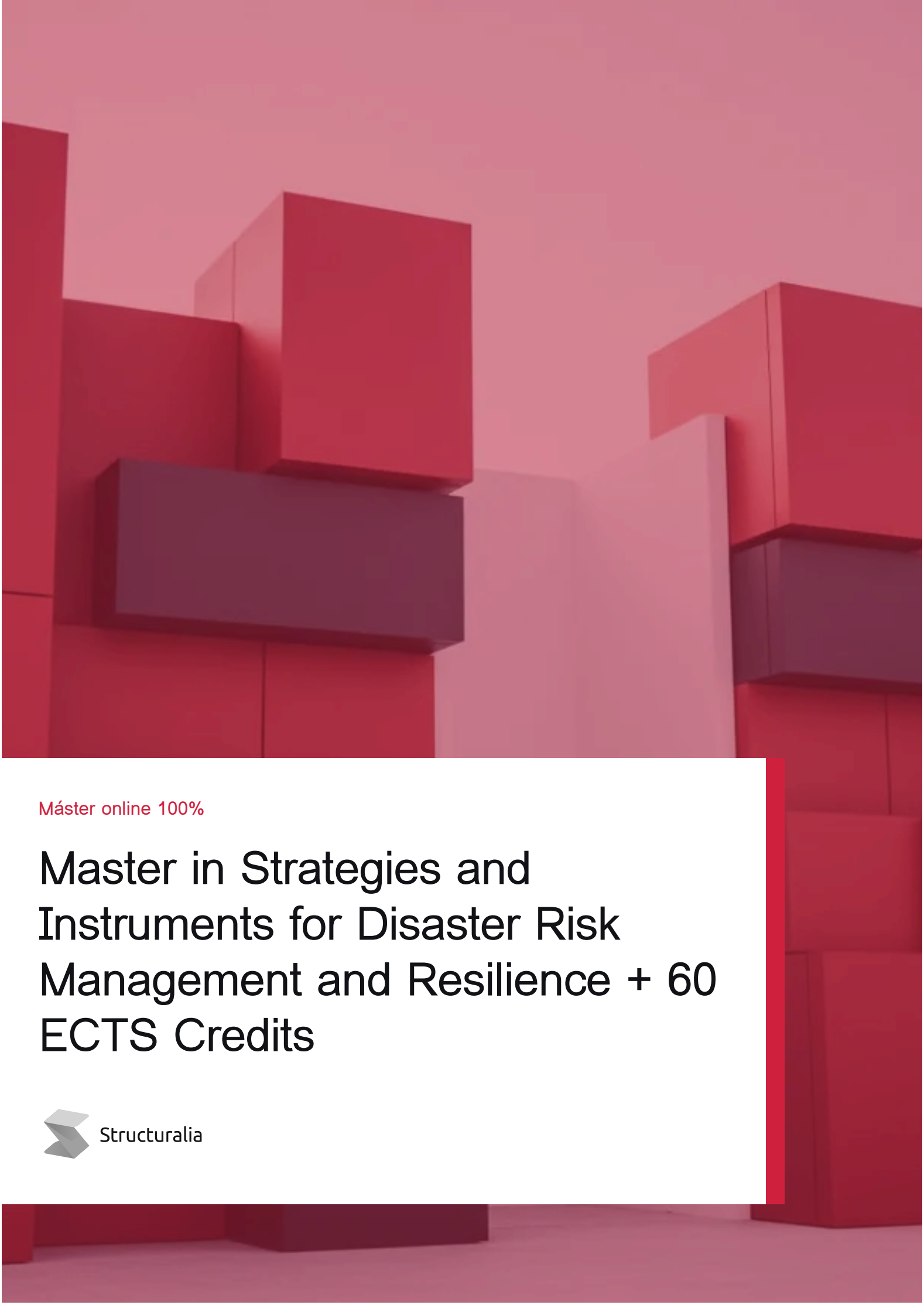


Máster online 100%

Master in Strategies and Instruments for Disaster Risk Management and Resilience + 60 ECTS Credits

Structuralia

Máster online 100%

Master in Strategies and Instruments for Disaster Risk Management and Resilience + 60 ECTS Credits

