LEARNING PROGRAMME

How Geodiversity Becomes Identity

10-DAY COURSE

50 learning hours | Course programme

How Geodiversity Becomes Identity – 10-Day Course

Introduction and Description

The Azores Archipelago—formed at the intersection of the North American, Eurasian, and African tectonic plates—constitutes a rare geoscientific environment where active geological processes, exceptional biodiversity, and centuries of human cultural adaptation converge. As a living laboratory of earth-systems dynamics, the islands offer unparalleled opportunities to investigate volcanic morphologies, geomorphological evolution, geothermal phenomena, and the interdependencies between geodiversity, ecological patterns, and socio-cultural practices. Recognised through multiple international designations, including UNESCO Global Geopark status, the region embodies a distinctive "volcanic identity" that informs local livelihoods, architectural forms, agricultural systems, ritual practices, and gastronomic traditions.

This course provides educational professionals with a rigorous interdisciplinary framework for understanding volcanic landscapes through both scientific and cultural lenses. Building from foundational concepts in geology, geomorphology, geohazards, and ecosystem dynamics, the programme emphasises the interpretation of landscape as a multidimensional narrative shaped by physical processes, biological responses, and human meaning-making. Participants engage with the archipelago as an integrated socio-ecological system, learning how geodiversity underpins biodiversity, how cultural traditions emerge from human–environment interactions, and how local communities have historically navigated risk, resilience, and sustainability in a volcanic context.

Through a combination of theoretical seminars, structured field observations, guided interpretation routes, museum visits, and experiential workshops, the course develops the analytical, pedagogical, and communication skills necessary to transform volcanic landscapes into powerful learning environments. Particular emphasis is placed on place-based and outdoor learning methodologies, science communication strategies, and the design of interdisciplinary activities that connect earth sciences with cultural heritage, environmental education, and community engagement. By the end of the course, participants will be equipped to create authentic, inquiry-driven learning

experiences that foster scientific literacy, environmental stewardship, and holistic landscape understanding in their own educational settings.

Methodology and Assessment

The course adopts an experiential, inquiry-based methodology combining classroom instruction with extensive fieldwork across key geosites in Terceira Island. Participants engage in landscape observation, guided interpretation, hands-on geological sampling (non-extractive), cultural immersion activities, and collaborative workshops. Interdisciplinary connections between geology, ecology, cultural traditions, and local livelihoods are explored through (geo)urban routes, (geo)gastronomic experiences, and museum visits. Assessment is continuous and formative, based on reflective journals, active engagement during field activities, and the design of an educational micro-project. The course concludes with a final presentation in which participants demonstrate the application of volcanic landscape interpretation techniques and outdoor pedagogies to their professional context.

Learning Objectives

By the end of the course, participants will be able to:

Understanding Volcanic Landscapes & Geodiversity

- Analyse the geological context of the Azores within the framework of plate tectonics and hotspot volcanism.
- Identify and classify volcanic landforms and products (lava fields, calderas, pyroclastic deposits, fumaroles, caves).
- Interpret the temporal and spatial evolution of volcanic islands using field observations and scientific criteria.

Interdisciplinary Landscape Interpretation

- Explain the interdependencies between geodiversity, biodiversity, cultural heritage, and traditional practices in volcanic territories.

- Employ holistic, place-based approaches to interpret natural and cultural landscapes, integrating scientific, historical, and socio-cultural dimensions.
- Critically evaluate how local identity, rituals, architecture, and gastronomy reflect underlying geological processes.

Outdoor Pedagogy & Science Communication

- Design educational strategies that use outdoor environments as learning laboratories for earth sciences.
- Facilitate student inquiry through observational tasks, mapping, storytelling, and experiential learning techniques.
- Apply principles of science communication to make complex geological phenomena accessible to diverse learners.

Professional Growth & Collaboration

- Develop interdisciplinary lesson plans and field-based activities aligned with curriculum needs.
- Integrate digital platforms (eTwinning, ESEP) to foster cross-border collaboration on geoscience and sustainability projects.
- Reflect critically on their own learning, teaching practices, and the educational potential of volcanic landscapes.

Preparation

After registration participants will receive pre-course questionnaire which will be used by the trainer to learn about participants' teaching backgrounds and to assess their exact needs. Before the beginning of the course a basic reading list will be suggested to participants to prepare for the training. Participants will also be asked to prepare a presentation about themselves, their professional context and their culture. The presentation will be presented on the first day of the course to facilitate networking opportunities. Participants will receive information about the country they are going to visit in order to prepare them for their cultural experience.

Follow up

After the course participants will be asked to share what they have learned with the rest of the staff in their schools. Further books and articles to deepen the topic and contacts with some other practitioners all over Europe and in the world will be suggested by the trainer. The methods shared and explored and the bibliography given will allow the participants to complete and improve their educational path.

Certificate

Certificate complies with the guidelines of the Erasmus+ programme and includes the topic, number of didactic hours, dates and location of the course. We can list the record of learning outcomes on the Europass Mobility Document on request of participants. In case a participant requires a specific format of certificate we can accommodate that if requested at least one week before the start of the course. It is necessary to attend at least 80% of the hours in order to receive the certificate.

Accommodation

We do not directly offer accommodation and subsistence and participants are responsible for organizing it by themselves.

