



MASTER'S DEGREE IN SUSTAINABLE DEVELOPMENT. 2030 AGENDA



60 ECTS Credits

12 months

Online



UCAM
UNIVERSIDAD
CATÓLICA DE MURCIA



Structuralia

SUMMARY

STRUCTURALIA.....3

BRIEF SUMMARY4

GROUPS OF INTEREST.....4

CAREERS OPPORTUNITIES.....5

OBJECTIVES5

PROGRAM6

AUTHOR PROFILE.....13

METHODOLOGY17

EVALUATION18

DEGREE18

STRUCTURALIA

Structuralia is an online school specialized in graduate engineering, infrastructure, construction, energy, building, new technologies, and digital transformation programs and courses. We are dedicated to providing high-quality education for engineers, architects, and STEM (science, technology, engineering, and mathematics) professionals.

Since our creation in 2001, over 200,000 students from more than 90 countries have participated in our virtual classrooms as we disseminate knowledge and guide professionals toward success.

To this effect, we collaborate with leading international experts in each field, which enables our students to specialize under the guidance of active professionals. Our constant interaction with major companies in each sector, as their specialized training provider, enables us to tailor high-quality academic material to meet the current job requirements of our students.

Our master's programs are certified by our partner universities, such as the Universidad Católica San Antonio de Murcia, UDAVINCI, or Universidad Isabel I.

Every day we strive to provide the best training for engineers, architects, and STEM professionals with a clear goal: your professional success.

BRIEF SUMMARY

Because sustainability and the SDGs are now a part of our DNA, although they do not always manifest accurately

Presently, the Sustainable Development Goals and the 2030 Agenda provide public administrations, businesses, and other types of organizations, with the framework to aim at achieving sustainability.

As a matter of fact, the pursuit of sustainability entails much work and effort in addition to the absolute need of mastering several areas due to the current climate crisis, the importance of Equality, and the awareness about Socially Responsible Investing (SRI) and financing based on the ESG criteria (Environmental, Social, and Corporate Governance).

This program has been designed to facilitate the understanding of the current global framework and the most relevant aspects that could help many organizations to achieve “quick wins”. .

GROUPS OF INTEREST

This master's degree is intended for professionals that require knowledge about, and a certain degree of specialization in SDGs, climate change, sustainable finances, and equality, as well as a deeper understanding on the topics previously studied.

It has been more specifically designed for:

- Quality, environment and IMS
- Communication and marketing
- Investors and financing

CAREER OPPORTUNITIES

This master's degree offers knowledge and skills that will help the student perform sustainability and CSR duties related to highly relevant aspects and situations.

Some job opportunities associated with the knowledge and skills acquired throughout this program are:

- Officer in charge of sustainability in public administration
- Officer in charge of sustainability or Corporate Social Responsibility
- Officer in charge of sustainability in non-profit organizations

OBJECTIVES

The main goal of this program is for the student to learn about the global sustainability framework and have a deeper understanding of relevant issues such as climate change, sustainable finances, and equality in order to develop the necessary skills to carry out actions and initiatives, within the professional setting, that contribute to sustainable development.

PROGRAM

1. SUSTAINABLE DEVELOPMENT GOALS (SDGs)

Unit 1. Introduction to sustainable development, main sustainable trends and Sustainable Development Goals (SDGs)

- Is there a limit to growth?
- Key trends in sustainable development
- Impacts on the company
- A brief introduction to the SDGs and the 2030 agenda
- Description of the SDGs, targets and key indicators

Unit 2. Global governance for sustainable development and analysis of the SDGs in the context of Spain

- Global governance for sustainable development
- Analysis of global SDGs performance and indicators

Unit 3. The private sector and financing for the achievement of the 2030 Agenda

- A sustainable view of the private sector
- Aligning business strategy with the SDGs and corporate reporting
- Financing and market opportunities for the SDGs
- Funding the SDGs
- SDGs in engineering and infrastructure