Modality
Online

Languages
Español

Duration
1500 hours (60 ECTS)

No Limit
AI Assistant

Does it include practices?
NO

Educational Institutions

Structuralia Engineering eLearning

UNIVERSIDAD NEBRIJA

Summary

The Master in Strategies and Instruments for Disaster Risk Management and Resilience is an advanced specialization designed for professionals who seek to update and perfect their skills in the identification, evaluation and management of disaster risks in complex contexts. It prepares you to address the dynamics between development, risk and disaster resilience from a comprehensive perspective, exploring the global context and impact of climate change. You will develop a prospective and corrective vision, essential to anticipate and mitigate impacts, as well as to design robust and effective post-disaster recovery plans. You will prepare to lead the implementation of strategic measures and instruments necessary to intervene in current and future risk conditions, consolidating your ability to make critical decisions in environments of high uncertainty. This program equips you with the knowledge and tools to transform the way your organization or entity addresses the challenges arising from extreme events, fostering long-term adaptation and resilience. You will acquire a deep understanding of the processes, dynamics and relationships between development, disaster risks and resilience, preparing you for the implementation of strategic measures and

instruments necessary for the intervention of current and future disaster risk conditions, contributing to global security and sustainability.

Agenda

MODULE 1. CONCEPTS AND CONTEXT OF DISASTER AND CLIMATE CHANGE MANAGEMENT AND RISK

1. DIDACTIC UNIT 1. RISK MANAGEMENT AND CLIMATE CHANGE MANAGEMENT

1. International Context of Disaster Risk Management (Sendai Framework for Disaster Risk Reduction)
2. International Context of Climate Change ((The IPCC: generalities and climate change scenarios)
3. Concepts related to Disaster Risk Management and Climate Change. Articulation levels.
4. Lines of Action for Risk Management, and structural and non-structural risk interventions
5. Risk Management by scenarios

2. DIDACTIC UNIT 2. DISASTER RISK AND CLIMATE CHANGE

1. Generalities of Climate Change (Physical Bases of Climate Change)
2. The IPCC. Generalities and Climate Change Scenarios
3. Relationship development - risk - disasters (the construction of risk) and the effects and impacts of climate variability and climate change.
4. Extensive and intensive risks, the effects of climate variability and climate change, and their impact on human development
5. Inequalities and conditions of vulnerability and the impacts and effects of climate variability and climate change.

3. DIDACTIC UNIT 3. SYSTEMIC APPROACH TO RISK MANAGEMENT AND CLIMATE CHANGE MANAGEMENT

1. Areas for Risk and Climate Change Management (from institutional to sectoral, private, territorial, community sectors)
2. Actors and actions for disaster risk management
3. Planning instruments for Risk Management and Climate Change
4. Institutionality, entities and organizations for the execution and monitoring of actions.
5. Adaptation and mitigation strategies for Climate Change

4. DIDACTIC UNIT 4. APPROACH TO PROCESSES AND STRATEGIES FOR COMPREHENSIVE MANAGEMENT OF DISASTER RISK AND CLIMATE CHANGE

1. What does the Process-based approach imply (the change in the approach to emergency and disaster care) in the context of climate variability and climate change.
2. Strategic Processes (Planning, Organization and Monitoring)
3. Missional Processes (Knowledge, Reduction Preparation/execution)
4. Support Process (Strengthening of knowledge and capabilities of the Human ReMODULE, Public Communication, information for decision making and Information Systems)
5. Strategies for comprehensive disaster risk management in the context of climate variability and climate change.

MODULE 2. PROSPECTIVE AND CORRECTIVE MANAGEMENT OF DISASTER RISK

1. DIDACTIC UNIT 1. CONTEXT AND CONCEPTUALIZATION OF RISK KNOWLEDGE FOR ITS PROSPECTIVE AND CORRECTIVE MANAGEMENT.

1. Disaster risk management
2. Internal context for disaster risk management.
3. The external context for disaster risk management.
4. Context of the disaster risk management process.
5. Disaster risk criteria.

