

TRAIN#ER NOTE

Current study programs related to ecological restoration within the project countries

February 2023 · Complementary document to the project reports.

<https://chapter.ser.org/europe/trainer/>

Which institutions offer study programs related to ER?

Detailed information on the contents of VET courses is not publicly available. Current VET programs largely lack specific subjects devoted to ER, and VET teachers emphasised the lack of contents and materials dealing with this topic. Therefore, we focussed on tertiary education. Four Universities in Norway, eight in the Czech Republic, eleven in Germany, and 20 in Spain offer degree programs that include topics related to Ecological Restoration (ER) (Table 1). In Spain, three non-university institutions run several study programs.

Table 1. Overview of institutions and study programs related to ER with degree level in the project partner countries.

	B.Sc.	M.Sc.	Ph.D.	Degree	Double degree	other	Total
Czech Republic	3	9	1			3	16
Charles University							
Independent course						X	
Czech University of Life Sciences Prague							
Independent course						X	
J.E. Purkyně University							
Independent course						X	
Masaryk University							
Nature Conservation							
Palacký University Olomouc							
Ecology and Environment	X	X					
Ecology and environmental protection	X	X					
Landscape protection and creation	X	X					
University of Hradec Králové							
Biology and Ecology		X	X				
Teaching at secondary schools (optional course)		X					
University of South Bohemia in České Budějovice							
Botany		X					
Vegetation Ecology		X					
VSB - Technical University of Ostrava							
Environmental Protection in Industry		X					
Germany	4	9					13
Anhalt University of Applied Sciences							
Nature conservation and landscape planning		X					
Eberswalde University for Sustainable Development							
International forest ecosystem management	X						
Geisenheim University							
Landscape ecology and nature conservation		X					
Humboldt University Berlin							
Process and Quality Management in Agriculture and Horticulture							
Philipps Universität Marburg							
Biodiversity and nature conservation		X					
Technical University of Munich							
Landscape Architecture and Landscape Planning	X						
Nature conservation and landscape planning		X					
Technische Universität Dresden							
Ecosystem services		X					
TH Bingen University of Applied Sciences							
Environmental Sustainability		X					
University of Gießen							
Environmental Sciences		X					
University of Greifswald							
Landscape ecology and nature conservation	X	X					
Weihenstephan Triesdorf University of Applied Sciences							
Climate Change Management		X					
Forestry engineer	X						
Norway	5	10					15
Norwegian University for Science and Technology							
Industrial Economy		X					

	B.Sc.	M.Sc.	Ph.D.	Degree	Double degree	other	Total
Nature resource management		X					
Norwegian University of life Sciences	X	X					
Ecology		X					
Environmental Science	X	X					
Landscape architecture and planning	X	X					
UiT The Arctic University of Norway		X					
Landscape architecture, Landscape transformation		X					
Western Norway University of Applied Sciences	X	X					
Climate Change Management		X					
Technical engineering	X						
Spain		22		12	6	4	44
Building Networks							
Independent course						X	
Catholic University of Avila							
Environmental sciences				X			
Forest and environmental engineering				X			
Complutense University of Madrid							
Ecosystem Restoration		X					
International Foundation for Ecosystem Restoration							
Ecosystem restoration and environmental services						X	
Landscape School of Galizia							
Independent course						X	
Polytechnic University of Madrid							
Degree Environmental Technology Engineering				X			
Ecosystem Restoration		X					
Environmental engineering				X			
Forest Engineering		X		X			
Forest Fire Fighting Techniques		X					
Water in the natural environment		X					
Polytechnic University of Valencia							
Environmental and landscape engineering		X					
Environmental sciences				X			
Forest and environmental engineering				X			
Forest Engineering		X					
University King Juan Carlos I							
Biodiversity Conservation Techniques and Ecology		X					
Ecosystem Restoration		X					
University of Alcalá							
Ecosystem Restoration		X					
University of Alicante							
Biodiversity Conservation and Restoration of Marine and Terrestrial Ecosystems		X					
Biology				X			
University of Barcelona							
Ecology, Management and Restoration of Natural Environments		X					
Independent course						X	
University of Castilla-La Mancha							
Forest and environmental engineering				X			
Forestry Engineering		X					
University of Córdoba							
Forest Engineering		X					
Forest engineering and agri-food and rural environment engineering					X		
University of Extremadura							
Forest and environmental engineering				X			
University of Granada							
Biodiversity Conservation, Management and Restoration		X					
University of Huelva							
Environmental Sciences and Forestry and Environmental Engineering					X		
Forest Engineering		X					
University of Jaen							
Analysis, Management and Restoration of the Physical Environment		X					
University of Leon							
Advanced studies in flora and fauna		X					
Environmental sciences				X			
Forest Engineering and Nature Conservation and Environmental Sciences						X	
University of Lleida							
Forest Engineering and Nature Conservation					X		
University of Santiago de Compostela							
Terrestrial Biodiversity		X					
University of Santiago de Compostela (Lugo)							

