Online Master in Economic Policy and Governance for Development and Resilience

Università Telematica Universitas Mercatorum, Rome, Italy
in collaboration with
United Nations University - CRIS, Bruges, Belgium

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Program Overview

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The **Online Master in Economic Policy and Governance for Development and Resilience** offered by **Università Telematica Universitas Mercatorum** in collaboration with **United Nations University - CRIS** is designed to equip you with the knowledge, skills, and analytical tools needed to address the complex economic and social policy challenges of the 21st century. The program provides a strong interdisciplinary foundation in economics, governance, and social policy, while also offering the opportunity to specialize in key areas of public policy and practice. Emphasizing both theoretical understanding and practical application, it prepares you to work across sectors—government, international organizations, civil society, and research institutions—toward inclusive, evidence-based, and transformative change.

In today's rapidly changing global context — including rising inequality, technological disruption, climate change, and emerging geopolitical tensions — the need for resilient and adaptive policy thinking has never been more urgent. As new barriers to cross-border collaboration and knowledge exchange emerge, this fully online program offers a globally accessible learning environment. You will engage meaningfully and equitably with faculty and peers from around the world, gaining diverse insights and a truly international perspective.

Traditional disciplinary boundaries are no longer sufficient to navigate the complex challenges of our time, nor do they provide the broad set of skills needed for the future of work. This program is intentionally interdisciplinary, bringing together a diverse faculty of economists, data scientists, behavioral scientists, sociologists, and medical professionals. You will learn in a setting that encourages cross-disciplinary thinking and exposes you to multiple perspectives, preparing you to approach real-world problems with both analytical depth and contextual understanding.

You will gain a robust grounding in economics, governance, global challenges, quantitative methods, professional skills, and a hands-on Policy Lab, where you will design real-world policy solutions in collaboration with experts and practitioners. This blend of theoretical insight and practical experience prepares you for diverse career paths. The program enables you to work effectively in government agencies, international organizations, civil society (non-profits/NGOs), private sector or academic and research institutions.

Finally, building on the common core foundation, you will choose one of four distinct specialization tracks, each focusing on a particular domain of economic policy and governance for development and resilience:

Data-driven Analysis for Policy: This specialization prepares students to work with real-world data in policy contexts. It combines hands-on technical training in data science with critical reflection on the ethical and institutional use of data. Students learn to program in Python, analyze policy outcomes using machine learning, and explore other AI applications. They also examine how evidence informs decisions, emphasizing transparency, interpretability, and fairness.

Economics and Governance of Innovation and New Technologies: This specialization explores how innovation and emerging technologies drive economic and social transfor-

mation. It examines the processes behind innovation, how innovation contributes to development, the governance frameworks surrounding new technologies and strategies to ensure that technological change is inclusive and sustainable.

Inclusive Economic and Human Development: This specialization explores the institutional and political economy foundations of inclusive development. It examines how structural transformation, innovation, and governance systems shape long-term economic progress, while addressing poverty and inequality through intersectional and rights-based approaches.

Multi-level Governance of Global challenges: Investigates how governance systems interact across local, national, regional, and global levels to address pressing challenges such as climate change, migration, and digital sovereignty, with an emphasis on collaboration and critical policy analysis.

PROGRAM DIRECTOR

Prof. Nanditha Mathew, *United Nations University - CRIS, Bruges.*

TEACHING COORDINATORS

Prof. Nanditha Mathew, *United Nations University - CRIS, Bruges.*

Prof. Andrea Mazzitelli, *Università Telematica Universitas Mercatorum, Rome.*

Partnering Institutions

Università Telematica Universitas Mercatorum is Italy's online university established by the Italian Chambers of Commerce. It is built on state-of-the-art e-learning technology and serves students and professionals seeking to earn a degree entirely through online learning. The name Universitas Mercatorum reflects its deep connection with the business community across all productive sectors and its mission to contribute to local economic and social development. Created by enterprises for enterprises, Universitas Mercatorum emphasizes professional education that is grounded in real-world needs. Through its innovative programs, you will gain practical, skill-based training designed to prepare you for the demands of today's dynamic labor market. You will also benefit from a strong focus on applied learning, economic insight, and tools that enable immediate impact in both the public and private sectors.

United Nations University – CRIS is part of the global network of institutes under the United Nations University, dedicated to research and capacity development in support of the UN's universal goals. UNU-CRIS brings together scholars from around the world to generate innovative knowledge on how to address complex global challenges. Specializing in global cooperation and regional integration, UNU-CRIS acts as a resource for the broader UN system and works closely with UN bodies and international partners on issues related to governance, development, and the provision of public goods. As a student in this program, you will gain direct exposure to policy-relevant research and the global frameworks shaping

international cooperation. You will also benefit from opportunities to learn from UNU professionals actively engaged in UN-linked initiatives, gaining insights, mentorship, and connections to global policy networks that extend far beyond the virtual classroom.

Certificates

Upon successful completion of the programme, participants will be awarded:

- An Italian First Level University Master's Degree (Master Primo Livello)

- A Certificate of Completion from the United Nations University – CRIS

Assessments

Assessments will be conducted fully online and may include multiple-choice questions and/or essay-based evaluations. A final assessment will require students to submit an essay.

Visiting Period

A selected number of students may spend up to three months at UNU-CRIS in Bruges during their second semester, gaining on-site research experience. Participation is optional and not a mandatory requirement of the program.

Career Talks

You will engage with professionals from international organizations, public institutions, and the private sector to gain insights into recruitment practices and career paths—and connect directly with potential recruiters.

Tution Fees

3500 EUR

Application Deadline

October 31, 2025

Enrollment Deadline

November 07, 2025

Program Starts

November 17, 2025

Course Structure

Course Structure

Core Courses

- CC1 - Governance of Global Challenges
- CC2 - Topics in Economic Theory
- CC3 - Core Skills for Professional Practice
- CC4 - Policy Lab: Designing Solutions to Real-World Problems
- Students can choose any two of the following four optional courses:

    CC5 - Statistical Foundations for Policy I

    CC6 - Statistical Foundations for Policy II

    CC7 - Qualitative Research Methods

    CC8 - Experimental Design for Policy and Economics

Specializations

S1: Data-driven Analysis for Policy

S2: Economics and Governance of Innovation and New Technologies

S3: Inclusive Economic and Human Development

S4: Multi-level Governance of Global Challenges

Timeline of courses

Course	**ECTS**	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
CC1	4								
CC2	8								
CC3	4								
CC4	6								
CC5/7	4								
CC6/8	4								
SC*1	4								
SC*2	4								
SC*3	4								
SC*4	4								

* CC are core courses and SC are courses within each specialization.

Core Courses

CC1 - Governance of Global Challenges

ECTS: 4

Course Description

This course serves as both a conceptual foundation and an entry point to the master's program. It provides a structured introduction to the governance of complex, interconnected, and multi-scalar global challenges in the 21st century. It introduces students to the institutional, political, and ethical dilemmas that shape governance across levels—from local to global—and explores emerging frameworks and tools for navigating uncertainty, systemic risks, and adaptive responses.

Students will engage with a range of theoretical concepts and real-world cases that illustrate the governance of climate change, pandemics, digital disruption, migration, and inequality. The course conceptualizes these challenges as components of complex adaptive systems—networks of agents whose interactions generate both cooperation and conflict, resilience and fragility. The course further unpacks how increased connectivity between human, ecological, and technological systems reshapes our understanding of governance and policy design.

Key themes include wicked problems, the tragedies of the commons, adaptive governance, and resilience thinking. A special focus is placed on technologies as both solutions and sources of new risks, and on regional institutions as potential intermediaries in global governance, explored through the lens of comparative regionalism.

Focus

Understanding the dynamics of governing complex global challenges through systems thinking and institutional design. The course emphasizes adaptive, multi-level, and participatory approaches to governance, grounded in both theory and applied cases.

Topics

Sustainable Development Goals (SDGs) and the governance of global priorities

Complex adaptive systems and feedback loops in global governance

Wicked problems and the tragedy of the commons

Interactions between ecological, human, and technological systems

Adaptive governance and resilience thinking

Ethical, political, and institutional dilemmas in global governance

Knowledge, data, and evidence in navigating complex challenges

Role of technologies in addressing (or not) global challenges such as climate change

Comparative regionalism: regional solutions to global problems

Ethical and political dimensions of global challenges

Interaction between local and global challenges

Learning Outcomes

By the end of the course, students will be able to critically analyze global challenges through the lens of systems thinking and adaptive governance, and evaluate the political and ethical dilemmas inherent in global policy responses. They will also gain an appreciation of the broader questions that underpin contemporary public policy—ranging from data use and technological change to ethics and participatory governance —thus preparing them to engage with the program's specializations in a theoretically grounded and practically informed way.

