



DYNAMICS OF STRUCTURES	
Enrollment year	2021/2022
Academic year	2021/2022
Regulations	DM270
Academic discipline	ICAR/08 (CONSTRUCTION SCIENCE)
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 AND ORAL TEST
Teacher	SUCUOGLU HALUK (titolare) - 6 ECTS
Prerequisites	Calculus, linear algebra, matrix structural analysis
Learning outcomes	To learn principles of dynamics of structures using finite elements and introduction to earthquake engineering
Course contents	<ul style="list-style-type: none"><li>-Equation of motion for SDOF systems, its solution</li><li>-Free vibration response, viscous damping</li><li>-Response to harmonic excitation</li><li>-Response to general excitation</li><li>-Numerical evaluation of dynamic response</li><li>-Generalised SDOF systems</li><li>-Equations of motion for MDOF systems</li><li>-Free vibration analysis</li><li>-Modal expansion, damping in structures, damping matrix</li><li>-Modal response analysis of undamped systems</li></ul>

	<ul style="list-style-type: none"> <li>-Modal response analysis of damped systems</li> <li>-Torsional response of 3D systems</li> </ul>
<b>Teaching methods</b>	a)Lecture: 3 hours per day from Tuesday to Thursday. b)Tutorial: 4 hours per week.
<b>Reccomended or required readings</b>	---
<b>Assessment methods</b>	a) homework b) final exam
<b>Further information</b>	---
<b>Sustainable development goals - Agenda 2030</b>	<a href="#">\$lbl legenda sviluppo sostenibile</a>