2. DIDACTIC UNIT 2. RISK ASSESSMENT FOR PROSPECTIVE AND CORRECTIVE MANAGEMENT.

1. Disaster risk identification.
2. Disaster risk analysis.
3. Disaster risk assessment.
4. Disaster risk monitoring
5. Illustrative examples of disaster risk assessment.

3. DIDACTIC UNIT 3. RISK REDUCTION THROUGH PROSPECTIVE INTERVENTIONS.

1. Context and conceptualization of disaster reduction.
2. Current and future risk reduction processes.
3. Prospective intervention
4. Reduction measures - prospective intervention (future risk).
5. Resilience for disaster risk reduction.

4. DIDACTIC UNIT 4. RISK REDUCTION THROUGH CORRECTIVE INTERVENTIONS.

1. Corrective intervention (mitigation of current risk).
2. Reduction of vulnerability and increase of capacities and resilience, through structural and non-structural measures.
3. Financial protection.
4. Social actors facing disaster risk reduction.
5. Illustrative examples of corrective interventions.

MODULE 3. CLIMATE VARIABILITY AND CLIMATE CHANGE

1. DIDACTIC UNIT 1. CLIMATOLOGY CONCEPTS

1. Climate: definition
2. Climate: elements and factors
3. Climatology: study methods
4. The climate system

2. DIDACTIC UNIT 2. RADIATION, LAND ENERGY BALANCE. TEMPERATURE

1. General concepts
2. Radiation
3. Solar type radiation
4. Earth's energy balance
5. Solar radiation and its spatial distribution
6. Incident radiation at a point: calculation
7. Temperature

8. Natural greenhouse effect: gases and mechanisms
9. Disturbances in the energy balance: natural and human causes

3. DIDACTIC UNIT 3. CLIMATE AND ITS CLASSIFICATION

1. Climate and generalities
2. Climate classification based on temperatures and precipitation
3. The Koppen classification
4. Strahler's classification
5. Types of climates
6. mountain climates
7. Historical climate events: Little Ice Age, Medieval Climate Optimum
8. Methods for reconstructing past climate: climate witnesses

4. DIDACTIC UNIT 4. THE LIMITS OF THE PLANET

1. Biodiversity, "finitude" of natural resources and "irreversibility" linked to extinction
2. Renewable resources. Overexploitation of them today
3. Conflicts over renewable resources and environmental refugees

5. DIDACTIC UNIT 5. THE DEPLETION OF NON-RENEWABLE RESOURCES

1. Non-renewable resources, minerals and energy resources
2. The problems generated by its use and the conflicts over its control

6. DIDACTIC UNIT 6. CLIMATE CHANGE

1. Evidence of current climate change
2. Future projections for the average temperature of the planet according to the evolution of Greenhouse Gas emissions
3. Impoverished countries are and will be the most affected, the regions and ecosystems that will be especially affected by climate change, and the projections of the economic effects of climate change at a global level
4. The fight against climate change is possible, and is based on global action, mitigation and adaptation

7. DIDACTIC UNIT 7. CLIMATE MODELING: FUTURE SCENARIOS AND PROJECTIONS

1. History and evolution of climate modeling
2. Components of climate models
3. Types of climate models
4. Reference scenarios
5. IPCC and CMIP6 simulations
6. Projections of key climate variables

8. DIDACTIC UNIT 8. CARBON FOOTPRINT AS A METER OF CHANGE

1. Evolution of the carbon footprint concept
2. International regulations and standards
3. Carbon footprint categories
4. Scope of application and calculation objects
5. What is Life Cycle Analysis?

9. DIDACTIC UNIT 9. COMPENSATION. CLIMATE NEUTRALITY AND DECARBONIZATION STRATEGIES

1. Climate neutrality and Net Zero goals
2. Reduction or compensation strategies?
3. Carbon offset mechanisms
4. Carbon markets and emissions trading systems

10. DIDACTIC UNIT 10. KEYS TO SUSTAINABLE ADAPTATION

1. Difference between mitigation and adaptation
2. Local, national and global adaptation strategies
3. Climate resilient infrastructure and ecosystem-based solutions
4. Integration of climate change in territorial and sectoral planning

MODULE 4. ICT AND GIS APPLIED IN DISASTER RISK MANAGEMENT AND CLIMATE CHANGE

1. DIDACTIC UNIT 1. INTRODUCTION. COMPUTING, GIS, GPS, BD, TELECOM.

1. Introduction to computing and technological advances.
2. Database, data storage, database administration.
3. GIS, GPS, Coordinate Systems.
4. Use of Google Earth Pro to locate coordinates and maps.
5. GPS Essentials collecting data from the Android phone's GPS.