CC2 - Topics in Economic Theory

ECTS: 8

Course Description

This course introduces students to key concepts in economic theory that underpin public policy and development analysis. It covers foundational models from microeconomics and macroeconomics, with a focus on how these models explain market behavior, economic growth, and international trade. Students will learn the logic and structure of widely used theoretical frameworks, and how these models guide policy thinking in areas such as efficiency, trade, market failures, and economic coordination.

The course emphasizes both intuition and formal reasoning, preparing students to understand how economic models are built, when they apply, and what their limitations might be in real-world contexts.

Focus

Providing students with a structured and applied introduction to fundamental economic theories relevant for public policy and development.

Topics

General equilibrium and market coordination

Comparative advantage and international trade

Market failures: externalities, public goods, and information asymmetries

Efficiency and welfare economics

Economic growth: Solow and endogenous growth models

Introduction to macroeconomic policy and stabilization tools

Role of institutions and incentives in economic outcomes (brief overview)

Learning Outcomes

By the end of the course, students will be able to understand and apply core economic models to assess policy challenges. They will gain the ability to interpret theoretical assumptions, identify key mechanisms, and analyze economic outcomes related to trade, growth, and market interventions.

CC3 - Core Skills for Professional Practice

ECTS: 4

Course Description

This course supports students in developing the awareness, tools, and transferable skills needed to navigate a diverse and rapidly changing professional landscape. Whether preparing for careers in policy, academia, entrepreneurship, or the private and nonprofit sectors, students will engage in a structured process of self-reflection and skills development grounded in academic and practical perspectives.

While highly applied in orientation, the course also provides academic foundations that will support students throughout the program. It covers essential skills for research and writing, including how to conduct literature reviews, interpret academic texts, and identify and use relevant data. These skills are directly connected to the requirements of the master thesis and will equip students to work more effectively across both academic and professional settings.

The course is designed to foster self-awareness, career orientation, and goal setting. Students will reflect on their personal strengths and areas for growth, identify their professional values and aspirations, and develop an individual Future Career Dossier that includes a positioning statement, a targeted CV, and a concrete action plan. The aim is to build clarity, confidence, and intentionality in preparing for next career steps—whether in academia, public policy, consulting, or innovation-driven roles.

Another focus will be on professional development workshops, tailored to the broad range of roles graduates of the program may pursue. Topics include effective communication (verbal and written), intercultural competence, negotiation and influence, strategic time management, data presentation, and digital collaboration. These sessions are complemented by input from professionals working in policy, research, entrepreneurship, and beyond—offering students exposure to different work contexts and leadership styles.

Focus

Building core skills in communication, teamwork, digital fluency, and personal career strategy—supporting students' ability to navigate diverse professional environments and academic challenges with confidence and purpose.

Topics

Career planning, professional identity, and future goals

Structured writing policy and professional audiences

Verbal communication and presentation techniques

Negotiation, influence, and cross-cultural competence

Collaboration and feedback in team-based settings

Strategic time and task management

Data interpretation and presentation for impact

Digital tools for communication and project delivery

Personal branding, CV design, and interview readiness

Proper use of generative AI to support research, writing, and career development

Learning Outcomes

By the end of the course, students will have strengthened their ability to communicate clearly, collaborate effectively, and manage their time and goals in dynamic professional settings. They will be able to articulate their professional identity, prepare tailored applications, and confidently approach the next steps in their career. At the same time, they will be better equipped to engage in thesis research and academic work that connects meaningfully with real-world questions and audiences.

CC4 - Policy Lab: Designing Solutions to Real-World Problems

ECTS: 6

Course Description

The Policy Lab is an applied, team-based course that simulates the experience of working as a policy analyst or advisor. Students collaborate in small groups to address a complex, real-world policy challenge—diagnosing the problem, analyzing evidence, engaging with stakeholders, and developing actionable recommendations.

Grounded in economic reasoning, research methods, and systems thinking, and enriched by interdisciplinary perspectives, the course challenges students to translate academic insight into practical solutions. Projects may be based on real-time policy questions submitted by partner organizations—such as government agencies, international institutions, companies, or civil society actors—or constructed simulations of urgent public challenges.

Each team will be guided by a mentor—which may include public officials, company representatives, academic researchers, or civil society experts—who will provide feedback and ensure that students consider practical constraints, political feasibility, and stakeholder dynamics throughout their project.

The course emphasizes analytical rigor, creativity, communication, and collaboration. Students will work together to deliver a short final project, typically in the form of a policy brief and oral presentation, articulating their proposed solution and its expected impact.

Focus

Equipping students with the experience of applying policy analysis tools and design thinking in a realistic, collaborative environment—enhancing their capacity to work across sectors, disciplines, and institutional settings.

Topics

Framing and diagnosing public policy problems

Stakeholder mapping and institutional analysis

Mixed-methods research and data interpretation

Ideation and evaluation of policy alternatives

Writing briefs, memos, and professional documents

Teamwork, project management, and responding to feedback

Persuasive communication and public presentation

Learning Outcomes

By the end of the course, students will have developed hands-on experience in collaborative policy analysis and solution design. They will be able to frame complex public problems, assess data and institutional dynamics, and generate well-reasoned, clearly communicated policy advice. Their final deliverable—a policy project and presentation—will demonstrate their ability to bridge theory, evidence, and practical realities in the pursuit of impactful public solutions.

CC5 - Statistical Foundations for Policy I

ECTS: 4

Course Description

This required, fast-paced survey equips incoming MPP students—whether from history or hardware engineering—with a shared statistical grammar. Lectures translate real policy questions into data structures, while hands-on labs use spreadsheets and RStudio-Cloud to turn concepts into computation. Early weeks demystify averages, variation, and sampling variability through vivid social-science examples; mid-term sessions build the logic of estimation and hypothesis testing without burying students in calculus.

A capstone segment introduces simple linear regression as a storytelling device, stressing diagnostics, visualisation, and ethical data use. Readings come from OpenIntro Statistics and recent policy memos, ensuring that every formula is tethered to a public-sector decision. By the end, students can read journal tables, spot statistical snake oil, and draft evidence-rich briefs.

Focus

Core statistical reasoning for policy generalists; no prior coding is assumed. Blend of conceptual insight, practical software, and clear communication.

Topics

- Describing data: center, spread, shape, and outliers
- Probability rules, sampling, Law of Large Numbers, Central limit theorem
- Confidence intervals and standard errors
- Tests for group differences and associations
- Bivariate linear regression and residual checks
- Data visualisation & reproducible workflows

Learning Outcomes

Graduates articulate uncertainty, choose appropriate descriptive and inferential tools, and learn to read and produce graphs. They are ready either to analyze modest datasets on their own or to collaborate intelligently with specialists in the advanced course.

CC6 - Statistical Foundations for Policy II

ECTS: 4

Course Description

Designed for students who have mastered foundational stats, this elective core drills deeply into regression modelling with linear algebra. Short algebra reviews ground the geometry of OLS before the syllabus scales to multiple regression, fixed effects, and generalised linear models. Each lecture pairs with a Python lab where students wrangle real administrative, survey, and text data.

One session surveys the general machine-learning workflow (train/test split, over-fitting, cross-validation) purely as a conceptual map so that graduates can talk fluently with data-science colleagues.

The final meetings introduce logistic regression for binary outcomes and a taste of causal program-evaluation designs (randomized trials, before-after comparisons, and the logic behind difference-in-differences), giving students a toolkit robust enough for most master-level capstones.

Focus

Matrix-based regression theory married to hands-on data-science practice. Prepares the "data analysis" track and sharpens evaluation skills for all.

Topics

Basics of linear algebra

Basics of python and numpy

Least-squares in matrix form; projection & leverage

Multiple regression, interactions, and diagnostics

Working with microdata, survey data, and administrative data

Generalized Linear Models: logistic & Poisson for counts, links vs. distributions

Machine learning general framework

Communicating uncertainty, robustness, and causal identification

Learning Outcomes

Students leave able to specify, estimate, and critique multiple-regression models in python, explain findings to non-technical stakeholders, and recognise when more advanced methods (or specialists) are required.

CC7 - Qualitative Research Methods

ECTS: 4

Course Description

This course provides a comprehensive introduction to qualitative research methods, equipping students with the skills to design, conduct, and analyze qualitative research systematically. It explores the foundational paradigms underpinning qualitative inquiry and offers practical training in diverse data collection techniques, including interviews, surveys, observation, and documentary analysis. Special emphasis is placed on recognizing and addressing researcher and respondent biases, ensuring validity and ethics in fieldwork, and applying reflexivity throughout the research process. Through hands-on exercises and case examples, students will develop the competencies needed to produce rigorous, ethical, and insightful qualitative research in development and social science contexts.

Focus

Understanding qualitative research paradigms, designing coherent studies, mastering key data collection techniques, critically reflecting on bias and positionality, and systematically analyzing qualitative data.

