

Semester 2: Environment & Economy 27½ ECTS

Theme & Project	Qualitative Methods	Quantitative Methods	Skills
20 ECTS	2.5 ECTS	2.5 ECTS	2.5 ECTS
Environmental history Development economics Political economy Geography	Discourse Analysis Qualitative Data Analysis	Descriptive and inferential statistics using Python/ Jupyter Notebooks Analysis of CO ₂ emissions indicators	Critical reading skills Argumentation skills Interdisciplinarity in practice Global Citizenship skills Conflict management Professional writing skills: position papers Online writing skills
GLO1411 GLO1511 GLO1641	GLO1421	GLO1521	GLO1431 GLO1531

Description

Environmental degradation has been a defining feature of economic growth and development and the growth and expansion of the human population. Climate change, for example, is one of the defining challenges of the 21st century, posing serious questions about how economies grow and change, and who will be affected the most. While some environmental impacts of human activity are localized, pollution typically does not respect political boundaries. Solving environmental problems requires cooperation from the local to the global. However, how we understand the environment and how we value the environment is not consistent within societies or across them. Cooperation to find solutions is not necessarily the default position.

In this semester, you will be introduced to key environmental discourses (Phase 1) and the basic principles of environmental economics and policy (Phase 2) from a variety of disciplinary angles, including history, economics and geography. You will study how the environment is valued differently, both socially and economically, and at scales from the local to the global. You will study different policy tools and collective arrangements to manage the environment and environmental impacts. Practically, you will explore different data sets to analyse and visualize relationships (Phase 3) between carbon emissions and various economic factors across countries.

For the project phase, you will assume the role of a specific stakeholder and simulate a national negotiation to determine a national strategy for carbon emissions reduction.

Understanding how the environment is valued by different groups and in different parts of the world can be done through analysing data on how groups and institutions speak about the environment. The methods track in Semester 2 thus focuses on 'Discourse and Relationships'. In the first part of this semester, you will study qualitative research methods for discourse analysis, exploring how power relationships shape and influence knowledge. In the second part of the semester, you will learn how to work with several data processing packages, such as Jupyter notebook, to organise your workflow from data cleaning to data analysis. You will learn how to distinguish between groups and to examine whether the differences between them are meaningful or not. This conceptual knowledge will be applied during complementary data analysis sessions (data workshops) that are part of the theme.

In the skills track, you will continue to work on your academic skills and will write a position paper.

You will also learn some of the basic elements of writing for on-line audiences and practise this by writing a blogpost on the reduction of CO₂ emissions for an audience of your choice in a particular country. You will

continue to train yourself in global citizenship skills, focusing on empathy and conflict management skills. You will also practise what it means to work in an interdisciplinary fashion.

Contributing Faculties

- Faculty of Arts & Social Sciences
- Faculty of Health, Medicine & Life Sciences
- Faculty of Science & Engineering
- School of Business & Economics

Intended Learning Outcomes

Theme & Project

Students attain the ability to:

- T1. understand the divergent ways in which value is assigned to nature – economically and culturally, in the past and today, in the Global North as well as in the Global South;
- T2. explain and use key concepts from environmental economics and environmental history (e.g., the Anthropocene, the Great Columbian Exchange, de-growth, coordination problems, discount rates, and externalities);
- T3. distinguish major discourses through which environmental problems are understood (e.g. survivalism, sustainable development, green radicalism);
- T4. bring together knowledge from various disciplinary backgrounds in order to come to a contextual understanding of environmental problems;
- T5. reflect critically on how the discursive framing of environmental problems influences the formulation of solutions;
- T6. retrieve, manage and analyse data to evaluate and quantify relationships between economic and other variables using basic statistical inferential methods;
- T7. analyse the dynamics of international and national environmental policy-making as they apply to global problems, particularly climate change.
- P1. assess the benefits and disadvantages of particular environmental policy options;
- P2. develop the outlines for a suitable intervention in environmental policy from the perspective of a particular stakeholder;
- P3. communicate effectively about potential policy solutions to environmental problems through the writing of an individual position paper and a (co-written) national strategy document.

Methods

Students attain the ability to:

- M1. recognize parameters of discourse analysis as a research methodology, including methods for executing and analysing discursive data in an ethical manner;
- M2. construct a corpus in relation to a research topic and apply coding strategies for analysing that corpus;
- M3. summarize and justify findings with recognition of the scope and limitations of analysis of discourse;

- M4. use Python and Jupyter notebooks to explore quantitative data;
- M5. represent, store, and access quantitative data in machine-readable and human-readable format;
- M6. interpret false positives/negatives in data analysis;
- M7. understand the rationale and concepts of null hypothesis significance testing (NHST): p value, null and alternative hypothesis, type 1 & type 2 error, test statistic, significance level;
- M8. select and conduct an appropriate NHST;
- M9. interpret NHST output/results in relation to a theoretical framework;
- M10. identify the source and potential bias of an indicator/variable;
- M11. distinguish between good and questionable research practices, e.g. reporting bias and type 1 error inflation;
- M12. assess the suitability of an indicator/variable for a research objective;
- M13. compare and evaluate qualitative and quantitative ways to investigate relationships for their applicability to research contexts;
- M14. use a software package to visualize different strengths of correlation.

Skills

Students attain the ability to:

- S1. critically evaluate sources;
- S2. systematically evaluate the structure of arguments;
- S3. identify and apply selective and nonselective listening skills;
- S4. identify and reflect on conflict management and negotiation strategies;
- S5. understand basic concepts in conflict management and negotiation;
- S6. detect the assumptions behind a theory or worldview about the environment;
- S7. describe the implications of the theory/worldview;
- S8. describe how the assumptions underlying different theories/worldviews are compatible or not for integration of these theories;
- S9. identify the main elements of a position paper;
- S10. communicate effectively using a variety of digital technologies, such as social networking tools to share knowledge globally;
- S11. identify the skills associated with global citizenship and reflect on how they can be developed;
- S12. self-regulate learning by specifying personal learning goals and implementation intentions.