2. DIDACTIC UNIT 2. BASIC TOOLS FOR COLLECTION OF GEOLOCATED DATA IN A DATABASE.

1. Creating a collection form, recommendations for creating the storage structure.
2. Using Kobotoolbox.
3. Use of typeform.
4. Use of GISCLOUD.
5. Using the Fulcrum App.

3. DIDACTIC UNIT 3. USE OF QGIS DESKTOP TOOLS AND WMS AND WFS GEOSERVICES.

1. Basic QGIS Tools (I)
2. Basic QGIS Tools (II)
3. What are WMS or WFS Geoservices?
4. Creating WMS or WFS services with GeoServer (I)
5. Creating WMS or WFS services with GeoServer (II)

4. DIDACTIC UNIT 4. CREATION OF MAPS, LAYERS: CARTOGRAPHY, CADASTRE, CENSUS, AND GIS ANALYSIS TO OBTAIN THREAT, VULNERABILITY AND RISK MAPS.

1. List of Cadastre, censuses, cartography with Risk Management.
2. Creation of land use and vital infrastructure maps.
3. GIS analysis with QGIS and demonstration with ArcGIS Desktop.
4. Susceptibility maps, threats, vulnerability and risk maps. Their differences and types of maps, preparation methodologies.

5. Climate models and climate prospecting.

MODULE 5. FINANCIAL MANAGEMENT OF DISASTER RISK AND CLIMATE FINANCE

1. DIDACTIC UNIT 1. CONTEXT AND CONCEPTUALIZATION ON FINANCIAL PROTECTION FROM DISASTER RISK AND CLIMATE FINANCE

1. Conceptualization of financial protection from disaster risk
2. Conceptualization of climate finance
3. Disaster risk financial protection and climate finance as a component of fiscal management
4. Legal framework for financial protection from disaster risk and international agreements related to climate finance
5. Benefits of pooling risks

2. DIDACTIC UNIT 2. FINANCIAL PROTECTION FROM DISASTER RISK AND CLIMATE CHANGE CRITERIA IN PUBLIC INVESTMENT

1. Financial protection strategies against disaster risk
2. Risk retention instruments in the event of disasters
3. Risk financing instruments in the event of disasters
4. Risk transfer instruments in the event of disasters
5. Disaster risk analysis and climate change criteria in the public investment process

3. DIDACTIC UNIT 3. FINANCIAL PROTECTION FROM DISASTER RISK IN PRIVATE INVESTMENT

1. Risk administration or management
2. Introduction to insurance
3. Types of insurance
4. Business continuity plans in the event of disasters
5. The vision of the financial sector regarding environmental and social risks

4. DIDACTIC UNIT 4. CLIMATE FINANCE

1. Possible impacts of climate events
2. Inclusion of climate event considerations in the planning process
3. Financial instruments to face the occurrence of climate events
4. Tax management to promote adaptation to climate change
5. Green bonds and green climate fund

MODULE 6. DISASTER MANAGEMENT AND RECOVERY

1. DIDACTIC UNIT 1. CONTEXT AND CONCEPTUALIZATION ON DISASTER MANAGEMENT AND RECOVERY WITH A DEVELOPMENT APPROACH

1. Conceptualization of emergencies and disasters
2. Conceptualization of recovery with a development approach
3. The context of disaster management and recovery with a development approach
4. The response, recovery, and effects and impacts of climate variability and climate change
5. Cross-cutting issues in disaster management and recovery with a development approach

2. DIDACTIC UNIT 2. DISASTER MANAGEMENT AND RECOVERY PLANNING

1. Processes for disaster management and recovery
2. Preparations and alerts
3. Emergency response processes
4. The post-disaster recovery planning process
5. Territorial levels and work sectors

