be monitored throughout the course; at the end of the latter, the project undertaken by the students will be assessed through a discussion of both the results obtained as well as the procedure adopted. The final exam will be oral and available only to those students who will have successfully completed and delivered the course project.
Further information	
Sustainable development goals - Agenda 2030	$lbl_legenda_sviluppo_sostenibile