

# Risk and Resilience Modelling in Civil and Environmental Engineering

**Lecturer**

Marco UZIELLI

**Email**

marco.uzielli@unifi.it

**Institution**

Dept. Civil and Environmental Eng. – Univ. of Florence

## Course description

Risk and resilience are central concepts in the management of human communities and of the environment. The surging impact of natural hazards, including the effects of climate change, requires a rational, quantitative approach to decision-making in civil and environmental engineering. This course will provide an overview of risk and resilience modelling from a civil engineering perspective. Conceptual frameworks and operational methods will be illustrated as well as case-study applications. The course will adopt a highly interactive approach. Individual assignments and projects will be developed during collegial tutored interactive online sessions which will provide additional theoretical and practical insights into course contents.

## Course materials

Course materials will be provided by the Lecturer through the dedicated [Moodle page](#), which can also be used for enrolment. All course activities will be held online.

## Course schedule

Date	hrs	Description
2026/02/26 09:00-10:30	1.5	Course introduction; Lecture L01 - Course introduction; Risk Assignment 01
2026/03/05 09:00-12:30	3.5	Lecture L02 – Risk management framework; Risk Assignment 02
2026/03/12 14:00-17:30	3.5	Lecture L03 – Risk estimation: example applications; Risk Assignment 03; deadline for Individual Project 1 selection
2026/03/19 09:00-12:30	3.5	Lecture L04 – Resilience: concepts, definitions, and frameworks; Resilience Assignment 01
2026/03/26 15:00-18:00	3.0	Lecture L05 – Resilience modeling; Resilience Assignment 02
2026/04/02 09:00-12:00	3.0	Individual projects – Tutored work session 1; Resilience Assignment 03
2026/04/17 09:00-12:00	3.0	Individual projects – Tutored work session 2
2026/04/17 14:00-17:00	3.0	Individual projects – Tutored work session 3
2026/04/23 09:00-12:00	3.0	Individual projects – Tutored work session 4
2026/04/23 14:00-17:00	3.0	Individual projects – Tutored work session 5
2026/04/30 09:00-12:00	3.0	Individual projects – Tutored work session 6
2026/05/07 09:00-12:00	3.0	Individual Project 1 presentations session
2026/05/14 09:00-12:00	3.0	Individual Project 2 presentations session
2026/05/22 09:00-12:00	3.0	Individual Project 3 presentations session
		<b>Total: 42 Hours - 7 Credits</b>

## Additional information

Participants are warmly invited to refer to the Moodle page for details. For any additional inquiries, please contact [www.indicee.unifi.it](http://www.indicee.unifi.it) - [dott-dicea@unifi.it](mailto:dott-dicea@unifi.it).