

International Doctorate in Civil and Environmental Engineering

DOCTORAL COURSE

Risk and resilience analysis for natural hazards

Teacher: Prof. **Marco Uzielli**

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Calendar	
04/05/2020, 9,30-11,30 – Room to be defined - S. Marta – UniFi	Introductory overview; current impact of natural hazards; historical development of risk and resilience concepts; the disaster risk management cycle; relationship between risk and resilience.
06/05/2020, 9,30-11,30 – Room to be defined - S. Marta – UniFi	Quantitative modeling of risk to natural hazards: the risk management framework; hazard, vulnerability and exposure; risk assessment and risk mitigation.
11/05/2020, 9,30-11,30 – Room to be defined - S. Marta – UniFi	Quantitative modeling of resilience to natural hazards: a multi-dimensional framework; the concept of functionality; functionality modeling.
13/05/2020, 9,30-11,30 – Room to be defined - S. Marta – UniFi	Group workshop; oral examination.
Total	8 hours – 4 credits

Program
<p>Risk and resilience are increasingly relevant concepts in the management of human communities and the environment. The increasing impact of natural hazards, including the effects of climate change, requires a more rational, quantitative approach to risk- and resilience-based decision-making.</p> <p>This course will provide a technical overview of the concepts of risk and resilience of human communities and the environment to natural hazards. Conceptual frameworks and operational methods will be illustrated as well as case-study applications.</p> <p>Course participants will be tested through: (1) in-class quizzes during the course; (2) a group workshop; and (3) an oral examination at the end of the course.</p>