	B.Sc.	M.Sc.	Ph.D.	Degree	Double degree	other	Total
Agricultural and agri-food engineering and forestry and environmental engineering					X		
Forest Engineering		X					
University of Valladolid (Palencia)							
Agricultural and rural engineering and forestry and environmental engineering					X		
Data science-based forestry management		X					
Forestry Engineering		X					
University of Vigo							
Forest Engineering				X			
Total	12	47	1	12	6	7	88

In which language are study programs on ER topics available?

Altogether, 58 study programs involving ER topics are available in the TRAIN#ER partner countries. The majority was found in Spain with 28 study courses (Table 2). Most programs are offered in the main national languages, i.e. in Spain there are no courses in Catalan, Vasque and Galizian. Only a few institutions provide study programs in English: Norway and Germany 4, Czech Republic and Spain 1.

Table 2: Overview of study programs that include topics of ER, with indication of the teaching language.

	Czech	English	German	Norwegian	Spanish	Total
Czech Republic	10	1				11
Biology and Ecology	X					
Botany	X					
Ecology and Environment	X					
Ecology and Environmental protection	X					
Environmental Protection in Industry	X					
Landscape protection and Creation	X					
Nature Conservation	X					
Teaching at secondary schools (optional course)	X					
Vegetation Ecology	X					
Independent course	X	X				
Germany		4	9			13
Biodiversity and Nature Conservation			X			
Climate Change Management			X			
Ecosystem services		X				
Environmental Science			X			
Environmental Sustainability		X	X			
Forestry Engineer			X			
International Forest Ecosystem Management		X				
Landscape Architecture and Landscape Planning			X			
Landscape Ecology and Nature Conservation		X	X			
Nature Conservation and Landscape Planning			X			
Process and quality management in agriculture and horticulture			X			
Norway		4		5		9
Climate Change Management		X				
Ecology		X				
Environmental Science		X		X		
Industrial Economy				X		
Landscape Architecture and Planning				X		
Landscape architecture and Transformation				X		
Nature Resource Management		X				
Technical Engineering				X		
Spain		1			27	28
Advanced Studies in Flora and Fauna					X	
Agricultural and agri-food Engineering and Forestry and Environmental Engineering					X	
Agricultural and rural Engineering and Forestry and Environmental Engineering					X	

