

**Courses offered (general structure) 2022-2023**

Reduction Of Seismic Risk		First semester					Second semester				
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 1	Month 2	Month 3	Month 4	Month 5
1 <sup>st</sup> year	Series	Dynamics of Structures (H.Sucuoglu-METU Ankara **)	Reinforced Concrete Structures (P.Calvi, U.of Washington. ** – G. Guerrini)	Applied Mathematics (M.Martinelli – IMATI – CNR**)	Computational Mechanics (A.Reali)	Probability and Statistics for Eng Appl (P.Bazzurro + P.Venini)	Seismic Hazard and Applied Seismology (V.Poggi – OGS Trieste**)	Foundation engineering and Earth Retaining Structures (V.Sheshov - IEEES Skopje)**	Nonlinear Response Analysis (J.Almeida U.Louvain & A.Correia LNEC Lisbon **)	Fundamentals of Seismic Design (R.Monteiro+ G. Gabbianelli)	
	Parallel	-					Geotechnical Earthquake Engineering (C.G..Lai)				
2 <sup>nd</sup> year	Series	Seismic Risk (Bazzurro + D.Vamvatsikos NTU Athens **)	1 choice ■	Bridge structures (G.M. Calvi)	Masonry structures (G.Magenes, F.Graziotti)	1 choice ■■	Thesis				
	Parallel	-									

Choices		Steel Structures (R.Nascimbene) ■			Seismic Isolation and Dissipation (A.Filiatrault) ■■					Geomatics and GIS –b (A.Taramelli) ■	
		Geomatics and GIS a – (A.Taramelli) ■			Risk Emergency Management and Legislation (Monti at al.) ■■						

Mathematics and statistics	
Solid and structural mechanics	
Structural/geotechnical design, assessment and retrofit	
Hazard and risk analysis	
Complementary	

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<b>Hydrogeological Risk Assessment &amp; Mitigation</b>		<b>First semester</b>					<b>Second semester</b>				
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 1	Month 2	Month 3	Month 4	Month 5
<b>1<sup>st</sup> year</b>	<i>Series</i>	Continuum Mechanics (S.Manenti)	Continuum Mechanics	Applied Mathematics (M.Martinelli – IMATI – CNR**)	Engineering Geology (C.Meisina)	Probability and Statistics for Eng Appl (Bazzurro + Venini)	Hydro morphology (C.Armaroli-M.Righini)	Computational Fluid Dynamics (Sibilla + Fenocchi)	1 Choice ■	Geomatics and GIS –b (A.Taramelli)	
			Geomatics and GIS –a (A.Taramelli)								
	<i>Parallel</i>	Fluvial Hydraulics (P.Ghilardi + A.Fenocchi)					Landslides Hazard and Risk (Meisina + Bordoni)				
<b>2<sup>nd</sup> year</b>	<i>Series</i>	Hydrological Risks (M.Martina)	Reliable Design and Management of Urban Hydraulic infrastructures (E.Creaco)		Structural measures for flood risk mitigation (P.Ghilardi-A.Fenocchi)	1 Choice ■■	Thesis				
	<i>Parallel</i>	Flood Propagation (G.Petaccia)									
<i>Choices</i>					Landslide modeling and mitigation strategies (D.Gioffré) ■■		Foundation Engineering and Earth Retaining Structures ■■	Snow Avalanches and Related Mountain Natural Hazards (Barbolini ** - Pasian) ■			
					Risk Emergency Management and Legislation (A.Monti et al) ■■						
							Earth Surface and Processes (t.b.a.) ■■				

Mathematics and statistics	
Fluid and continuum mechanics	
Hazard and exposure; definition and modeling	
Risk analysis	
Measures for risk mitigation	