Development economics and environmental sustainability

Semester: Spring semester 2026

Root Number: 455489

ECTS: 3

Lecturers: Patrick Tomberger and Jesús Crespo Cuaresma

Dates: February 19-21 and February 25-27 February 2026

Audience:

- Master of Advanced Studies of International Law and Economics (MILE) Students – Compulsory
- Joint LL.M. / Diploma of Advanced Studies Trade and Investment Law (TRAIL+) Students - World Trade Institute / Faculty of Law, Unibe – Optional

Course description:

In this course, the students will receive a general introduction into development economics and environmental sustainability. The first part of the course will focus on specific topics in environmental economics and its linkages with economic development. The second part will focus on economic development and growth theories and link them to contemporary issues in development.

The topics we are going to cover include:

1. Development Economics
    - Cross-country income differences
    - Economic growth models
    - Human capital and technology
    - Growth and globalization
2. Environmental sustainability
    - Foundations in environmental economics
    - Policy instruments to internalize environmental externalities
    - The economics of climate change
    - Topics on trade and the environment

Grading will be based on short essays prepared by groups of students related to the topics discussed in class. Active participation in the course is required and the students are required to prepare the material discussed in the lectures in advance. For this, the required literature as well as the slides discussed in the lectures will be made available in a Google drive.

Lecturers

Patrick Tomberger

Patrick Tomberger is a post-doc researcher at the University of Innsbruck, Austria. Before he joined the University of Innsbruck, he worked from 2010 to 2015 as a pre-doc researcher at the University of Linz, Austria. After he obtained his PhD in Economics he moved as pre-doc researcher to the World Trade Institute located in Bern, Switzerland, and stayed there until 2022. He also holds Master degrees in Political Economy and Political Science from the University of Innsbruck. During his career, Patrick also worked as consultant for the World Bank and has been part of projects funded by the European Union and the Swiss National Science Foundation (SNSF). His main research interests are international trade, global value chains, input-output analysis and environmental economics. In those fields, he published in international peer-reviewed journals such as Applied Economics, Empirical Economics, The World Economy, Ecological Economics, Economics Letters and Environmental and Resource Economics.

Jesús Crespo Cuaresma

Jesús Crespo Cuaresma is Professor of Economics at the Vienna University of Economics and Business (WU), as well as Director of Economic Analysis at the Wittgenstein Centre for Demography and Global Human Capital (WIC) and Research Scholar at the International Institute of Applied Systems Analysis (IIASA). His research interests are in the fields of applied econometrics, macroeconomics, economic growth, human capital and economic policy. He has published extensively in renowned scientific journals such as Science, Proceedings of the National Academy of Sciences, Nature Communications, Nature Climate Change, Demography, European Economic Review or Journal of Applied Econometrics, just to name a few.

Learning objectives

Over the duration of the course, students will be introduced to and gain an understanding of a range of concepts, theories, and issues in development economics, environmental economics and trade policy, which they will be able to critically analyse and discuss.

Exam and Grades:

Patrick Tomberger (environment): take home assignment 50%. Instructions will be provided on Friday, February 20. The final projects are to be sent to masters.wti@unibe.ch by March 14, 2026 at 23:59 CET.

Jesús Crespo Cuaresma (economic development) take home assessment 50%. Instructions will be provided on Friday February 27. Papers should be sent to masters.wti@unibe.ch by March 21, 2026 at 23h59 (CET).

Course Overview

Class	Date	Day	Time	Hours	Topic	Lecturer
1	19.02.2026	Thursday	09:00-12:00	3	Primer in env. Economics	Patrick Tomberger
			13:00-17:00	4	The economics of climate change	Patrick Tomberger
2	20.02.2026	Friday	09:00-12:00	3	Trade and the environment	Patrick Tomberger
3	26.02.2026	Thursday	09:00–12:00	3	History and concepts of economic development	Jesús Crespo Cuaresma
			14:00-16:00	3	Economic growth models	Jesús Crespo Cuaresma
4	27.02.2026	Friday	09:00 - 13:00	4	Growth determinants and poverty	Jesús Crespo Cuaresma

Session 1 -2026

February 19, 2026

Lecturer: Patrick Tomberger
Subjects

A primer in environmental economics: public goods, externalities, and discounting, policy measures

The Economics of Climate Change.

Topics

- The link of environmental and development economics
- Public goods
- Externalities
- Discounting
- Private responses
- Pigouvian tax
- Emission fees
- Cap and trade systems
- GHG emissions as global externality
- The bathtub analogy – risks and targets
- The costs of abatement
- The social costs of carbon
- Policy instruments and international economic policy

Compulsory Reading Material

- De Janvry A. and E. Sadoulet (2016): Development Economics – Theory and Practice. Routledge. Chapter 15.
- Rosen, S. and T. Gayer (2010): Public Finance. McGraw Hill Education. Chapter 4.
- Rosen, S. and T. Gayer (2010): Public Finance. McGraw Hill Education. Chapter 5.
- Stern, N. (2008): The Economics of Climate Change, The American Economic Review, 98. 1 – 37.
- Gillingham, K. and J.H. Stock (2018): The Cost of Reducing Greenhouse Gas Emissions, Journal of Economic Perspectives, 32. 53 – 72.

Optional Reading Material

- Pindyck, R. and D. Rubinfeld (2018): Microeconomics. 9th Edition. Pearson. Chapter 18.
- Kolstad, C. (2011): Environmental Economics. 2nd Edition. Oxford University Press.
- Jayachandran, S. (2009): Air Quality and Early-Life Mortality: Evidence from Indonesia's Wildfires, The Journal of Human Resources, 44. 916–954.