Topics

Foundational paradigms: inductive reasoning, constructivist epistemology, interpretivism

Designing qualitative research questions and sampling strategies

Interview techniques, survey design for qualitative research, and observational methods

Collecting and interpreting documentary and digital data

Researcher bias, respondent bias, and strategies for maintaining rigor

Ethics, power dynamics, and reflexivity in fieldwork

Systematic coding and analysis of qualitative data using manual and digital tools

Learning Outcomes

By the end of the course, students will be able to design effective qualitative research projects, apply multiple methods of qualitative data collection, critically address issues of bias, validity, and ethics, and systematically analyze qualitative data to produce robust, evidence-based research outputs.

CC8 – Experimental Design for Policy and Economics

ECTS: 4

Course Description

This course provides a comprehensive introduction to the design, implementation, and analysis of experiments in economics and public policy. It equips students with the conceptual and practical tools needed to assess causal relationships using experimental methods. Emphasis is placed on understanding randomized controlled trials (RCTs), as well as quasi-experimental designs, including when and how to use them in real-world policy settings.

The course blends theory with hands-on practice, guiding students through the full cycle of an experimental study—from formulating hypotheses and identifying treatment groups to field implementation, ethical concerns, and interpreting results. It also explores recent innovations such as behavioral and lab-in-the-field experiments, and discusses limitations of experiments in capturing long-run or systemic effects.

Focus

Training students in the logic and practice of experimental methods for evidence-based policy design and evaluation.

Topics

Causal inference and the logic of experiments (An introduction to DAGs (Directed Acyclic Graphs))

Randomized controlled trials (RCTs): design, implementation, and ethics

Power calculations and sample size determination

Treatment assignment, stratification, and balance checks

Spillovers, attrition, and external validity

Field experiments vs. lab experiments

Behavioral economics and experiments in decision-making

Quasi-experimental methods: instrumental variables, Difference-in-Difference, regression discontinuity, matching techniques, in particular propensity score matching

Case studies from education, health, governance, labor, and development economics

Ethical and practical challenges in real-world experiments

An introduction to R for experimental research

Learning Outcomes

By the end of the course, students will have a solid understanding of the theoretical foundations and practical applications of experimental methods for causal inference in economics and policy. They will be able to design and evaluate experiments in applied settings, interpret experimental results with rigor, and critically assess the strengths and limitations of experimental evidence in academic and policy contexts. Students will also develop the skills to address practical challenges such as sample design, ethical considerations, spillover effects, and external validity—preparing them to contribute meaningfully to the design and evaluation of evidence-based policy interventions.

Specializations

Specialization 1: Data-Driven Analysis for Policy

This specialization equips students with the technical and conceptual tools to work with data in real-world policy environments. It begins with foundational programming and data wrangling in Python, including introductory visualization skills. Students then learn how to apply forecasting and causal machine learning methods to policy-relevant questions, followed by an accessible introduction to AI and image and text data, including large language models and neural networks. The final course focuses on bridging data and decision-making: students critically examine how analysis is interpreted, communicated, and governed in the policy process, with emphasis on transparency, fairness, and ethical use.

SC11 - Python Programming and Data Wrangling

ECTS: 4

Course Description

This course introduces students to the foundations of programming in Python and the essential skills for handling, cleaning, and transforming data for policy analysis. It emphasizes hands-on learning and problem-solving using real-world datasets drawn from public sources, preparing students to manage the full data pipeline—from raw data to ready-for-analysis datasets. Attention is also given to responsible data management, including privacy, confidentiality, and ethical data use.

Focus

Equip students with practical programming and data wrangling skills, while developing awareness of responsible data management practices in policy research.

Topics

Python programming basics: syntax, variables, control structures, functions

Working in Jupyter Notebooks and good coding practices

Data structures and file handling (CSV, JSON, Excel, etc.)

Data cleaning and transformation with pandas

Exploratory data analysis (EDA) and descriptive statistics

Introduction to data from APIs and basic web scraping

Basic data visualization with matplotlib and seaborn: plotting trends, comparisons, and distributions

Responsible data management: privacy, anonymization, licensing, and ethical use

Learning Outcomes

Students will be able to write Python scripts to load, clean, and explore datasets. They will also understand how to manage and work with data responsibly, in line with privacy and ethical standards in public policy.

SC12 - Data Analysis for Policy–Forecasting and Causal Inference

ECTS: 4

Course Description

This course introduces students to modern data analysis techniques used in public policy, with a dual focus on forecasting and causal inference. Building on basic quantitative methods from the core curriculum, it begins by framing what makes a question policy-relevant — distinguishing between predictive and causal goals — and proceeds to equip students with the tools to analyze both. Emphasis is placed on applying these methods to real-world challenges using Python and open datasets, with special attention to the strengths, limitations, and ethical use of data-driven policy insights. Advanced topics will focus on the use of machine learning tools to address causality and forecasting.

Focus

Train students to identify and model policy-relevant questions using forecasting and causal inference tools, and to apply machine learning methods responsibly in policy analysis.

Topics

What is policy relevant? Prediction vs. causal analysis in public decision-making

Supervised learning for predictions. Linear models: OLS, lasso, ridge.

Non linear systems: fundamentals of Decision Trees

Foundations of causal inference: treatment effects, counterfactuals, evaluation design

Quasi-experimental designs: Instrumental variables, panel data structure, and score matching

Causal machine learning: causal forests, double ML, uplift models

Applications to policy problems (e.g. poverty, education, health, labor)

Model evaluation, interpretability, and ethical considerations

Tools: scikit-learn, EconML, statsmodels

Learning Outcomes

Students will be able to distinguish between predictive and causal policy problems, and apply appropriate data-driven methods to address each. They will gain practical skills in building, interpreting, and critically assessing forecasting and causal models in Python.

SC13 - Neural Networks and Unstructured Data in Policy

ECTS: 4

Course Description

This course introduces students to the use of Neural Networks, both to analyze data and to extract insights from unstructured data in public policy. It is designed for students from both technical and non-technical backgrounds. Alongside hands-on activities using cutting-edge tools, students will be introduced to the basic concepts behind neural networks and how they enable modern AI systems, including applications to both text and image data. The course concludes with a critical discussion of responsible AI use and the governance of automated systems in public institutions.

Focus

Introduction to modern AI for policy, combining hands-on experience with text and image analysis and conceptual understanding of how these models work, aimed at real-world applications.

Topics

What are neural networks and why they are relevant

Basic concepts in neural networks: layers, weights, training, overfitting (conceptual focus)

Fundamentals of unstructured data in policy: text, image, and beyond

Natural language processing: cleaning, sentiment analysis, topic modeling

LLMs in action: prompt engineering, summarization, classification, extraction

Introduction to image recognition: how CNNs "see", and policy-relevant use cases (e.g., satellite imagery, document OCR)

Use of AI tools: OpenAI (ChatGPT, Whisper), Hugging Face, browser-based tools

Responsible AI: transparency, bias, accountability, explainability in government use

Learning Outcomes

Students will be able to explain the basic principles behind modern neural network-based models and to apply these tools both to structured data and to text and image data for public policy tasks. They will critically assess the risks and opportunities associated with AI adoption in public decision-making.

SC14 - From Data to Policy — Interpretation, Communication, and Ethics

ECTS: 4

Course Description

This course provides an introduction to the economics of innovation, offering conceptual foundations and practical insights into how innovation emerges, who drives it, and how it interacts with institutions, capabilities, and broader socio-economic systems. It introduces students to the diverse types and sources of innovation—technological and non-technological, radical and incremental—and to key analytical frameworks such as innovation systems theory, which highlights the importance of institutions, networks, and learning processes.

Students will explore fundamental questions: What is innovation and how does it contribute to productivity, welfare, and societal goals? What enables or constrains innovation across firms, sectors, and countries? How can public policy be used to stimulate, steer, and evaluate innovation, especially in the face of market or system failures?

The course also examines the policy rationale for supporting innovation, including public research, intellectual property regimes, open innovation, and the financing of innovation through venture capital and subsidies. Particular attention is given to the challenges faced

by developing and emerging economies in building innovation capabilities and leveraging science and technology for inclusive and sustainable development.

Students will be introduced to key tools and metrics for monitoring and evaluating innovation performance, including innovation surveys, indicators, and scoreboards. Through case studies and comparative analysis, they will assess how innovation policies are designed, implemented, and adapted in both high-income and low-income country settings.

Focus

Understanding the core concepts, actors, activities, and institutional settings that shape innovation, and how innovation systems and policies operate across diverse economic and development contexts.

Topics

How data enters policymaking: evidence, legitimacy, and institutional dynamics

Trust and interpretability in machine learning: transparency, SHAP, and explainability

Algorithmic accountability and governance: regulation, audits, AI risk management

Bias, discrimination, and fairness in AI and data

Communicating uncertainty, assumptions, and ethical trade-offs

Responsible storytelling with data: framing, narrative, and influence

Light-touch visualization for trust and communication (policy briefs, dashboards, public-facing outputs)

Learning Outcomes

Students will be able to communicate data insights clearly and responsibly to policymakers and stakeholders. They will also be equipped to evaluate and mitigate ethical and governance risks associated with algorithmic decision-making in the public sector.