3. DIDACTIC UNIT 3. INFORMATION MANAGEMENT AND EVALUATIONS FOR RESPONSE AND RECOVERY

1. The information for the answer
2. Tools and needs assessment for response
3. Information management for recovery with development approaches
4. Assessment of damage, loss and recovery needs
5. Recovery: evaluations from government sectors, the role of the private sector and communities

4. DIDACTIC UNIT 4. STRATEGIES AND INSTRUMENTS FOR DISASTER MANAGEMENT AND RECOVERY WITH A DEVELOPMENT APPROACH

1. Strategies for disaster management and the humanitarian agenda
2. Instruments for responding to emergencies and disasters
3. Strategies for post-disaster recovery with a development approach
4. Instruments for planning and implementing post-disaster recovery with a development approach
5. Technical and reMODULES needs for the implementation of response and recovery actions

MODULE 7. INSTRUMENTS FOR ENVIRONMENTAL MANAGEMENT AND DISASTER RISK MANAGEMENT AT TERRITORIAL SCALES

1. DIDACTIC UNIT 1. TERRITORIAL SCALES OF ANALYSIS

1. How is the territory delimited?
2. Analysis from political limits
3. Analysis from environmental limits
4. Territorial scales at global, regional, national and local levels
5. The territory in environmental and disaster risk management

2. DIDACTIC UNIT 2. DIAGNOSTIC INSTRUMENTS FOR ENVIRONMENTAL AND DISASTER RISK MANAGEMENT

1. Diagnostic instruments in different types of management
2. Geological hazard characterization
3. Characterization of hydrometeorological threats
4. Characterization of biological threats
5. Environmental impact assessment studies (EIA)

3. DIDACTIC UNIT 3. PLANNING INSTRUMENTS FOR ENVIRONMENTAL DISASTER RISK MANAGEMENT

1. Planning and the environmental dimension
2. Territory planning
3. Disaster risk management planning and climate change planning instruments
4. Environmental planning
5. Sustainable development planning

4. DIDACTIC UNIT 4. MANAGEMENT AND MONITORING INSTRUMENTS

1. The operational instruments within planning
2. Watershed management plans
3. Environmental management plans (EMP)
4. Emergency contingency plans
5. Citizen oversight plans

MODULE 8. PUBLIC, PRIVATE AND COMMUNITY INVESTMENT INSTRUMENTS.

1. DIDACTIC UNIT 1. GENERALITIES ON RISK MANAGEMENT IN PUBLIC INVESTMENT

1. Risk management in public investment
2. Advances and challenges for risk management in public investment
3. Governance for public management and disaster risk management
4. Advances in disaster risk governance
5. Evaluation of the state of incorporation of risk management in public investment

2. DIDACTIC UNIT 2. INSTRUMENTS FOR RISK MANAGEMENT IN PUBLIC INVESTMENT

1. Probabilistic analysis instruments
2. Risk analysis instruments in pre-disaster public investment
3. Risk reduction instruments in post-disaster public investment
4. Risk analysis instruments in public investment at sector level
5. Instruments for monitoring public spending

3. DIDACTIC UNIT 3. PRIVATE INVESTMENT AND DISASTER RISK

1. Risk management in private investment
2. The business sector and risk reduction
3. Public-private partnerships for disaster risk reduction
4. Economic sector: Tourism and disaster risk reduction
5. Economic sector: Agroindustries and disaster risk reduction

4. DIDACTIC UNIT 4. RISK MANAGEMENT FROM THE COMMUNITY LEVEL

1. Risk management from the community
2. Vulnerabilities and challenges from the community level
3. Community resilience analysis
4. Community disaster risk planning instruments
5. Risk assessment instruments at community level

MODULE 9. CORRECTIVE DISASTER RISK MANAGEMENT

1. DIDACTIC UNIT 1. CONCEPTUAL FRAMEWORK

1. Basics
2. Risk reduction (corrective) strategies
3. Incorporation of risk management (corrective) in territorial and environmental planning instruments
4. Incorporation of corrective risk management in public investment
5. Risk reduction measures - Steps to intervene risk