- Deryugina, T.; Heutel, G.; Miller, N.; Molitor, D. and J. Reif (2019): The Mortality and Medical Costs of Air Pollution: Evidence from Changes in Wind Direction, The American Economic Review, 109. 4178 – 4219.
- Perman et al. (2010): Natural resource and environmental economics, 4th edition, Pearson. Ch. 4.
- Schmalensee R. and R. Stavins (2019): Policy Evolution under the Clean Air Act, Journal of Economic Perspectives. 33. 27 – 50.
- Perman et al. (2010): Natural resource and environmental economics, 4th edition, Pearson. Ch. 5 and 6.
- Llavador, H.; Roemer, J.e. and J. Silvestre (2015): Sustainability for a Warming Planet. Harvard University Press. Chapter 4.
- Nordhaus, W. (2017): Revisiting the social cost of carbon, Proceedings of the National Academy of Sciences, 114. 1518 – 1523.
- Stern, N. (2007): The Economics of Climate Change: The Stern Review. Cambridge University Press.
- Wagner, G. and M.L. Weitzman (2015): Climate Shock – The Economic Consequences of a Warming Planet. Princeton University Press.

Session 2 – 2026

February 20, 2026

Lecturer: Patrick Tomberger

Subject

Trade and the environment – basic models and empirical evidence

Topics

- Trade in a PE framework
- Trade in a GE framework
- Empirical evidence

Compulsory Reading Material

- Perman et al. (2011), Ch. 10.
- Phaneuf and Requate (2016): Ch. 12.

Optional Reading Material

- Aichele, R. and G. Felbermayr (2015): Kyoto and Carbon Leakage: An empirical analysis of the carbon content of bilateral trade. The Review of Economics and Statistics, 97. 104 – 115.
- Fernández-Amador, O.; Francois, J.F.; Oberdabernig, D.A. and P. Tomberger (2017): Carbon dioxide emissions and economic growth: An assessment based on production and consumption emission inventories. Ecological Economics 135, 269 – 279.
- Fernández-Amador, O.; Francois, J.F.; Oberdabernig, D.A. and P. Tomberger (2018): Empirical estimates of the methaneincome elasticity. Economics Letters, 171, 137–139.
- Fernández-Amador, O.; Francois, J.F.; Oberdabernig, D.A. and P. Tomberger (2018): Testing for convergence in carbon dioxide emissions using a bayesian robust structural model. Environmental and Resource Economics, 73, 1265 – 1286.
- Fernández-Amador, O.; Francois, J.F.; Oberdabernig, D.A. and P. Tomberger (2018): Economic growth, sectoral structures, and environmental methane footprints. Applied Economics, 52, 1460–1475.
- Bellora and Fontagne (2022): EU in Search of a WTO-Compatible Carbon Border Adjustment Mechanism, CEPII Working Paper.

Session 3 – 2026

February 26, 2026

Lecturer: Jesús Crespo Cuaresma

Subjects

History and concepts of economic development
Economic growth models

Topics

- What is economic development?
- Social and economic indicators of development
- Cross-country income differences
- Sources of global inequalities
- Working with growth rates
- Production functions
- Neoclassical (Solow) growth models
- Endogenous growth models

Compulsory Reading Material

- Jones, C. I., & Vollrath, D. (2013). Introduction to Economic Growth, WW Norton & Company. Inc. New York, NY.
- Roser, M. (2013) - Economic Growth. Published online at OurWorldInData.org. Retrieved from: 'https://ourworldindata.org/economic-growth' [Online Resource]

Optional Reading Material

- Diamond, J. (2002). Evolution, consequences and future of plant and animal domestication. Nature, 418: 700-707.
- Acemoglu, D., S. Johnson and J. Robinson (2001). The Colonial Origins of Comparative Development: An Empirical Investigation, American Economic Review, 91(5): 1369-1401.
- Sokoloff, K. and S. Engerman (2000). History Lessons: Institutions, Factors Endowments, and Paths of Development in the New World, Journal of Economic Perspectives 14(3), 217-232.
- Romer, P.M. (1994) The Origins of Endogenous Growth. The Journal of Economic Perspectives, Vol. 8, No. 1, pp. 3-22.
- Todaro, M.P. and S.C. Smith (2015). Economic Development, Pearson Education, Appendix 3.3. pp. 159-163.
- Acemoglu, D. (2009). Introduction to Modern Economic Growth. Princeton University Press. Chapter 2.

Session 4 - 2026

February 27, 2026

Lecturer: Jesús Crespo Cuaresma

Subject

Growth determinants and poverty

Topics

- Technical progress and productivity differences across countries
- Human capital
- Income distribution and political economy
- Poverty

Compulsory Reading Material

- Jones, C. I., & Vollrath, D. (2013). Introduction to Economic Growth, WW Norton & Company. Inc. New York, NY.
- Weil, D. (2013). Economic Growth. Person Education, Chapters 7 & 8.
- Crespo Cuaresma, J., Fengler, W., Kharas, H., Bekhtiar, K., Brottrager, M., & Hofer, M. (2018). Will the Sustainable Development Goals be fulfilled? Assessing present and future global poverty. Palgrave Communications, 4(1), 1-8. https://www.nature.com/articles/s41599-018-0083-y