Specialization 2: Economics and Governance of Innovation and New Technologies

Innovation and new technologies continue to reshape the way we live and work, driving economic growth, social change, and structural transformation. From foundational breakthroughs to everyday improvements, innovation plays a central role in shaping productivity, competitiveness, economic transformation, and development outcomes across countries. Yet, innovation does not emerge in a vacuum—it is shaped by policy, institutions, firm capabilities, technological trajectories, and evolving global challenges. This specialization equips students with the conceptual foundations, analytical tools, and practical insights needed to understand and design innovation policies that respond to the needs of dynamic, sustainable, and inclusive economies.

Bringing together perspectives from economics, public policy, business strategy, and sustainability studies, the specialization explores the interplay between innovation systems, digital transformation, entrepreneurial ecosystems, and mission-oriented public policy. Students will examine how governments and firms co-shape technological change; how innovation contributes to competitiveness and productivity; how it disrupts labor markets and reinforces or reduces inequalities; and how innovation can be directed toward societal goals such as decarbonization, strategic autonomy, and digital resilience.

SC21 - Economics and Governance of Innovation – Foundations and Perspectives

ECTS: 4

Course Description

The course offers the fundamentals of the economics of innovation, including introduction to the concept of innovation and its relevance across different policy and development contexts. It explores how innovation emerges, who the critical actors are, and how innovation processes interact with institutions, capabilities, and broader socio-economic structures.

Students will engage with fundamental questions: What is innovation and how could it contribute to productivity and welfare? What enables or constrains innovation in firms, sectors, and countries? How can public policy be used to stimulate, direct, and evaluate innovation in line with economic, social, or environmental goals?

The course introduces students to different types and sources of innovation—technological and non-technological, radical and incremental—and to the innovation systems perspective, which emphasizes the role of institutions and networks. It also covers the rationale for policy intervention, including market and system failures, as well as the role of public research, intellectual property, and open innovation dynamics. Attention is given to the challenges of building innovation capabilities, particularly in developing and emerging economies.

Students will also be introduced to key tools for monitoring and evaluating innovation, including innovation surveys, indicators, and scoreboards. Through case studies and examples from both advanced and developing countries, they will critically assess how innovation policy is shaped, implemented, and measured.

Focus

Understanding the core concepts, actors, activities and role played by innovation across different economic and institutional contexts.

Topics

Types, sources, and characteristics of innovation

Innovation systems and institutional frameworks

Market and system failures and the role of the state

Innovation capabilities and catching up

Intellectual property, open innovation, and firm strategies

Industry–science linkages and public research organizations

Financing of innovation: Venture Capital, Subsidies

Science and innovation policy: rationale, goals, and key policy instruments

Innovation indicators, surveys, and measurement tools

Governance of innovation and new technologies

Learning Outcomes

Students will develop a strong conceptual and applied understanding of innovation and innovation policy. They will be able to analyze innovation systems, diagnose market and system failures, and identify the institutional and financial conditions that foster innovation.

Students will also gain the skills to critically assess policy instruments, interpret innovation indicators, and evaluate strategies for building innovation capabilities—particularly in contexts where innovation is essential for inclusive, sustainable, and long-term development.

SC22 - New Technologies, Innovation, and Development

ECTS: 4

Course Description

In this course, we begin by exploring the economic foundations of technological innovation: what drives firms and individuals to invest in research and development (R&D), generate new technologies, and protect them through intellectual property rights. We analyze the incentives for innovation in different market structures and examine how strategic behavior such —such as mergers and acquisitions (M&A), knowledge spillovers, and cooperation in R&D—shape innovation outcomes. A key focus is placed on intellectual property systems, particularly the use of patents to appropriate returns from innovation. Students will engage with current policy debates around the design and enforcement of patent regimes, the role of IP in stimulating or hindering innovation, and the distributional consequences of strong IP protection across countries and industries. This part of the course also explores the geography of innovation: why some regions emerge as global technology leaders while others lag behind, and how these disparities shape the global flow of knowledge and technology.

In the second part of the course, we analyze how innovation and technological change shape—and are shaped by—global development processes. We pay particular attention to how countries in the Global South engage with emerging technologies: how innovations, often originating in advanced economies, are adopted, adapted, or circumvented in lower-income contexts, and the barriers they face in doing so. We also examine how trade and global value chains influence the diffusion of technology and affect economic activities and employment—not only in the regions where technologies are developed, but also in the regions integrated with them through global production networks. The course explores why developing countries tend to invest significantly less in R&D and identifies alternative pathways to building technological capabilities—through learning, selective innovation, institutional reform, and adaptive policy strategies.

Focus

This course focuses on understanding the drivers of technological innovation—from market incentives and intellectual property regimes to firm strategies and regional ecosystems—and on analyzing how these dynamics interact with broader development processes. Special attention is given to how innovation systems function differently across the Global North and South, and how emerging technologies reshape global production, employment, and the distribution of capabilities.

Topics

Incentives for innovation

Economic rationale of IP systems: patents, copyright, and innovation incentives

The geography of innovation: regional hubs, clustering, and global disparities

Economics of Artificial Intelligence

Employment impacts of digital and emerging technologies

Global technological shifts and their implications for development

Barriers to innovation in developing contexts: institutional and capability constraints

Trade, global value chains, and the transmission of technology

Learning Outcomes

By the end of the course, students will be able to analyze the economic foundations of innovation, including how market structures and intellectual property regimes shape R&D investment and technological change. They will understand what patents are, how they are generated, and their implications for knowledge diffusion and market power. Students will be equipped to evaluate technology and innovation policies in both high-income and developing countries and understand the broader implications of emerging technologies for employment, economic activities, and development strategy.

SC23 - Firm Innovation and Strategic Entrepreneurship

ECTS: 4

Course Description

Firms are central actors in the innovation process—shaping technological change, driving industrial transformation, and responding to dynamic market conditions. This course explores how firms develop innovation strategies, navigate uncertainty, and scale entrepreneurial activity, with a focus on how these processes vary by firm size, sector, and strategic orientation.

The course begins by examining stylized facts about firm heterogeneity, including patterns of growth, productivity, and survival. Students will explore how innovation contributes to firm performance, and how the relationship between innovation and growth differs between advanced and emerging economies. Key questions include: Why do some firms grow rapidly while others stagnate? What types of innovation—incremental, disruptive, or organizational—contribute most to long-term success?

Students will engage with core concepts from strategic management and innovation studies, such as dynamic capabilities, innovation under uncertainty, and the role of firm-specific

knowledge assets. The course investigates how startups, SMEs, large firms, and national champions develop and implement innovation strategies, and how these are influenced by internal capabilities, organizational structures, leadership, and access to finance and talent.

The second part of the course focuses on strategic entrepreneurship—how innovative companies discover, develop, and exploit opportunities for new products, services, and business models. Students will engage with theories on entrepreneurial and innovation networks, including topics such as design thinking, digital innovation, sustainability, and business modelling. The course provides insights into the specific challenges and opportunities of digital entrepreneurship, including the critical success factors for launching and scaling ventures in the digital economy.

In addition, students will explore why entrepreneurship flourishes in certain economies and institutional contexts but struggles in others. The course analyzes the emergence of entrepreneurship and innovation, and how these are shaped by formal institutions, leadership, culture, talent, finance, knowledge networks, infrastructure, and demand conditions. Strategies to foster entrepreneurship and its role in value creation and societal well-being are critically examined.

Focus

Understanding how firms innovate and grow through strategic decision-making and entrepreneurship, and how entrepreneurial success is shaped by firm capabilities, digital technologies, and wider institutional and ecosystem conditions.

Topics

Stylized facts on firm heterogeneity: growth, productivity, innovation

Innovation strategies and capabilities of startups, SMEs, large firms, and national champions

Firm Innovation in emerging economies: constraints, learning processes, and adaptation

Institutional ecosystems and policy support for business innovation

Entrepreneurship in emerging economies

Dynamic Capabilities, Strategic decision-making and innovation under uncertainty

Entrepreneurial ecosystems: networks, finance, intermediaries, and institutions

Entrepreneurship and economic development

Learning Outcomes

By the end of the course, students will be able to critically assess how firms design and implement innovation strategies, develop dynamic capabilities, and respond to evolving market conditions. They will gain a deep understanding of the entrepreneurial process—from identifying opportunities to scaling ventures—and how it is shaped by institutional, technological,

and cultural factors. Students will be equipped to evaluate firm-level innovation and entrepreneurship, and apply these insights to support innovation leadership, policy design, and ecosystem development in varied economic contexts.