Unit 4. Civil society, partnerships and new efforts for Agenda 2030

- Vision of civil society, third sector and activism
- Education for the SDGs
- Public-private partnerships & stakeholder engagement
- Digitization, data and emerging technologies for the SDGs
- Effectively communicating the SDGs

2. SUSTAINABLE FINANCES

Unit 1. Sustainability and the financial world

- Sustainability and finances
- Main social and environmental challenges
- ESG criteria and their integration
- Risks and sustainability
- Current situation of sustainable finance

Unit 2: The institutional and legal framework for sustainable finance

- The United Nations Environment Programme (UNEP)
- UNEP's financial initiative
- The 2030 Agenda and sustainable development
- Sustainable finance in Europe
- Sustainable finance in Spain

Unit 3. Sustainable Investment products

- Sustainable investment
- Sustainable investment strategies
- Reporting on sustainable investment
- SRI funds and sustainable pension funds
- Impact investment

Unit 4: Sustainable finance products

- Sustainable financing and debt
- Green bonds
- Social bonds, sustainable bonds and bonds linked to sustainability
- Sustainable loans for companies and individuals
- Microfinance

3. EQUALITY AND HARASSMENT

Unit 1. Equality (I)

- Introduction and basic concepts
- Analysis of the workplace from a gender perspective.
- Policies for equal opportunities between women and men at international and European levels.
- Regulatory framework
- Business and equal opportunities. Egalitarian business culture. Equality in quality and business excellence
- Equality between women and men in work organisations. Collective bargaining. Positive action measures and equality plans

Unit 2. Equality (II)

- Corporate social responsibility and measures to be implemented in an equal opportunities company
- Equality plans. Commitment and equality commission. Diagnosis
- Measures to incorporate in an equality plan.
- Equality plan. Evaluation. Monitoring and recording
- Registration, conclusions and myths about the equality plan.

Unit 3. Harassment (I)

- Definition and concepts of Gender-based Violence
- Myths and facts about harassment
- Types of harassment
- Types of bullying: harassment by cyber-bullying

Unit 4. Harassment (II)

- Preventive measures against harassment: Harassment Protocol
- Labour Coexistence Committee
- Equality in language: non-sexist language, awareness-raising and communication
- General Data Protection Regulation (GDPR) and Harassment: a guide by the AEPD (Spanish Data Protection Agency)

4. SMART AND SUSTAINABLE CITIES

Unit 1. Sustainable cities

- Introduction to sustainability
- The 2030 Agenda and the SDGs
- Challenges of the city of the future
- Thriving and sustainable cities
- Success factors for sustainable and smart cities

Unit 2. Smart cities

- Urban design
- Digitisation of cities
- Urban energy transition
- Urban mobility
- Circular cities

Unit 3. Resilient cities

- Urban resilience
- Mitigation and adaptation to climate change
- Nature-based solutions
- Healthy cities
- Peri-urban spaces

Unit 4. Inclusive cities

- Social challenges
- Ensuring social cohesion
- Integrated urban governance
- Institutional leadership
- Networking and partnership

5. URBAN RESILIENCE

Unit 1. Fundamental concepts

- Urban development. Cities as systems of systems
- The concept of urban resilience. Resilience and sustainable development
- Risk assesment. Risk analysis and management
- Characteristics of resilient cities. Essential aspects to make a city resilient
- Resilience indicators and standards. The city resilience index

Unit 2. Urban resilience framework

- Health, well-being, and education
- Resilience and social cohesion
- Resilience and circular economy
- Production and responsible consumption in the resilient city
- Resilience and climate change

Unit 3. The built environment in urban resilience

- Resilient building
- Critical infrastructures in urban resilience
- Resilience in the water system
- Mobility resilience and energy efficiency
- Environment and ecosystem protection

Unit 4. Urban resilience trends and programs worldwide

- UN disaster risk education, sustainability, and urban resilience programs
- The 100 Resilient Cities (100RC) project by the Rockefeller Foundation
- The City Resilience Program (CRP) and other international urban resilience programs
- Smart cities
- Nature-based solutions and resilience