2. DIDACTIC UNIT 2. CORRECTIVE MANAGEMENT THREAT

1. Generalities of corrective threat management
2. Structural measures for flooding
3. Structural measures for mass movements
4. Environmental measures
5. Non-structural measures to reduce the threat

3. DIDACTIC UNIT 3. CORRECTIVE VULNERABILITY MANAGEMENT

1. Generalities of corrective vulnerability management
2. Structural measures to reduce vulnerability
3. Non-structural measures to reduce vulnerability
4. Resettlement (I)
5. Resettlement (II)

4. DIDACTIC UNIT 4. COMPREHENSIVE RISK MANAGEMENT INTERVENTIONS

1. Territorial interventions
2. Sectoral Interventions
3. Regional Interventions - Macroprojects
4. Climate change adaptation measures related to GRD
5. Exercise of corrective application of risk.

MODULE 10. TFM. MASTER STRATEGIES AND INSTRUMENTS FOR DISASTER RISK MANAGEMENT AND RESILIENCE

Qualification

University Degree in Master of Lifelong Training in Strategies and Instruments for Disaster Risk Management and Resilience issued by the Antonio de Nebrija University with 60 ECTS University Credits. Teachings not leading to obtaining an official qualification

Objectives

- • Lead the formulation of innovative proposals for the strategic approach to risk reduction and resilience, promoting applied research. • Integrate a systemic view of risk management as a continuous process, considering interactions with climate change and sustainable development. • Design emergency planning and financial risk management strategies, including climate finance and post-disaster recovery mechanisms. • Implement advanced instruments for prospective and corrective intervention of vulnerability conditions, based on in-depth knowledge of the context. • Evaluate the impact of risk mitigation policies and measures in different contexts, optimizing strategic decision making. • Manage programs and projects for adaptation to climate change and prevention of extreme events, ensuring their coherence with international regulatory frameworks. • Develop capabilities for making informed decisions in crisis situations and high uncertainty, applying advanced risk analysis methodologies.

What does it prepare you for?

This program prepares you to lead the transformation in comprehensive risk management and resilience. You will develop a deep strategic vision of the processes, dynamics and relationships between development, disaster risk and climate change. You will acquire the capabilities to design and implement strategic measures and innovative instruments, essential to intervene effectively in current and future disaster risk conditions. You will prepare for post-disaster recovery planning, which will allow you to make informed decisions in contexts of uncertainty and complexity. You will be able to address prospective and corrective risk management strategies, integrating risk knowledge with territorial and sectoral planning, promoting the adaptive capacity of systems and communities. This comprehensive approach will allow you to generate sustainable and high-impact solutions.

Who is it addressed to?

This program is aimed at professionals in engineering, architecture, geography, earth sciences, economic, social, environmental sciences, ecology, biology and hydrology, as well as technical staff and officials of entities and organizations related to disaster risk governance. If you are looking to update and specialize your skills in vulnerability identification and analysis, this program offers you advanced strategic tools. If you want to acquire in-depth knowledge for comprehensive risk and resilience management, including the development of prevention and response strategies, and the understanding of post-disaster recovery processes, this master's degree will provide you with a qualitative leap in your decision-making and leadership capacity in complex environments.

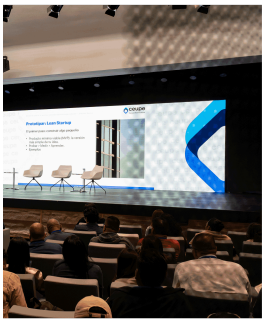
Official Character

This training is not included within the scope of official regulated training (Early Childhood Education, Primary Education, Secondary Education, Official Vocational Training FP, Baccalaureate, University Degree, Master University Officer and Doctorate). It is therefore a complementary and/or specialization training, aimed at the acquisition of certain competencies, skills or aptitudes of a professional nature, which can be assessed as merit in job boards and/or competitive examinations, always within the section of Complementary Training and/or Continuous Training. It is always essential to review the specific grading requirements of the specific public job boards to which we wish to apply.

