



COURSE SYLLABUS

Introduction to Sustainable Development and Global Governance 2022-2023

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Office hours : TBA
Class time & location: Monday 16:00-19:15 @1.A.13 at the uc3m Puerta de Toledo Campus

Course description

This course aims to introduce students to major concepts and issues in sustainable development and global governance. It reviews the conceptualization and measurement of sustainable development (SD). It discusses the key challenges of SD and offers a disaggregated and historical analysis regarding socioeconomic and environmental challenges. It defines some key notions such as the anthropocene, vulnerability, mitigation and adaptation in the context of SD, and explores behavioral aspects. The course analyzes the fragmented architecture of global governance and its deficiencies with regard to SD, briefly reviewing the map of relevant actors.

This course is organized in **three Parts**. **Part I** is a general introduction to environmental and socioeconomic sustainability, as well as global governance. Examining how the economy and the environment interacted in the long run, **Part II** is an introduction to environmental change in global history. It provides a historical background to present-day environmental sustainability challenges, focusing on how agri-food systems, fuel use and material extraction have transformed both economy and ecology before and since the Industrial Revolution. **Part III** is an introduction to behavioral decision-making, behavioral change in the context of climate change. Exploring environmental policy design and its behavioral implications, this last part reviews the creation of sustainable development goals and discusses the measurement of sustainability. **The Course Schedule** below lists specific issues and readings to be covered on a weekly basis.

Course Requirements

Students are expected to be active participants in this course, which is designed as consisting of both lectures and seminars/*practic*as. Therefore, it is essential that you come to class prepared to discuss the readings for each meeting. Additional short readings may be assigned over the course of the semester (complementing or substituting those listed in the syllabus). In case you miss a class, please check the **Aula Global** in order to be informed about readings and assignments. It is highly recommended to keep up-to-date about ongoing global and local developments about environmental and socioeconomic sustainability and global governance.

All classes will be constituted of lectures and *practic*as where a set of exercises will be carried out with active participation of the students. **Class discussions** will be held in designated weeks where **a group of students** will act as **“discussion leaders”** and **moderate** the discussion based on the questions sent by others prior to the session. In those weeks, each of you will post **a question on Aula Global** about the readings assigned for that particular week (by 9:00 on Mondays, the latest). Discussion leaders will go over the questions and come up with a list of **maximum 3 questions, which they will post on Aula Global by 13:00 on Mondays**. Discussion leaders should feel free to revise and expand the questions they receive and link them to empirics, so that they would be apt for a fruitful discussion. **Discussion questions** you post (particularly based on their ‘informed character’ tightly linked to the readings, theories and empirics) will constitute an important part of your course **participation grade**.

Additionally, there will be **group presentations** and **debates** that will take place in different formats in the *practic*as of **three distinct Parts** of this course. Part III also requires policy papers as a group assignment.

Final paper (an individual assignment) should address an issue area related to the content of this course. It might be written in one of the three distinct formats: a policy paper, a position paper or an empirical research paper. A list of potential topics and respective instructions will be uploaded on Aula Global. Students should inform the professors regarding the topics and the format they choose by November 25, 2022.

The break-up of overall grading based on specific assignments is listed below.

Grading

Presentations (group assignment)	20%
Discussion leadership, debates and policy papers (group)	20%
Class participation (individual)	20%
Final paper (individual)	40%

COURSE SCHEDULE

PART I. Basic notions of sustainability and institutions of governance

In Part I, practicas will include debates, class discussion (based on discussion leadership undertaken by a group) and group presentations (2 groups). Both the topics which will be covered in the lectures and the content of the *practic*as are indicated below.

Week 1: September 12

- Introduction to the Course
- What is socioeconomic and environmental sustainability?
 - Where does global governance enter into the equation and why does it matter?
 - Ongoing issues, actors, interests and institutions
- **Practica:** Logistics of the course, general expectations, forming groups.