6. AIR POLLUTION

Unit 1. Introduction to air pollution

- The atmosphere
- The problem of air pollution
- Primary pollutants
- Secondary pollutants and atmospheric chemistry
- Concentration and dispersion modelling of pollutants in the atmosphere

Unit 2. Emission sources and sampling techniques

- Natural and anthropogenic sources
- Emission sampling techniques
- Immision sampling techniques
- Analysis of air pollutants
- Air quality

Unit 3. Air protection measures

- Corrective actions: removal of particulate pollutants (I)
- Corrective actions: removal of particulate pollutants (II)
- Corrective actions: removal of particulate pollutants (III)
- Corrective actions: removal of gaseous pollutants (I)
- Corrective actions: removal of gaseous pollutants (II)

Unit 4. Industrial emissions

- Vehicle pollution
- Waste incineration
- CO2 capture and storage (CCS)
- Other kinds of pollution
- Carbon footprint

7. CLIMATE VARIABILITY AND CLIMATE CHANGE

Unit 1. The Climate system

- Introduction to the climate system
- 2.Climate system structure and components
- The atmosphere and life on Earth
- The importance of the water cycle in climate regulation
- Climate change natural drivers

Unit 2. Weather, climate, and climate change

- Energy balance in the climate system
- Change in the climate system
- The oceans and the atmosphere: Essential interactions for climate
- Climate variability
- Weather, climate, and climate change in global systems

Unit 3. Climate change

- Anthropogenic drivers of climate change
- History of climate change
- Observed climate-change-related trends: Major effects
- Global climate change scenarios
- The importance of the 1,5 °C threshold

Unit 4. Vulnerability analysis and Climate Change Risk (CCR)

- Expected climate-change-related trends: second-order effects
- Vulnerability to climate change
- Dimensions of vulnerability and climate change risk
- Major climate risks

- Examples

8. GLOBAL WARMING MITIGATION TOOLS

Unit 1: The Close Link between Greenhouse Gas (GHG) and Global Warming (GW)

- Atmospheric Pollution
- Global warming and Climate Change
- Global Greenhouse Gas Emissions
- What is Global Warming Mitigation?
- Policy Approaches to Mitigation

Unit 2: International Mitigation Mechanisms

- Nationally Determined Contributions
- Carbon Emission Trade or Bond law
- Clean Development Mechanisms
- Joint Action and Adaptation Fund
- Non-market-based Compensation Mechanisms. Voluntary market

Unit 3: Sectoral Mitigation Strategies

- Energy Sector
- Industry Sector
- Transportation Sector
- Housing and Construction Sectors
- Agriculture, Forestry and other Land Use Sectors

Unit 4: Mitigation Benefit and Opportunities

- Mitigation in Asia
- Mitigation Measures in the American Continent
- Mitigation Measures in Africa
- Mitigation Measures in Europe
- Mitigation Measures in Oceania

9. NATURAL RISK ENGINEERING: DROUGHTS AND FLOODS

Unit 1: Water resource assessment

- Hydrological balance
- Climatology.
- Precipitation
- Evaporation and transpiration
- Geology and hydrology

Unit 2: Droughts

- Drought. Definition
- Ecological flows
- Underground water
- Special drought plans
- Special drought plan indicator systems

Unit 3: Floods

- Introduction and concepts.
- Precipitation analysis
- Avenue flows and flood areas
- Flood risk management plans
- Emergency management

Unit 4: Engineering solutions for natural risk management

- Geomorphological -historical analysis
- Adaptation to exposure to floods
- Conventional solutions
- Nature-based solutions
- Nature-based urban solutions

MASTER'S FINAL PROJECT

The program is subject to possible variations / updates of the contents to improve their quality

AUTHOR PROFILE

DIRECTOR

Sonia Moreno

Forest engineer from Polytechnic University of Madrid (UPM); PDD (Project Planning and Design) from the School For Industrial Organisation (EOI); Master's degree in Engineering and Environmental Management from the School For Industrial Organisation (EOI); Master's degree in Trainer of Trainers (ToT) from Barcelona Autonomous University (UAB); Customer Service Expert from the Spanish Quality Association (AEC).