SC24 - Innovation, Environmental and Social Sustainability

ECTS: 4

Course Description

Innovation is central to addressing the urgent challenges of climate change, environmental degradation, and widening social inequalities. At the same time, innovation can create new risks—intensifying resource consumption, disrupting labor markets, and deepening regional and sectoral divides. This course explores the interplay between technological innovation, environmental sustainability, and social outcomes.

Students will analyze how innovation policy can be used to steer economies toward low-carbon, resource-efficient, and socially just trajectories. The course examines green technologies, mission-oriented policy approaches, and the role of public investment, regulation, and strategic planning in shaping sustainable innovation pathways. Key policy frameworks—such as the European Green Deal, Net-Zero Industry Act, and Critical Raw Materials Act—are examined to understand how governments align industrial, climate, and innovation strategies. Attention will be paid to the 'twin transition,' exploring how digital innovations can drive green objectives and how sustainability goals can, in turn, stimulate technological advancements.

The course also explores how innovation affects labor markets, skill needs, and the geography of employment, particularly in the context of digitalization and the green transition. It critically examines the material basis of green innovation, focusing on the increasing dependence on critical raw materials for batteries, wind turbines, solar panels, and other clean technologies. Students will assess the implications for industrial resilience, geopolitical competition, environmental justice, and circular economy strategies.

Through theoretical insights, data-driven empirical studies, and reviewing existing policy, the course equips students to evaluate the role of innovation in enabling or constraining environmental and social sustainability goals in high-income and global policy contexts.

Focus

Understanding how innovation intersects with environmental sustainability and social outcomes, and how innovation policy can be designed to support the green and digital (twin) transition, just labor market shifts, and industrial resilience.

Topics

Green technologies and innovation for climate mitigation

Mission-oriented policy and the European Green Deal

The twin transition: digital innovation and sustainability goals

Labor markets and innovation: skills, displacement, and regional impacts

Critical raw materials and the geopolitics of clean technology supply chains

Strategic autonomy and industrial policy in green transitions

Environmental justice and the distributional impacts of innovation

Policy frameworks: Net-Zero Industry Act, Critical Raw Materials Act

Learning Outcomes

By the end of the course, students will be able to critically assess how innovation can advance or constrain environmental and social sustainability objectives. They will understand the role of public policy in shaping sustainable innovation systems, the implications of the twin transition for labor and industry, and the strategic challenges posed by dependence on critical raw materials. Students will also develop the analytical tools to evaluate innovation policies, and to contribute to the design of equitable and effective green and digital transition strategies.

Specialization 3: Inclusive Economic and Human Development

This specialization offers a multidisciplinary perspective on the institutional, economic, and social foundations of development, and explores how development unfolds not just through economic growth, but also through inclusive institutions, strategic innovation, and responsive governance.

Students begin by examining the historical and political economy roots of development, including colonial legacies, structural inequalities, and competing theoretical frameworks. They then explore how industrialization, innovation, and structural transformation can shift economies toward higher-value activities and long-term resilience—drawing links to the technological and institutional insights emphasized in the innovation specialization. The specialization further analyzes how institutions and governance systems shape state capacity, reform trajectories, and policy effectiveness, connecting closely with the program's broader focus on multi-level governance and the political economy of change.

Finally, the track addresses the persistent challenges of poverty, inequality, and exclusion through intersectional, participatory, and rights-based frameworks. These themes also tie into questions of data use and evidence-driven decision-making raised in the data specialization, and highlight the need for integrated approaches to evaluating and advancing social progress.

This specialization equips students to critically assess development strategies using tools and perspectives from political economy, institutional analysis, and inclusive policy design—preparing them to work at the intersection of long-term economic transformation and human-centered development.

SC31 - Foundations, History and Political Economy of Development

ECTS: 4

Course Description

This course offers a comprehensive introduction to development as both an empirical challenge and a field of study. It combines historical and political economy perspectives with foundational development theories to explain why some countries achieve sustained progress while others face persistent poverty, inequality, and structural dependence.

The first part of the course asks, what is development? Students will explore competing definitions and metrics—ranging from GDP and productivity to well-being, capabilities, and sustainability. It then examines the historical roots of global inequality, focusing on colonial legacies, structural imbalances in the global economy, and institutional persistence.

The second part introduces key theoretical frameworks used to understand economic development. Students will critically engage with classical, neoclassical, structuralist, and institutional theories, including more recent approaches that consider environmental constraints, green transitions, and the sustainability-development trade-off.

This course provides a strong conceptual and historical foundation for students pursuing careers or research in development policy, political economy, or institutional analysis.

Focus

Topics

What is development? (GDP vs. capabilities vs. well-being)

Historical growth trajectories: developed vs. developing countries

Colonial legacies and structural inequality

Development indicators: Human Development Index (HDI), Multidimensional Poverty Index (MPI), inequality measures.

Classical and neoclassical theories: Rostow, Harrod-Domar, Solow

Endogenous growth and technological change

Structuralist and dependency theories: Lewis, Prebisch-Singer

Institutional and evolutionary perspectives: North, Acemoglu, Rodrik

Development vs. sustainability: trade-offs and tensions

Green industrial policy and environmental regulation

Learning Outcomes

By the end of the course, students will have developed a critical understanding of development as a multidimensional and historically embedded concept. They will be able to compare different approaches to measuring development—ranging from GDP to capabilities and well-being—and analyze how colonial legacies, institutional structures, and global inequalities

shape contemporary development outcomes. Students will also be able to engage with key theoretical traditions in development economics, assess their relevance in different contexts, and reflect on how economic development can be reconciled with environmental sustainability. Overall, they will be equipped to apply foundational frameworks to analyze real-world development challenges and policy strategies in both historical and current settings.

SC32 - Industrialization, Innovation, and Structural Transformation

ECTS: 4

Course Description

This course examines the central role of industrialization, innovation, and structural change in shaping development trajectories. It investigates why some countries have successfully transformed their productive structures—moving into higher-value industries and technologies—while others remain trapped in low-productivity activities and commodity dependence. Drawing on evolutionary economics and development theory, the course explores how industrialization unfolds through dynamic learning, technological upgrading, and capability accumulation. It also highlights how trade dynamics, global value chains (GVCs), and patterns of economic complexity influence the possibilities for industrial upgrading, diversification, and export-led growth.

Students will engage with historical and contemporary debates on industrial policy, innovation systems, and the state's role in coordinating structural transformation. In particular, it will explore how public policy shapes technological paradigms, innovation ecosystems, and industrial upgrading, and how these processes are mediated by power structures, coordination failures, and global asymmetries. The course pays particular attention to the institutional and policy environments needed to foster technological learning, productive diversification, and inclusive growth.

Focus

Understanding the drivers of industrialization, innovation, and structural change in economic development, with particular emphasis on how trade, global value chains, and public policy shape technological upgrading and productive transformation in diverse national contexts.

Topics

Industrialization and structural transformation in development

Productive capabilities, learning, and technological upgrading

Evolutionary and institutional approaches to innovation

Industrial policy: rationales, tools, and coordination challenges

National innovation systems and policy ecosystems

Trade dynamics and global value chains in structural change

Economic complexity and diversification potential

Public-private coordination and capability failures

Political economy of industrial catch-up

Case studies of industrial upgrading in Asia, Latin America, and Africa

Learning Outcomes

By the end of the course, students will be able to analyze how industrialization and innovation contribute to long-term development and structural transformation. They will understand how trade and global value chain integration affect opportunities for upgrading and diversification, and evaluate how public policies and institutions support or constrain productive change. Students will also be equipped to critically engage with debates on industrial policy, innovation systems, and the global asymmetries that shape development pathways.

SC33 - Institutions, Governance, and Politics in Development

ECTS: 4

Course Description

This course introduces students to the central role that institutions—both formal and informal—play in shaping development outcomes. Drawing from institutional economics, comparative politics, governance studies, and law and economics, it examines how institutional configurations structure incentives, mediate power relations, and influence long-term trajectories of economic and social development.

Students will explore how formal institutions—such as constitutions, laws, property rights, and bureaucracies—and informal institutions—such as norms, networks, and social capital—interact to shape policy effectiveness, legitimacy, and inequality. The course analyzes how institutions evolve, why they persist or change, and how they interact with broader political and historical contexts.

Core themes include the relationship between institutions and market functioning, the political economy of reform, the impact of corruption and rent-seeking, and the determinants of state capacity. Students will critically assess the characteristics of developmental versus predatory states, and study how governance quality—measured through rule of law, bureaucratic accountability, and political stability—shapes public trust and development outcomes.

In addition to engaging with theoretical perspectives, the course introduces students to a growing body of empirical research that investigates institutional quality, reform strategies, and variation across different political regimes and levels of state capacity. Through comparative case studies and practical frameworks, students will gain tools to diagnose institutional strengths and weaknesses, and to design more inclusive and context-sensitive development strategies.

