## MSc in “Civil Engineering for Mitigation of Risk from Natural Hazards”
Curricula and study plan (general structure) 2021-2022

### Reduction Of Seismic Risk

<table>
<thead>
<tr>
<th></th>
<th>First semester</th>
<th>Second semester</th>
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<tbody>
<tr>
<td></td>
<td>Month 1</td>
<td>Month 2</td>
</tr>
<tr>
<td>1st year</td>
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<tr>
<td><strong>Parallel</strong></td>
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<tr>
<td>2nd year</td>
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<tr>
<td><strong>Series</strong></td>
<td>Seismic Risk (Bazzurro + Vamvatsikos NTU Athens)</td>
<td>1 choice</td>
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<tr>
<td><strong>Parallel</strong></td>
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<tr>
<td><strong>Choices</strong></td>
<td>Steel Structures (R.Nascimbene)</td>
<td>-Seismic Isolation (A.Filiatrault)</td>
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<td></td>
<td>Geomatics and GIS a – (C.G..Lai)</td>
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</tbody>
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### Mathematics and statistics
- Solid and structural mechanics
- Structural/geotechnical design and assessment
- Hazard and risk analysis
- Complementary
# MSc in “Civil Engineering for Mitigation of Risk from Natural Hazards”
## Curricula and study plan (general structure) 2021-2022

### Hydrogeological Risk Assessment & Mitigation

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**1st year**

- **Series**
  - Continuum Mechanics (S. Manenti)
  - Applied Mathematics (L. Tamellini)
  - Engineering Geology (C. Meisina)
  - Probability and Statistics for Eng Appl (Bazzurro + Venini)
  - Hydro morphology (C. Armaroli, M. Righini)
  - Computation Fluid Dynamics (S. Sibilla + A. Fenocchi)

- **Parallel**
  - Geomatics and GIS –a (A. Taramelli)
  - Geomatics and GIS –b (A. Taramelli)
  - Fluvial Hydraulics (P. Ghilardi + A. Fenocchi)
  - Landslides Hazard and Risk (Meisina + Bordoni)

**2nd year**

- **Series**
  - Hydrological Risks (M. Martina)
  - Structural measures for flood risk mitigation (P. Ghilardi)
  - 1 Choice
  - 1 Choice

- **Parallel**
  - Flood Propagation (G. Petaccia)
  - Thesis

**Choices**

- Hydraulic infrastructures (E. Creaco)
- Reinforced Concrete Structures
- Landslide modeling and mitigation strategies (D. Gioffré)
- Risk Emergency Management and Legislation (Monti + Moratti + Velliscig)
- Foundation Engineering and Earth Retaining Structures
- Earth Surface and Processes (P. Borrelli)

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### Mathematics and statistics
- Fluid and continuum mechanics
- Hazard and exposure; definition and modeling
- Risk analysis
- Measures for risk mitigation (including design of engineering works)