Sonia started her work experience in Quality and Environmental Management and Construction Project Control at the OHL Group, where she worked for 18 years. She is currently working as Partner Manager at Huella Responsable and as Corporate Social Responsibility, Environment and Quality Consultant.

Alejandro Rodríguez Bolaños

Alejandro is an Impact Strategist at Paradigma Digital dedicated to generating impact strategies based on technology and innovation with the aim of solving major social and environmental challenges.

He is also specialized in strategic interaction between the private sector and the main sustainability trends and the role of the Sustainable Development Goals (SDGs). Additionally, Alejandro has been appointed Global Shaper (WEF), Young Civic Leader (Tatiana Foundation) and representative of ComUnit in the Boston Tech and Social Innovation program (Harvard, MIT...).

Throughout his career, he has combined his work in large multinational organizations (PwC, ERM, GE) with entrepreneurship projects, collaborations, and alliances with different NGOs (AIESEC, Karibu Sana, Kailash Satyarthi Foundation) and universities; also, as guest lecturer at Rey Juan Carlos University and Strathmore University (Kenya).

Alejandro holds a degree in Energy Engineering, and an International Master in Sustainable Development and Corporate Social Responsibility, and an expert diploma in Climate Finance and Renewable Energies among other studies on Climate Change and Social Innovation.

Lidia Del Pozo Mateos

Lidia del Pozo is the current ComUnit Director of the Investment Programs at BBVA, where she is responsible for the management of social programs at a global level. Between 2000 and 2006, she was Executive Director of The Spain - U.S. Chamber of Commerce in New York, an American non-profit organization whose mission is to advise, support and accompany Spanish companies during their establishment in the United States. Previously, she worked for various organizations in the fields of research and project management, including the European Institute of Public Administration in Maastricht. Lidia del Pozo holds a Law Degree by the University of Deusto, where she also obtained a Postgraduate Degree in European Studies. She also holds a master's degree in Comparative European and International Law (LLM) by the University of Maastricht in the Netherlands.

Marta Guajardo-Fajardo Abad

With more than 15 years of experience in the HHRR field, Marta has worked in the definition and development of recruiting, development, and business belongingness policies. She has also led change management initiatives by negotiating and resolving conflicts, creating, and training multidisciplinary and multicultural teams in which respect and diversity are of great importance. Marta's main approach focuses on the financial aspects of resource management.

María Teresa Pérez Martín

With energy and perseverance you can conquer everything"; this is one of the mottos Marta Teresa Peres lives by throughout her professional life, which, as she describes it, is international, multisectoral and versatile in nature

After graduating from Law school by the University of Salamanca, and completing two master's degrees, Marta obtained a Doctorate in International Environmental Law by the University of Strasbourg, where she was a Marie Curie intern of the European Union and the ADEME (Agence de

l'environnement et de la maîtrise de l'énergie).; Her doctoral thesis was written and published in French and has been referenced in numerous publications.

Marta has lived in several European countries for the past 16 years working as an expert environmental consultant for international organizations such as UNEP, European institutions, as

well as for national and regional governments. After her return to Spain, she has worked as international relations coordinator for an international NGO for 10 years.

Regarding her experience as an educator, Marta has worked as a university professor for more than 12 years in several Universities and training centers in the fields of environment and sustainable development project management.

Finally, since 2007, she has been managing a Center for conservation and environmental education where she contributes to raising awareness about sustainability through her blog *Misión Sostenible*.

Araceli Iniesta Alonso-Sañudo

Araceli Iniesta holds a bachelor's degree in Geography by the University of La Laguna, a master's degree in Regional Policy of the European Union by the Polytechnic University of Madrid, another master's degree in Environmental Management and Administration, and an Expert Diploma in Development Cooperation Projects by the University of Alcalá de Henares.