Focus

Exploring how institutions function, interact, and evolve—and how legal structures, political incentives, and governance quality contribute to (or obstruct) inclusive, accountable, and sustainable development.

Topics

Definitions and types of institutions: formal vs. informal, political vs. economic

Property rights, rule of law, and contract enforcement

Informal institutions: culture, norms, trust, and social capital

Corruption, rent-seeking, and bureaucratic accountability

State capacity and administrative effectiveness

Political economy of reform and institutional change

Developmental vs. predatory states: elite bargains and institutional lock-in

Governance indicators and cross-country institutional diagnostics

Institutional design vs. practice: implementation gaps and state legitimacy

Case studies: tax reform, judicial independence, decentralization, anti-corruption strategies

Learning Outcomes

By the end of the course, students will have a comprehensive understanding of how institutions—legal, political, and cultural—affect development outcomes. They will be able to analyze how rules, norms, and power structures shape state capacity, economic performance, and citizen trust. Students will develop the skills to critically assess the quality and evolution of institutions across different national contexts, understand implementation gaps, and evaluate policy reform efforts with attention to institutional and political constraints.

SC34 - Poverty, Inequality, and Inclusive Development

ECTS: 4

Course Description

This course examines the multidimensional nature of poverty and inequality and explores how development policies can promote inclusion, agency, and social justice. It introduces students to different approaches to understanding and measuring poverty and inequality—ranging from monetary indicators to the capabilities approach and multidimensional frameworks. A key emphasis is placed on how different axes of social difference—such as gender, age, ethnicity, and class—intersect to shape experiences of poverty and development outcomes. The course also explores critical approaches to participatory development, including its role in shaping programs, policies, and power relations. Students will analyze how livelihoods are shaped by access to assets, institutions, and social norms. Finally, the course considers how grassroots and social movements influence development discourse and challenge structural inequality.

Focus

Understanding and critically engaging with poverty, inequality, and exclusion through intersectional, participatory, and rights-based development frameworks.

Topics

Changing definitions and measurements of poverty and inequality

Multidimensional and capability-based approaches

Intersectionality: gender, ethnicity, age, and other social axes

Redistribution, and welfare regimes

Social movements and the politics of inclusion

Case studies on grassroots mobilization and inclusive development

Learning Outcomes

By the end of the course, students will be able to critically engage with changing definitions and measurements of poverty and inequality, understand how intersectionality shapes development outcomes, and analyze participatory approaches to policy and the role of social movements in advancing inclusive development.

Specialization 4: Multi-level governance of global challenges

This specialization explores how governance structures at local, regional, national, and global levels interact to address complex and interdependent global challenges. In an increasingly interconnected world, issues such as climate change, migration, digital transformation, and inequality transcend national borders and demand coordinated responses across multiple governance scales. Students will critically examine how power, authority, and decision-making are distributed and negotiated among states, regional organisations, international institutions, private actors, and civil society. Emphasis is placed on understanding the political, economic, and social dynamics that shape multi-level governance frameworks and on analyzing how different actors collaborate—or compete—to advance collective solutions to global problems.

Drawing from development studies, political science, international relations, and public policy, the specialization provides students with the analytical tools needed to navigate and influence complex governance environments. Students engage with real-world case studies, conceptual debates, and policy practices, developing a comprehensive understanding of how multi-level governance works—and sometimes fails—in practice. In this specialization, students will develop the ability to navigate complex governance environments and learn to formulate policy responses that address challenges at all levels – skills that are highly valued in international organizations and public sector roles.

SC41 - Regionalism and Inter-regionalism in Development

ECTS: 4

Course Description

Regionalism – the formation of regional blocs and institutions – and interregionalism – cooperation between such blocs – have become significant features of global development and international relations. This course provides an interdisciplinary exploration of how regions organize themselves and engage with each other to address development challenges. It draws

on insights from development studies, political science, and international relations to examine the economic, political, and social dimensions of regional cooperation in the developing world. Students will investigate why states pursue regional groupings, how regional organizations evolve over time, and in what ways these bodies contribute to or hinder development goals.

Through a mix of theoretical analysis and real-world case studies, the course illustrates key concepts and will explore the historical evolution of regionalism across different continents. Diverse examples of interregional relationships – in particular between Europe, Latin America and Africa – are used to highlight varying patterns of interaction. By comparing these and other cases, students gain a critical understanding of regional experiences and how interregional dynamics shape development outcomes. The course encourages students to question Eurocentric assumptions and to consider perspectives from multiple regions as they analyze the role of regionalism in contemporary development.

Focus

Understanding the political economy of regionalism and interregionalism in development, critically analyzing how regional cooperation shapes development trajectories, and engaging with non-Eurocentric perspectives on regional integration and partnerships.

Topics

Concepts and theories of regionalism and interregionalism

Historical evolution of regional cooperation

Regional organisations as development actors

Interregional cooperation frameworks and dynamics

Comparative case studies of interregionalism (North–South and South–South)

Challenges in regional and interregional development cooperation

Critical perspectives on Eurocentrism and regionalism in the Global South

Learning Outcomes

By the end of the course, students will be able to critically understand and assess the emergence and functioning of regional and interregional cooperation in development, analyze the roles of regional organizations as actors, compare diverse regional experiences, and engage with debates on the decolonization of regionalism theories in global development.

SC42 - Migration and Social Policy

ECTS: 4

Course Description

This course explores the interplay between migration and social policy within the context of regional and multi-level governance. Migration is shaped by the interaction of different levels of power across multiple geographical scales, all influenced by specific historical patterns. This takes the name of the multi-level governance of migration, an institutional architecture including actors from the global to the local scale in which the development of particular policies impacts the agency of regions, countries and individuals. In this course, we will provide a comprehensive overview of the multi-level governance of migration moving from the global to the local, passing through the regional and the national, with particular attention towards historicising these levels and revealing the related power dynamics.

Focus

We will unpack this governance architecture with a specific focus on a) the influence of historical dynamics on contemporary issues and b) the power structures that specific policies represent and the way in which actors at different scales interact with them.

Topics

The UN global governance of migration, tracing its development from the historical outline of a nation-based planetary system to the recent adoption of the Global Compacts on refugees and migrants as an entry to the discussion on mixed-migration

The European governance of migration, covering the development of internal freedom of movement with the Schengen agreement and how this impacted the externalisation of the EU border to third countries.

The African regional dimension, with a particular focus on Intergovernmental Authority on Development (IGAD) and Economic Community of West African States (ECOWAS).

The national dimension, with a particular focus on migration and policy environment in Ethiopia and The Gambia.

Learning Outcomes

By the end of the course, students will have been provided with concrete tools to work for the transformation of multi-level governance towards a more just horizon, considering the complexity and contextual nature of policy as well as the historical and stratified power relations connected to it.

SC43 - Digital Governance and Sovereignty in a Multi-polar World

ECTS: 4

Course Description

This course explores the evolving landscape of digital governance, focusing on how digital technologies are reshaping power dynamics, sovereignty, and governance structures at global, regional, and local levels. It examines the challenges posed by the digital transformation to traditional state-centric governance models and investigates the emergence of multistakeholder approaches involving public and private actors. We will analyze the concept of digital sovereignty, the role of regional organizations in digital policy-making, and the legitimacy and efficiency of multistakeholder internet governance institutions. Through case studies and theoretical frameworks, the course provides a comprehensive understanding of the complexities and opportunities in governing the digital realm.

Focus

Understanding the impact of digital transformation on governance structures and sovereignty, critically analyzing multistakeholder approaches to digital governance, and evaluating the role of regional organizations in shaping digital policies.

Topics

The digital transformation and its implications for governance

Concepts of digital sovereignty and state reassertion in digital governance

Multistakeholderism: legitimacy and efficiency in internet governance

Role of regional organizations in digital policy-making

Mapping regional competences and discourses in digital governance

Challenges of governing global digital technologies

Case studies on digital governance frameworks and policies

Learning Outcomes

By the end of the course, students will be able to critically assess the challenges and opportunities of digital governance, understand the interplay between digital technologies and sovereignty, evaluate multistakeholder governance models, and analyze the role of regional organizations in shaping digital policies within a multipolar world.

SC44 – Climate, Resilience, and Regionalism: Tools and Insights for a Sustainable Future

ECTS: 4

Course Description

This course addresses the urgent need for integrated climate strategies by exploring the nexus of climate policy, behavioural science, resilience, and regional cooperation. Drawing on insights from multiple disciplines, the course examines how climate risks are perceived and acted upon, how behavioural interventions shape adaptation, and how regional diplomacy and governance support climate resilience. The course also introduces students to the intersection of climate change with mental health, trade, and public health—emphasizing the need for coherence and multidimensional approaches. Real-world case studies and simulations provide practical grounding.