Required readings

- Young, Oran R. (2021) *Grand challenges of planetary governance: Global order in turbulent times*, Cheltenham and Northampton: Edward Elgar Publishing. Chapters 1-2.
- Maslin, M.A. and S.L. Lewis (2015) 'Anthropocene: Earth System, geological, philosophical and political paradigm shifts,' *The Anthropocene Review*. 2(2) 108-116.

Week 2: September 19

- Basic concepts of sustainability and global governance
 - Anthropocene, vulnerability and adaptation
 - Sustainable development goals
- Major challenges to environmental sustainability
- Architecture of global climate governance
- **Practica:** Debate on the challenges to sustainability and governance.

Required readings

- Pattberg, P., Kaiser, C., Widerberg, O., and J. Stripple (2022) '20 Years of global climate change governance research: Taking stock and moving forward,' *International Environmental Agreements*, 22:295–315.
- 'Transforming our world: The 2030 Agenda for Sustainable Development', New York: United Nations, A/RES/70/1, pp. TBA.
- Young, O. (2017), *Governing Complex Systems*, Cambridge, MA: The MIT Press, Part II.

Optional

- Biermann, F. et al. (2009) 'The Fragmentation of Global Governance Architectures: A Framework for Analysis,' *Global Environmental Politics*, 9(4) 14-34.
- Held, D. and C. Roger (2018) 'Three models of global climate governance: From Kyoto to Paris and beyond', *Global Policy*, 9(4): 527-537.

- Lopez-Claros, A., Dahl, A. L., Groff, M. (2020) *Global Governance and the Emergence of Global Institutions for the 21st Century*, Cambridge University Press (especially Chapters 16 and 22).
- Young (2021), Chapters 3, 6 and 8.

Week 3: September 26

- Major challenges to economic sustainability
 - ongoing tensions in the global economy
 - their impact on global governance
- Architecture of global governance in economic issues
 - The 'Bretton Woods trio', their design and evolution in time.
 - Pros and cons of existing institutions.

- **Practica: Discussion Leadership**

Required readings

- 'UN Monetary and Financial Conference at Bretton Woods.' Summary of Agreements. 7/22/1944.
- Oxfam (2002) 'Rigged Rules and Double Standards: Trade, Globalization, and the Fight against Poverty.' Oxfam Trade Report.
- Brenton, P. and V. Chemutai (2021) 'The Trade and Climate Change Nexus: The Urgency and Opportunities for Developing Countries,' Washington, DC: World Bank, Chapters 1-2.

Optional

- Capling, A. and S. Tromme (2017) "The Evolution of the Global Trade Regime," In Ravenhill, J. (ed.) *Global Political Economy*, Oxford: Oxford University Press.
- Tamiotti et al. (2009) 'Trade and Climate Change,' Geneva: WTO-UNEP Report.
- Tamale, N. (2021) 'Adding fuel to fire How IMF demands for austerity will drive up inequality worldwide', Oxfam Briefing Report, August 2021.
- Frieden (2007) *Global Capitalism*, Chapters 8-9, 11-12.
- Nelson, R. and M.A. Weiss (2015) "IMF Reforms: Issues for Congress," Washington, D.C.: Congressional Research Service.
- Rivoli, P. (2009) *The Travels of a T-Shirt in the Global Economy*, N.J.: Wiley.

Week 4: October 3

- Economic globalization, its central forces and sustainability-related implications
- The operation of the WTO: sustainability and governance-related issues
 - The politics of a quasi-judicial trade regime
 - Dispute settlement mechanism: rules and practice
- **Practica: Presentations on global governance (2 groups).**

Presentations: 2 groups will pick two distinct international trade disputes (overseen by the WTO) that are relevant for sustainability issues (a list will be provided by the professor). Examining these disputes thoroughly, the teams will study all steps of the dispute settlement and map out about the interests of the major actors and their engagement in the dispute settlement process. They will then evaluate the effectiveness of the WTO's Dispute Settlement Body with regard to the

specific dispute they have studied. Teams are required to present these cases, incorporating their evaluations regarding the operation of this major platform of global economic governance.