Araceli has thirty years of experience in project management, tenders, and business development in the areas of urban planning, spatial planning, environment, and sustainability.

She has also worked in various engineering and consulting firms, both in Europe and in Latin America, and has been a teacher, columnist, and lecturer.

At present, she works in different areas for the sustainability of companies and territories.

Andrea López Romera

Andrea López is an environmental engineer by the Rey Juan Carlos University of Madrid with a master's degree in engineering and environmental management by the School of Industrial Organization (EOI).

She has extensive experience in the environmental field, collaborating in H2020 projects in Nice (France), analyzing the generation and management of waste for the Móstoles City Council (Madrid), as an environmental technician at the Adolfo Suárez Madrid - Barajas Airport and, currently, managing projects at national and international levels, especially focused on the treatment of urban solid waste and its associated technologies.

Jane Guerrero

Jane Guerrero is an Ecologist from the Javeriana University of Bogotá-Colombia, with studies in Ecology, Biodiversity and Evolution from the University of Paris Sud France, and a master's degree

in development and comprehensive territorial planning from the Natural History Museum of Paris, UNESCO. She has experience in disaster risk project management and Climate Change in both the public and private sector, also as a lecturer. Jane Guerrero is the co - author of “*Gestión ambiental territorial*” (*Territorial Environmental Planning*). She is currently a member of the Risk Scenario Group at the Disaster Risk Management and Climate change District Institute in Bogota.

Inés Errazuriz

Inés is a Civil Engineer (Road, canals, and ports) with a specialty in hydraulics and energy by the Polytechnic University of Madrid and holds a master's degree in engineering and water management by the School of Industrial Organization. In addition, she has training in spatial databases (PostGIS) by the Polytechnic University of Valencia.

She has also worked as a flood risk specialist at INCLAM, conducting hydrological and hydraulic studies to assess structural measures to reduce flood risk. Currently, Ines works as a specialist in hydrology and hydraulics for climate change projects in the environment department of IDOM Consulting, Engineering and Architecture.

METHODOLOGY

At Structuralia, we apply a modern methodology adapted to the process of change we live in today. Our educational environment is based on an online learning system, that is, learning by observing, reflecting, and practicing with an organized and carefully programmed study pace, which comes along with the constant support from our team. Our learning solution is designed to facilitate learning at the student's own pace, with a uniform structure that includes continuous evaluations and practical exercises to reinforce knowledge.

Our program's calendar consists of 9 monthly modules, which are divided into 4 weekly teaching units. In addition, there are 3 months for the Master's Final Project (MFP). This structure may be adjusted depending on the innate complexities of the program.

Each of these units contain introductory videos on concepts, syllabus prepared by our experts (which can be viewed online or downloaded in PDF), and self-assessments. Some units may even have practical exercises or examples, if required by the expert. At the end of each module, there will be a compulsory exam in order to complete the module.

The Director will ask all students to complete a Master's project, in which they will apply everything they have learnt in the previous modules, to practical cases. Students will have 3 months to complete and submit the project, during which they will receive the support from the program's team.

Finally, you will receive the status reports from our team through regular follow-ups throughout the program.

EVALUATION

The assessment will be ongoing throughout the training program and will take into account not only the acquisition of knowledge, but also the development of skills and attitudes.

At the end of each monthly module, the student must answer a test-type exam on the online training platform, in addition to pose a variety of practical cases along the topics and optional unit test so as to achieve the maximum consolidation of technical concepts.

To obtain the degree it will be necessary to pass the assessable modules of the program.

DEGREE

Students who have visualized all the lessons, successfully passed the self-assessments and exams, and submitted the master's final project, will receive Structuralia's certificate and the title of Master of Professional Development by the Universidad Católica San Antonio de Murcia (UCAM), in digital format.

Likewise, the student can request a certificate of completion of his/her master's degree, or a certificate of completion from Structuralia.

The student may also request a the Hague Apostille on his/her certificate of completion from the university an additional fee.



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