Focus

Understanding and addressing climate complexity through behavioural insights, resilience-building tools, and regional governance frameworks—linking local and global action for a sustainable future.

Topics

Behavioural science and climate adaptation: nudges, incentives, and social norms

Nature-based solutions and circular economy for psychosocial well-being

Mental health and climate equity: gender, youth, and vulnerability

Regionalism and diplomacy in cross-border climate governance

Climate-health nexus: risks, outreach, and regional responses

Trade, environment, and sustainability coherence (e.g., EIA, value chains)

Institutional integration and multi-scalar governance strategies

Climate misinformation, communication, and the role of technology

Case studies from South Asia, Sahel, MENA, and the EU

Learning Outcomes

By the end of the course, students will be able to analyze climate risks through behavioural and systems perspectives, evaluate the role of nature-based and regional solutions in building resilience, and understand the intersections between mental health, equity, and climate adaptation. They will gain the ability to design integrated strategies that link climate, health, trade, and diplomacy, and apply insights from real-world case studies to navigate complex, multi-level governance environments.

Teaching Faculty

Teaching Team

Note: "(coord.)" indicates the course coordinator.

- CC1 - Governance of Global Challenges

  Prof. Nanditha Mathew (coord.), **Prof. Philippe De Lombaerde** and **Prof. Luc Soete**

- CC2 - Topics in Economic Theory

  Prof. Ugo Gragnolati (coord.)

- CC3 - Core Skills for Professional Practice

  Dr. Sara Amoroso (coord.) and **Tobias Hillenbrand**

- CC4 - Policy Lab: Designing Solutions to Real-World Problems

  Dr. Mafini Dosso (coord.)

- CC5 - Statistical Foundations for Policy I

  Dr. Marco Dueñas (coord.), **Mario Macchioni** and **Dr. Emanuele Pugliese**

- CC6 - Statistical Foundations for Policy II

  Dr. Lorenzo Napolitano (coord.), **Mario Macchioni** and **Dr. Emanuele Pugliese**

- CC7 - Qualitative Research Methods

  Dr. Amrita Saha (coord.) and **Dr. Stephen Thompson**

- CC8 – Experimental Design for Policy and Economics

  Prof. Fabrizio Maturo (coord.)

Specialization 1: Data-Driven Analysis for Policy

- SC11 - Python Programming and Data Wrangling

  Dr. Aurelio Patelli (coord.), and **Dr. Dario Mazzili**

- SC12 - Data Analysis for Policy–Forecasting and Causal Inference

  Dr. Emanuele Pugliese (coord.), and **Alessio Bumbea**

- SC13 - Neural Networks and Unstructured Data in Public Policy

  Dr. Andrea Tacchella (coord.), and **Dr. Dario Mazzili**

- SC14 - From Data to Policy — Interpretation, Communication, and Ethics

  Dr. Serge Stinckwich (coord.), and **Jia An Liu**

Specialization 2: Economics and Governance of Innovation and New Technologies

- SC21 - Economics and Governance of Innovation – Foundations and Perspectives

  Prof. Daniele Archibugi (coord.)

- SC22 - New Technologies, Innovation, and Development

  Prof. Lucrezia Fanti (coord.) and **Cecilia Seri**

- SC23 - Firm Innovation and Strategic Entrepreneurship

  Prof. Alex Coad (coord.)

- SC24 - Innovation, Environmental and Social Sustainability

  Dr. Angelica Sbardella (coord.) and **Dr. Francesco de Cunzo**

Specialization 3: Inclusive Economic and Human Development

- SC31 - Foundations, History, and Political Economy of Development

  Prof. Carlo Pietrobelli (coord.) and **Prof. Luca De Benedictis**

- SC32 - Industrialization, Innovation, and Structural Transformation

  Dr. Oriol Gisbert Marti (coord.)

- SC33 - Institutions, Governance, and Politics in Development

  Prof. Samyukta Bhupatiraju (coord.) and **Prof. Rahul Sirohi**

- SC34 - Poverty, Inequality, and Inclusive Development

  Praachi Kumar (coord.) and **Karthika Sujatha**

Specialization 4: Multi-level governance of global challenges

- SC41 - Regionalism and Inter-regionalism in Development

  Prof. Frank Mattheis (coord.), **Carlos Fonseca** and **Matteo Peccini**

- SC42 - Migration and Social Policy

  Prof. Ine Lietaert(coord.), **Dr. Rossella Marino** and **Dr. Dereje Regasa**

- SC43 - Digital Governance and Sovereignty in a Multipolar World

  Prof. Jamal Shahin (coord.) and **Sophie Hoogenboom**

- SC44 – Climate, Resilience, and Regionalism: Tools and Insights for a Sustainable Future

  Prof. Nidhi Nagabhatla (coord.), **Dr. Sanae Okamoto**, **Dr. Vijay Kumar Chattu**, and **Dr. Amal Sarsour**

Faculty Profiles

Prof. Nanditha Mathew is a Professorial Fellow at UNU-CRIS and an Adjunct Professor at the Brussels School of Governance, Vrije Universiteit Brussel. Her research lies at the intersection of innovation, industrial dynamics, and development, with a strong focus on firm capabilities and technological change in emerging economies. Dr. Mathew has served as a policy advisor to the European Commission, the International Labour Organization (ILO), and several governments in emerging economies—most notably in India—on innovation policy, skills development, and industrial transformation. She has led international research teams, contributed to EU- and UN-funded projects, and engaged directly with subnational governments on aligning policy with inclusive development goals. She holds a PhD in Economics from the University of Pisa and her work has been published in journals such as Research Policy, Journal of Evolutionary Economics, and The Journal of Technology Transfer. Her research has been recognized with awards such as the International Schumpeter Society Prize and a special mention by the Exim Bank of India for her PhD thesis.

Prof. Philippe de Lombardae is the Director of the United Nations University Institute on Comparative Regional Integration Studies (UNU-CRIS) in Bruges, Belgium. Philippe is an expert in comparative regionalism, global governance, and international political economy and has contributed extensively to the understanding of how regional and interregional institutions shape global development and cooperation. He holds a PhD in economics, econometrics, and political science from RWTH Aachen University and has taught at leading institutions across Europe, Latin America, and Asia, including Universidad Nacional de Colombia, NEOMA Business School, and the University of Antwerp. Prior to becoming Director in 2022, he held various research and leadership roles at UNU-CRIS since 2002. Philippe's research explores the measurement and comparative analysis of regional integration, with a focus on indicator-based monitoring, regional governance of migration and health, and the role of regions in global policy architectures. He has published widely on regionalism in and beyond the EU, and also led and advised projects for the European Commission, UNDP, ILO, UNESCO, and regional organizations such as UNASUR and SADC. Under his leadership, UNU-CRIS has strengthened its commitment to sustainability, SDG monitoring, and interdisciplinary research on global cooperation. He continues to play an active role in shaping academic and policy debates on the future of regionalism in a multipolar world.

Prof. Luc Soete is a Belgian economist widely recognized for his contributions to innovation studies and the economics of technology. He earned his PhD from the University of Sussex and began his academic career at the Institute of Development Studies and SPRU, later serving as a visiting professor at Stanford University. In 1986, he joined Maastricht University as Professor of International Economic Relations and founded MERIT, which later merged with UNU-INTECH to become UNU-MERIT—a leading institute on innovation and development. He served as Director of UNU-MERIT (2005–2012), Rector Magnificus of Maastricht University (2012–2016), and Director of UNU-CRIS. Since 2019, he has been Dean of the Brussels School of

Governance and advises several institutions, including AWTI, KNAW, and the supervisory board of IIT Delft. He has also led major European research policy initiatives, including chairing expert groups for the European Commission's RISE programme. His extensive scholarly work spans innovation dynamics, creative destruction, and public R&D, earning him numerous honors, including the title of Commander of the Order of the Crown and honorary doctorates from the Universities of Ghent, Liège, and Sussex.

Prof. Ugo Gragnolati is an Associate Professor of Political Economy at the University of Cagliari, Italy. His research lies at the intersection of economic history, innovation studies, and economic geography, with a particular focus on the spatial dynamics of technological change and industrial development. He holds a PhD in Economics from the Scuola Superiore Sant'Anna in Pisa and has held academic positions at prestigious institutions including the University of Paris 1 Panthéon-Sorbonne, the University of Strasbourg, and Scuola Superiore Sant'Anna. His work has explored how agglomeration economies, localization externalities, and historical infrastructure investments—such as early railways—have shaped regional development trajectories, particularly in peripheral contexts like Sardinia. Ugo has published in leading journals such as Regional Studies and the Journal of Economic History, contributing both theoretical insights and empirical analyses on the non-linear and cumulative nature of regional economic growth. He has received research support including the Gianesini Grant for his work on the geography of inventive activities during the British Industrial Revolution. Ugo has extensive teaching experience and has taught a wide range of courses in macroeconomics, international trade, and quantitative methods at both undergraduate and graduate levels in Italy and France.