Required readings

- Shaffer, G. (2005) 'Power, governance and the WTO: A Comparative institutional approach,' in Barnett, M. and R. Duvall (eds.) *Power in Global Governance*, pp.130-160.
- Dadush, U. (2022) 'The future of global value chains and the role of the WTO, WTO Staff Working Paper, No. ERSD-2022-11.

Optional

- Barnett, M. and R. Duvall (2005), 'Power in global governance,' pp. 1-23.
- Lopez-Claros et al. (2020), 'Global Financial Architecture and the International Monetary Fund', In *Global Governance*, Chapter 15.
- Kapstein, E. (2005) 'Power, fairness and the global economy,' pp.80-101.
- Solís, M. (2020), "The post COVID-19 world: Economic nationalism triumphant?," Brookings Institute, 2020/07/10.

PART II. Introduction to Environmental Change in Global History

There are three required readings per class, but you can split the reading within your group. While most readings are interdisciplinary, they anchor themselves as primarily History, Economics, or Environmental Science texts. I encourage you to focus on the readings from the field(s) which you are *less* familiar with. Understanding environmental change is necessarily an interdisciplinary endeavor and (as the law of decreasing marginal returns suggests) we stand to gain more from venturing into fields we do not know well.

In class, we will also do some hands-on work with quantitative data on global environmental change, so please bring a laptop or similar device to class if you can. You will not have to submit your data work, but it can be useful to help you identify sources and methods which you can then use for your final essay.

Week 5: October 10

Environmental change and economic development: a very long view

- Was there a 'prehistoric Anthropocene'?
- How did pre-industrial economies transform the environment?
- Does (pre-industrial) history provide good analogies to understand present and future environmental challenges?
- **Practica: hands-on intro to global databases of long-term environmental change:**
 - Global Carbon Project · Global Carbon Atlas:
<https://www.globalcarbonproject.org>

- Energy History:
<https://histecon.fas.harvard.edu/energyhistory/energydata.html>
- Department of Social Ecology, University of Vienna (BOKU):
<https://boku.ac.at/en/wiso/sec/data-download>

Required readings (H=History; S=Environmental Science; E=Economics)

- [S] Ruddiman, W. F. (2010). *Plows, Plagues, and Petroleum*. Princeton University Press, pp. 65-76.
- [H] Wrigley, E. A. (2010). *Energy and the English Industrial Revolution*. Cambridge: Cambridge University Press, pp. 9-25.
- [S] Tubi, A., Mordechai, L., Feitelson, E., et al. (2022). Can we learn from the past? Towards better analogies and historical inference in society-environmental change research. *Global Environmental Change*, 76, 102570.

Optional

- [H] Diamond, J. (2011). *Collapse: How Societies Choose to Fail or Succeed*. Penguin, pp. 157-177.
- [S] Monastersky, R. (2015). The human age. *Nature*, 519(7542), 144.
- [S] Malm, A., & Hornborg, A. (2014). The geology of mankind? A critique of the Anthropocene narrative. *The Anthropocene Review*, 1(1), 62-69.

Week 6: October 17

In the shadow of modern economic growth: environmental change since industrialization

- 'It all began with steam'? The Industrial Revolution and the Anthropocene
- Is the global spread of manufacturing to blame for environmental degradation? 'Late Industrialization' in Asia, Latin America, and Africa
- Something new under the sun? The 'great acceleration' of environmental impacts since c.1950
- **Practica:** Student presentation – When did the Anthropocene begin? How do different possible start dates shape global sustainability debates?

Required readings (H=History; S=Environmental Science; E=Economics)

- [H] McNeill, J. R. (2015). Energy, population, and environmental change since 1750: entering the Anthropocene. In J. R. McNeill & K. Pomeranz (Eds.), *The Cambridge World History. Volume VII, Part 1*. Cambridge: Cambridge University Press, pp. 51-82.
- [E] Fernihough, A., & O'Rourke, K. H. (2021). Coal and the European industrial revolution. *The Economic Journal*, 131(635), 1135-1149.
- [H] Austin, G. (2017). Introduction. In G. Austin (Ed.), *Economic development and environmental history in the Anthropocene: perspectives on Asia and Africa* (pp. 1-22). London: Bloomsbury.