Professional Outings

- Specialization in strategic disaster risk management and resilience will position you to assume highly responsible roles in the public and private sectors. You will be able to lead teams as Director of Risk and Resilience Management in government organizations, international NGOs or large corporations, designing and implementing disaster prevention and response policies. You will work as a Senior Risk Management Consultant, preparing and evaluating technical studies, diagnoses and strategies to reduce vulnerabilities in specialized consulting firms. You will advise entities on sustainable post-disaster reconstruction, integrating financial and recovery aspects. You will also be able to assume the role of Head of Climate Change Adaptation Programs in development agencies or research institutions, managing projects that strengthen the response capacity of communities and territories. Your global vision will allow you to influence critical decision-making, developing innovative instruments and programs for prospective and corrective risk management, contributing to safety and sustainable development.







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- Conferences and workshops with international experts
- Visits to companies and reference organizations
- Networking with students from different countries
- Cultural activities and discovery of Madrid
- graduation ceremony

Structural

Structuralia is a leading educational institution in postgraduate and highly specialized online training, focused on the fields of engineering, architecture, construction, energy, technology and digital transformation.

Founded in 2001 with a strong industrial DNA, the result of collaboration between large companies in the sector and the Universitat Politècnica de Catalunya (UPC), for more than 25 years we have accompanied technical professionals in their academic and professional development through practical, flexible training aligned with the reality of the labor market.

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Meet PHIA, your personalized learning assistant

Use all the possibilities of artificial intelligence to get the most out of it match to your training

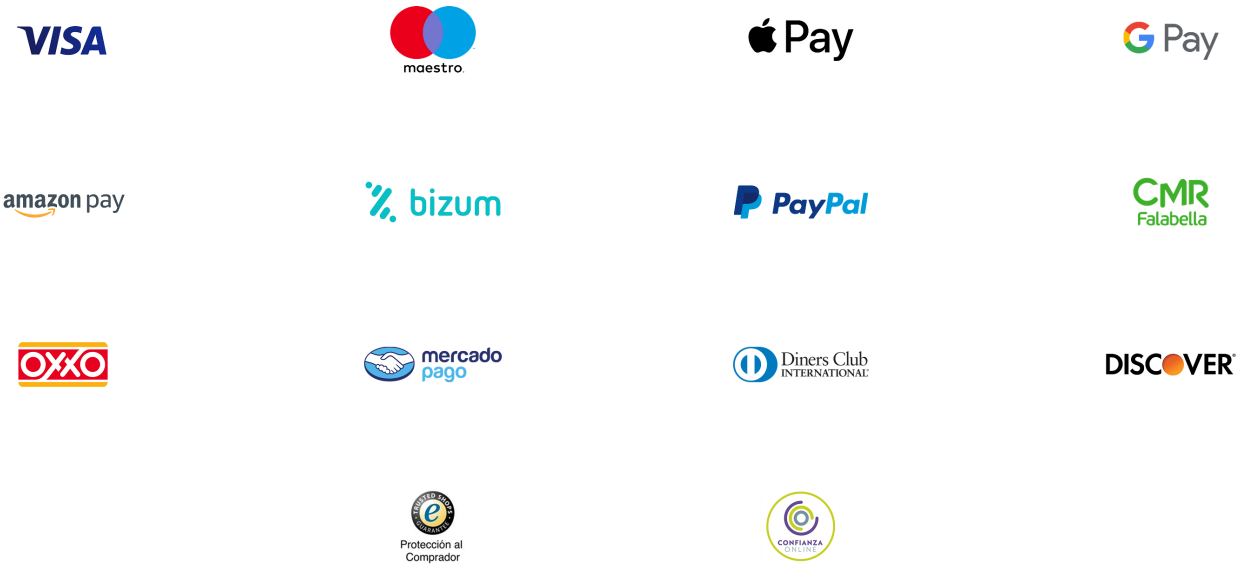
EDUCA EDTECH Group leads the digital revolution in education, promoting the continuous learning and technological transformation. The group is made up of recognized training institutions and its mission is to democratize access to education, promote the transfer of knowledge, technological development and research.

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