Dr. Sara Amoroso is an economist with several years of experience working at the Joint Research Center, European Commission. Sara has published several works in internationally reputed journals and has led projects with active engaged of policy and industry stakeholders.

Tobias Hillenbrand is a PhD candidate at United Nations University (UNU-MERIT) and Maastricht University, researching public attitudes towards refugees and refugee immigration in Germany. His work combines different types of data, with a focus on large-scale online and conjoint experiments. Tobias holds a Master's degree in Public Policy with summa cum laude distinction from Sciences Po Paris, as well as Bachelor's degrees in Political Science and in Management & Economics from the University of Mainz. He has experience teaching at the master's level and providing presentation trainings to PhD students.

Dr. Mafini Dosso holds a PhD and a Master of research of the University of Paris 1, Panthéon-Sorbonne in France. She is Project Management Professional certified from the Project Management Institute, USA / Chapter Spain. Currently based in Abidjan, Côte d'Ivoire, she has more than 18 years of professional experience, including 9 years as an economist and project leader at the European Commission's Joint Research Center in Spain. With a network reaching entrepreneurial, professional and academic spheres across the world, she is a recognized regional ecosystem builder, a knowledge broker and senior researcher. Mafini has more than 60 academic, technical and policy-

oriented publications, and more than 120 plenary communications in English, French and Spanish in more than 30 countries on different topics such as innovation and industrial policies, innovation (eco)systems, technological change, intellectual property and startups covering sub-Saharan Africa and Europe. Dr. Dosso has worked as a senior expert for WIPO, OEACP, UNCTAD, and the University of Johannesburg. She is co-founder and head of research at OIITID, co-founder of GAÏA Intelligence Africa, and a member of ThinkTankers. She regularly facilitates workshops on innovation and sustainability strategy for leaders in public and private sectors. Recently appointed Senior Research Associate at the University of Johannesburg, College of Business & Economics (South Africa), she is also a Dream VC fellow, a U.S. State Department alumna (ADSEN), Africa 2.0 & Ashoka Spain Diaspora Leader, and mentor for young researchers and women-led non-profits.

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Dr. Aurelio Patelli is a researcher at the Enrico Fermi Research Center (CREF) in Rome, specializing in economic complexity, network science, and innovation systems. With a PhD in Physics from the University of Florence, his work applies methodologies from statistical physics and complexity theory to analyze large-scale socioeconomic dynamics, including international trade and innovation diffusion. Dr. Patelli has contributed to several interdisciplinary research projects, such as PRIN-WECARE and PRIN-PNRR-TripleT, and has co-authored publications on topics like structural change, employment, and inequality in Europe. He also co-developed the Universal Database for Economic Complexity, integrating trade in goods and services to enhance

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Dr. Dario Mazzilli is a researcher at the Enrico Fermi Research Center (CREF) in Rome, where he specializes in applying statistical physics and network theory to the study of economic complexity. He earned his Ph.D. in Physics from La Sapienza University of Rome, focusing on modeling and forecasting in macroeconomics. His research encompasses topics such as structural change, labor markets, and innovation systems, with a particular emphasis on the sustainability transition. Dr. Mazzilli has contributed to several interdisciplinary projects, including PRIN "WECARE" and PRIN-PNRR "Triple T," and has co-authored publications like "Structural Change, Employment, and Inequality in Europe" and "Economic Complexity and the Sustainability Transition: A Review of Data, Methods, and Literature."

Dr. Andrea Tacchella is a senior researcher at the Enrico Fermi Research Center (CREF) in Rome, specializing in economic complexity, innovation dynamics, and machine learning. He is a key contributor to the development of the Economic Fitness and Complexity (EFC) framework, which integrates data-driven methods with network science to assess countries' competitiveness and predict growth trajectories. Prior to his role at CREF, Dr. Tacchella served as a research fellow at the Institute of Complex Systems of the Italian National Research Council (CNR), where he helped establish the empirical and theoretical foundations of the EFC approach. He also worked at the European Commission's Joint Research Centre in Seville from 2019 to 2022, promoting the adoption of EFC tools within EU economic analysis. Dr. Tacchella has collaborated with international organizations such as the World Bank and the European Bank for Reconstruction and Development, applying data-driven methodologies to inform policy decisions.

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Praachi Kumar is a researcher in development economics at UNU-MERIT and the Maastricht University School of Business and Economics. Her work focuses on the intersection of digital technology, gender equality, and child rights, particularly in the Global South. In her PhD research, she employs quantitative and computational methods to examine how new media technologies influence gender norms and child rights. She holds a Master's degree in Public Policy and Human Development from the United Nations University and a Bachelor's degree in Economics from Miranda House, University of Delhi. She has over eight years of experience managing research and advocacy projects related to gender and social inclusion.

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Matteo Peccini is a PhD student in Global Studies at the University of Urbino "Carlo Bo" in Italy and is a visiting research fellow at UNU-CRIS. In his PhD project Matteo provides an analysis of the nature and the characteristics of contemporary EU-Africa relations, especially in the Sahelian region, trying to grasp the limitation and the fragilities of the intercontinental relations in the last decade. Hence, here at UNU-CRIS, Matteo will predominantly study the features of the regional and interregional dialogue inside and outside the West Africa area, designing its work in order to create a bridge between the classic International Relations thinking and the Postcolonial one.

Prof. Ine Lietaert is a Professorial Fellow at the United Nations University Institute on Comparative Regional Integration Studies (UNU-CRIS), coordinating the Migration and Social Policy research cluster. She is also an Associate Professor at Ghent University's Department of Social Work and Social Pedagogy, where she teaches International Social Work. Her research focuses on the governance of migration and reintegration processes, particularly concerning vulnerable mobile populations such as asylum seekers, return migrants, unaccompanied minors, and internally displaced persons. She employs a socio-spatial approach to examine how mobility, borders, and policy frameworks influence access to services, social support, and a sense of belonging.

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Dr. Sanae Okamoto is a senior researcher at the United Nations University – MERIT and the School of Business and Economics, Maastricht University. She is a psychologist and behavioural scientist with a multidisciplinary background in Psychology, Cognitive Neuroscience, and Behavioural Economics. With experience in both industry and academia, she applies psychology / behavioural science insights to a wide range of global objectives, including Sustainability, Circular Economy, Climate Resilience, Digitalisation, AI, and Mental Health and Well-being. Her work approaches these challenges from multiple perspectives such as Youth, Water, Health, Disasters, Plastics, and Business. She has been particularly active in addressing the mental health impacts of global challenges such as climate change and emerging technologies like AI, advocating for these issues at the international level. She also conducts workshops and seminars for professionals in both public and private sectors. She holds a PhD in Psychology from Maastricht University, Netherlands. Her earlier research on social group dynamics was conducted at Kyoto University and the Max Planck Institute for Evolutionary Anthropology in Germany. She is also the co-lead of the tri-institutional UNU Climate Resilience Initiative and European COST (European Cooperation in Science and Technology) Action CA23113 'Climate impacts on mental health in Europe (Climent).

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International NGOs and multi-laterals such as the World Bank Group, WHO and UNAIDS-TSFs in Asia and Africa. Dr Chattu is one of the top researchers in Sustainability at the University of Toronto and was the recipient of the "2023 Adams Sustainability Action Award." As a guest faculty, he also teaches Global Health Governance, Global Health Diplomacy and Health Systems Strengthening courses at the University of Ottawa, McGill University and other foreign universities. Dr Chattu has been consistently ranked among the World's Top 2% Scientists in Medicine and Public Health (by the Stanford University Rankings & Elsevier) since 2021 and has over 500 research publications with over 100,000 citations. Dr Chattu is also an invited global policy expert contributing to the T20 Policy briefs for the G20 Summits held since 2021 and G7 Technical Group meetings held in Canada. As an International Health and International Relations specialist, he is also an adviser for various academic and research institutions. He is also the Founder and CEO of Global Health Research and Innovations Canada Inc.(GHRIC) based in Toronto.

Dr. Amal Sarsour is an Associate Research Fellow at UNU-CRIS, where her work focuses on the intersection of climate change, public health, and environmental governance. Her research explores themes such as climate-related health risks, climate-induced migration, transboundary water security, and community-based approaches to environmental health. She has co-led interdisciplinary projects on the health and needs of climate migrants, the mental health impacts of climate change, and climate-water security planning in the Palestinian Territories. Amal also collaborates on studies addressing environmental disease burdens, including research on diarrheal diseases in Gaza under climate stress. With a PhD in Environmental Management and a Master of Public Health in Environmental Health, Amal brings both academic and applied experience to her work. She has collaborated with universities, NGOs, and international organizations on research and capacity-building initiatives. She is also involved in Ghent University's CliMigHealth network, where she contributes to research and outreach on climate, migration, and health.