	Czech	English	German	Norwegian	Spanish	Total
Analysis, Management and Restoration of the Physical Environment					X	
Biodiversity Conservation and Restoration of Marine and Terrestrial Ecosystems					X	
Biodiversity Conservation Techniques and Ecology					X	
Biodiversity Conservation, Management and Restoration					X	
Biology					X	
Data science-based Forestry Management					X	
Degree Environmental Technology Engineering					X	
Ecology, Management and Restoration of Natural Environments					X	
Ecosystem Restoration					X	
Ecosystem Restoration and Environmental Services					X	
Environmental and Landscape Engineering					X	
Environmental Engineering					X	
Environmental Sciences		X			X	
Environmental Sciences and Forestry and Environmental Engineering					X	
Forest and Environmental Engineering					X	
Forest Engineering					X	
Forest Engineering and Agri-Food and Rural Environment Engineering					X	
Forest Engineering and Nature Conservation					X	
Forest Engineering and Nature Conservation and Environmental Sciences					X	
Forest Fire Fighting Techniques					X	
Forestry Engineering					X	
Terrestrial Biodiversity					X	
Water in the Natural Environment					X	
Independent course					X	
Total	9	10	9	5	27	55

What courses/modules on ER topics are available in which languages?

Altogether 140 courses related to ER topics were offered in the project partner countries, most of them in Spain with 101 courses (Table 3). The variety of topics is rather broad, covering e.g., different habitat and degradation types. In all countries, English courses/modules are underrepresented, the Czech Republic and Germany offer six each, Norway four, and Spain only one.

Table 3. Overview of study courses/modules that include topics of ER, with indication of the teaching language.

	Czech	English	German	Norwegian	Spanish	Total
Czech Republic	8	6				14
Aquatic Ecosystem Restoration		X				
Biodiversity Protection in Industrial Environments	X					
Ecological Restoration and Engineering		X				
Land Reclamation		X				
Land Reclamation Workshop		X				
Management of Protected Ecosystems	X					
Reclamation	X					
Restoration Ecology	X					
Restoration Ecology and Habitats Care	X					
Restoration Ecology I	X					
Restoration Ecology II	X					
Revitalization and Sustainable Landscape Development	X					
River Restoration		X				
Short field course on Restoration Ecology		X				
Germany		6	11			14
Applied Silviculture, Ecosystem Restoration and Forest Inventory		X				
Bog and Restoration Ecology		X	X			
Current Questions in Restoration Ecology		X	X			
Ecosystem Management and Applied Restoration Ecology			X			
Forest Landscape Restoration		X				
Fundamentals in Restoration Ecology			X			
In-depth Study of Restoration Ecology			X			

	Czech	English	German	Norwegian	Spanish	Total
Management Systems and Restoration in Natural Forests of the Tropics		X				
Reclamation of devastated Landscapes			X			
Restoration Ecology		X	X			
Restoration Ecology and Landscape Development			X			
Restoration of Forest Bogs			X			
Restoration Planning and Managing			X			
Special Restoration Ecology			X			
Norway		4		7		11
Climate Change Ecology		X				
Conservation Biology		X				
Ecology for Landscape Architecture				X		
Environment, Ecosystem Services and Sustainability				X		
Interdisciplinary Project for Environmental Sustainability		X				
Landscape Media: Landscaping				X		
Landscape Plants				X		
Nature Conservation and Management in Norway				X		
Restoration Ecology		X				
Sustainable Production and Circular Economy				X		
Urban Greening and Landscape Management				X		
Spain		1			100	101
Assemblage of Plant Communities					X	
Biodiversity Management in Urban Environments					X	
Conservation and Restoration of Aquatic Ecosystems					X	
Conservation and Restoration of Inland Aquatic Environments					X	
Conservation and Restoration of Mountain Areas					X	
Conservation and Restoration of Terrestrial Ecosystems					X	
Conservation and Restoration of Terrestrial Systems					X	
Diagnosis and Restoration of Aquatic Ecosystems					X	
Ecological Processes in Ecosystem Restoration					X	
Ecological Restoration					X	
Ecological Restoration and Climate Change					X	
Ecological Restoration and Society					X	
Ecological Restoration of Forests					X	
Ecological Restoration of Rivers					X	
Ecological Restoration of Urban Areas					X	
Ecological Restoration Projects					X	
Ecology and Forest Management					X	
Ecosystem Management and Restoration					X	
Ecosystem Restoration					X	
Effect of Agrosystems Management on Biodiversity					X	
Engineering Models for the Rehabilitation of Aquatic Ecosystem					X	
Environmental and Landscape Restoration					X	
Environmental Degradation and Ecosystem Restoration					X	
Environmental Recovery					X	
Expert course in Ecological Restoration of Ecosystems					X	
Fires and Forest Restoration					X	
Forest and Rainforest Restoration					X	
Forest genetic Resources. Forest Plant Production					X	
Forest Hydrology and Recovery of Degraded Areas					X	
Forest Regeneration and Restoration after Fire					X	
Forestry and Afforestation					X	
Forestry and Forest Restoration					X	
Foundations for Ecological Restoration					X	
Fundamentals of Ecological Restoration					X	
Genetic Restitution of Populations					X	
Genetic Restoration of Populations					X	
Geomorphological Restoration					X	
Green Infrastructure					X	
Hydrological Planning and Combating Desertification					X	
Hydrological Restoration					X	
Hydrological-Environmental Restoration					X	

