GOAL: AN INTERNATIONAL PROJECT TO DEVELOP GEOETHICS AND ITS EDUCATIONAL POTENTIAL

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"GOAL - Geoethics Outcomes and Awareness Learning" (https://goal-erasmus.eu/) is an Erasmus+ project aimed to develop tools for teaching geoethics through an innovative and creative approach.

Members of different partner countries (Portugal, Austria, Italy, Israel, Spain, Lithuania) are working together bringing their expertise in overlapping disciplinary areas and intellectual synergies.

In particular, the project integrates researchers and practitioners with skills in geoscience education, theoretical aspects of geoethics, geological heritage, georisks, georesources, environmental sciences, and information and communication technologies in education.
AIMS

The project "GOAL" aims to develop:

- a geoethics syllabus
- educational resources to be used in Higher Education
- video-pills
- e-handbook

in order to:

- promote awareness-raising on ethical and social implications of geoscience knowledge, education, research, practice and communication;
- enhance the quality and relevance of students’ knowledge, skills and competencies;
- develop operational capacities for strengthening the conceptual substratum of geoethics.
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TO WHOM IT IS ADDRESSED

The target group of the GOAL project is formed mainly by:

- higher education students;
- professors and researchers;
- practitioners in the field (such as “geoheritage site” guides and secondary teachers).
The Italian team has:

- framed geoethics from a theoretical point of view;
- introduced definitions, values and contents;
- clarified some concepts of utmost importance in geoethics, like that of responsibility, intellectual freedom, research integrity, prevention, sustainability, resilience, etc.
- addressed some specific issues such as the difference between ethical issues and ethical dilemmas, as well as the necessity to reach a reasonable alignment of values when dealing with geological activities that may have an impact on environment and population;
- connected geoethics to several geosciences issues, such as georisks and georesources management, through the use of videos.

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Activities and products of the Italian team:

- organized a workshop in Rome (Italy) on “Theoretical aspects of geoethics and geoethics in georisks” (in 2018);
- contributed to the e-handbook with 2 chapters and cooperated to the preparation of others 2 chapters;
- contributed to the geoethics syllabus with 2 modules;
- contributed to the glossary, writing texts for the words “geoethics”, “geosciences”, “disaster”, “Earth system”, “Responsibility”, “Risk”;
- created and recorded 4 video-pills on different aspects of geoethics (video-editing by the Lithuanian team);
- prepared 2 educational resources related to theoretical aspects of geoethics and geoethics in geological risks.
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Video-Pills 1/2

Introduction to geoethics: definition, concepts, and application

https://youtu.be/NX7Gii5adKk

Geoethical issues and geoethical dilemmas

https://youtu.be/gZ8Y56-yrDM
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Video-Pills 2/2

Geoethics and responsible use of geo-resources
https://youtu.be/23nwwu79sSA

Geoethics and geological risks
https://youtu.be/rZSjzOxiGUk
**The Educational Resources by the Italian team:**
a focus on 2 specific cases (description, objectives, questions are provided for each case)

**Introduction to geoethics: definition, concepts, and application**

Every course on geoethics needs for a basic introduction to the main concepts. This educational resource is based on a video that provides a short overview on the theoretical framework of geoethics: its definition, the principle of responsibility, the four geoethical domains of the geoscientist’s experience (individual, inter-personal, societal, environmental domains) and the main characteristics of geoethics (actor-centric on individual geoscientist, geoscience knowledge based, virtue-ethics, context-dependent in space and time).

**Geoethics and Geological Risks**

This educational resource is based on a video that provides an overview on the geoethical aspects and implications in georisk management, by introducing several key concepts: prevention, probably and uncertainty, risk scenario and its actors, geoscientists as social actors and their role, defence system, disaster cycle, operational protocols in emergency phase, science-society interface, citizen science.
Geoethics: how and why should geosciences serve society?

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https://goal-erasmus.eu/