Paperwork

We also provide all the support with paperwork you might need for your Erasmus+ project documentation such as mobility agreement and registration letter.

Fee: 800 €

Cancelation policy

We have a flexible cancellation policy in force at the moment and you can cancel your registration up to 30 days before the course and receive a full refund. In case you don't cancel the registration more than 30 days before you will not receive any refunds, but you will be able to choose to attend any other confirmed course session later (within 6 months) without any additional costs. In case you are not able to travel, your school can

send someone else to take instead of you and you can change the details of the participant any time before the start of the course at no additional cost.

TENTATIVE PROGRAMME (50 didactic hours - 5*45min per day) Monday to Friday	
Day 1	Orientation & Geological Foundations
09.00 - 09.45	Introductions & Icebreakers
09.45 - 10.30	Course Overview & Learning Agreement
10.30 - 11.15	Geological setting of the Azores: Mid-Atlantic Ridge, triple junctions, tectonic plates
11.15 - 11.30	Break
11.30 - 12.15	Reading volcanic landscapes
12.15 - 13.00	Observation of local geomorphological features
Day 2	Volcanic Processes and Products
09.00 - 09.45	Magma generation, eruption styles, effusive vs explosive processes
09.45 - 10.30	Hands-on classification
10.30 - 11.15	Visit to lava fields and recent volcanic morphologies
11.15 - 11.30	Break
11.30 - 12.15	Implications of volcanic activity for human settlement and hazard planning
12.15 - 13.00	Building a field notebook for scientific and educational purposes
Day 3	Geolandscapes of the Azores
09.00 - 09.45	Island evolution, caldera systems, geothermal zones
09.45 - 10.30	Interpretation route across major geosites 1
10.30 - 11.15	Interpretation route across major geosites 2
11.15 - 11.30	Break
11.30 - 12.15	Visual interpretation, sketch mapping, photographic documentation
12.15 - 13.00	Connecting geodiversity to environmental education
Day 4	Cultural and Urban Geoheritage
09.00 - 09.45	Exploring heritage streets, architecture, and urban planning shaped by geology 1

09.45 - 10.30	Exploring heritage streets, architecture, and urban planning shaped by geology 2
10.30 - 11.15	Case study: The 1980 earthquake and its impact on cultural identity
11.15 - 11.30	Break
11.30 - 12.15	Using cultural sites to teach earth sciences
12.15 - 13.00	Heritage conservation and community resilience
Day 5	Geohazards, Rituals, and Traditions
09.00 - 09.45	Volcanic hazards
09.45 - 10.30	How religiosity, rituals, myths and traditions emerge from geophysical realities
10.30 - 11.15	Visiting sites illustrating historical hazard events 1
11.15 - 11.30	Break
11.30 - 12.15	Visiting sites illustrating historical hazard events 2
12.15 - 13.00	Designing a classroom module on geohazards
Day 6	Field-Based Teaching & Outdoor Pedagogy
09.00 - 09.45	Educational value of outdoor learning environments
09.45 - 10.30	Developing inquiry-based activities for the field
10.30 - 11.15	Observing ecosystem–geosystem interactions 1
11.15 - 11.30	Break
11.30 - 12.15	Observing ecosystem–geosystem interactions 2
12.15 - 13.00	Barriers and opportunities in implementing outdoor learning in schools
Day 7	Geosites Route
09.00 - 09.45	Comprehensive geosite interpretation route
09.45 - 10.30	Structured observation
10.30 - 11.15	Data collection and mapping
11.15 - 11.30	Break
11.30 - 12.15	Micro-teaching exercises
12.15 - 13.00	Techniques for scientific storytelling in outdoor environments
Day 8	(Geo)Gastronomy and Human–Environment Relations

09.00 - 09.45	Interpretation tour
09.45 - 10.30	Quinta do Martelo – agricultural landscapes shaped by geology
10.30 - 11.15	Exploring how soils, minerals, and microclimates influence traditional cuisine
11.15 - 11.30	Break
11.30 - 12.15	Geo-food workshop
12.15 - 13.00	Food heritage as a gateway to interdisciplinary learning
Day 9	Museum Visit & Digital Collaboration Tools
09.00 - 09.45	Geology and Speleological Museum Visit - volcanic caves
09.45 - 10.30	Geology and Speleological Museum Visit - mineralogy
10.30 - 11.15	Geology and Speleological Museum Visit - island formation timeline
11.15 - 11.30	Break
11.30 - 12.15	Digital tools for collaborative geoscience projects (eTwinning, ESEP)
12.15 - 13.00	Development of final educational projects
Day 10	Individual Support, Presentations & Closing
09.00 - 09.45	Preparing the final presentations and individual support (part 1)
09.45 - 10.30	Preparing the final presentations and individual support (part 2)
10.30 - 11.15	Final presentations and feedback
11.15 - 11.30	Break
11.30 - 12.15	Evaluation & Reflection
12.15 - 13.00	Validation of learning outcomes and certification

*This is only a tentative timetable. The exact hours or the course might differ and will be announced for each session 2 weeks before the start. However, there will always be a total of 5 didactic hours per day and all will be in line with the Erasmus+ quality standards. The trainer might slightly modify the content in response to the needs of the group.
**Cultural and social programmes will be organized in addition to the academic programme. The exact cultural and social programme depends on the location, season, weather, etc.