	Czech	English	German	Norwegian	Spanish	Total
Hydrological-Forest Restoration					X	
Hydrology and Forest Hydrological Restoration					X	
Hydrology and Hydrological Forest Restoration					X	
Hydrology and Recovery of Degraded Spaces					X	
Hydrology: Hydrological-Forest Restoration					X	
Impact Mitigation and Restoration in the Marine Environment					X	
Improvement of Habitats for Fauna					X	
Integrated Restoration of Forest Ecosystems					X	
Introduction to Ecological Restoration of Degraded Areas					X	
Landscape and Restoration of Degraded Spaces					X	
Landscape Restoration					X	
Management and Restoration of Polluted Soils					X	
Nurseries, Reforestation and Environmental Restoration					X	
Parks and Gardens: Restoration of Degraded Spaces					X	
Plant Communities in Environmental Restoration					X	
Plant Restoration Techniques					X	
Post-fire Restoration					X	
Propagation and Forest Nurseries					X	
Recovery of Degraded Spaces					X	
Recovery of Degraded Spaces in the Natural Environment					X	
Reforestation					X	
Reforestation and Forest Improvement					X	
Reforestation and Forest Nurseries					X	
Reforestation and Nurseries					X	
Reforestation: Forest Improvement and Forest Nurseries					X	
Reforestation: Recovery of Degraded Spaces					X	
Regeneration of Sand Dunes and Beaches					X	
Rehabilitation of Rivers and Wetlands: fundamentals and techniques.					X	
Restocking and Nurseries					X	
Restocking, Nurseries and Gardening					X	
Restoration in Extreme Environments					X	
Restoration in Mining Areas					X	
Restoration of Agroecosystems					X	
Restoration of Anthropogenic Environments					X	
Restoration of Arid Areas					X	
Restoration of Coastal and Marine Environments					X	
Restoration of Coastal Ecosystems, Wetlands and Reefs					X	
Restoration of Contaminated Soils					X	
Restoration of Degraded Spaces					X	
Restoration of Environmental Services					X	
Restoration of Plant Cover					X	
Restoration of Rivers, Riverbanks and Wetlands					X	
Restoration of Road Slopes and Quarries					X	
Restoration of Spaces affected by Civil Works					X	
Restoration of Terrestrial Ecosystems					X	
River Management and Restoration					X	
River Rehabilitation and Restoration		X				
River Restoration					X	
Soil Erosion and Restoration Processes					X	
Soil Restoration					X	
Soil Restoration and Conservation Techniques					X	
Spatial Information Management for Ecosystem Restoration					X	
Techniques and Improvement in Forest Restoration programs					X	
The Restoration of Mining Areas: revegetation					X	
The Restoration of Mining Areas: the soil					X	
Vegetation and Landscape Restoration					X	
Vegetation Restoration					X	
Vegetation Studies applied to the Conservation and Restoration of the Natural Environment					X	
Water Resources and Aquifer Restoration					X	
Wetland Restoration and Creation					X	
Total	8	17	11	7	100	140