Optional

- [S] Smil, V. (1994). *Energy in World History*. Boulder, CO: Westview, pp. 157-170.

- [H] McNeill, J. R. (2001). *Something new under the sun: An environmental history of the twentieth-century world*. WW Norton & Company. Prologue and Epilogue.
- [H] Warde, P. (2013). A Modern Energy Regime. In A. Kander, P. Malanima, & P. Warde (Eds.), *Power to the People: Energy in Europe Over the Last Five Centuries* (pp. 131-158). Princeton University Press.

Week 7: October 24

Feeding the world: land, diets, and agriculture

- Land-use change and agricultural revolutions past and present.
- How do people's diets change as their economies develop?
- How does international trade redistribute foods and their local environmental impacts?
- **Practica: Discussion leadership – By 2050 the world will need to feed 9 billion people: is there enough land left?**

Required readings (H=History; S=Environmental Science; E=Economics)

- [E] Federico, G. (2005). *Feeding the World: An Economic History of Agriculture, 1800-2000*. Princeton: Princeton University Press,, pp. 1-15.
- [H] McNeill, J. R. (2001). *Something new under the sun: An environmental history of the twentieth-century world*. WW Norton & Company, pp. 212-227.
- [S] Piñero, P., Aguilera, E., Travieso, E., et al. 'Agro-food greenhouse gas emissions are increasingly driven by foreign demand.' preprint version under review by *Nature Food*.

Optional

- [S] McNeill, J. R., & Winiwarter, V. (2004). Breaking the sod: Humankind, history, and soil. *Science*, 304(5677), 1627-1629.
- [S] Smil, V. (2022). *How the World Really Works: a scientist's guide to our past, present, and future*, London: Penguin, Chapter 2.

Week 8: October 31

Planetary mine: resource extraction, energy sources and economic development

- Has modern economic growth successfully decoupled from material extraction?
- How are metal and energy extraction and consumption distributed globally?
- Can sustainable development (national or global) be fossil-fueled?
- **Practica: Discussion leadership: Can modern economic growth decouple from fossil fuels?**

Required readings (H=History; S=Environmental Science; E=Economics)

- [H] Smil, V. (2013) *Harvesting the Biosphere: what we have taken from nature*. MIT Press, 2012, pp. 131-150.
- [S] Krausmann, F., Gingrich, S., Eisenmenger, et al. (2009). Growth in global materials use, GDP and population during the 20th century. *Ecological economics*, 68(10), 2696-2705.
- [E] Ross, M. L. (2012). *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations*. Princeton University Press, Chapter 1.

Optional

- [E] Schaffartzik, A., Mayer, A., Eisenmenger, N., & Krausmann, F. (2016). Global patterns of metal extractivism, 1950–2010: Providing the bones for the industrial society's skeleton. *Ecological Economics*, 122, 101-110.
- [S] Smil, V. (2022). *How the World Really Works: a scientist's guide to our past, present, and future*, London: Penguin, Chapter 1.

Week 9: November 7

Looking to the future: the Environmental Kuznets Curve and potential disasters

- Can economies 'grow now and clean up later'?
- Will modern economic growth deliver prosperity for all within planetary boundaries?
- How can history help us think about possible future environmental disasters?
- **Practica: Student presentation – Do richer countries take better care of the environment than poorer countries? Look at the comparative empirical evidence using this online database: <https://goodlife.leeds.ac.uk/>**

Required readings (H=History; S=Environmental Science; E=Economics)

- [E] Stern, D. I. (2004). The rise and fall of the environmental Kuznets curve. *World development*, 32(8), 1419-1439.
- [S] Rockström, J., Steffen, W., Noone, K., et al. (2009). A safe operating space for humanity. *nature*, 461(7263), 472-475.
- [S] O'Neill, D. W., Fanning, A. L., Lamb, W. F., & Steinberger, J. K. (2018). A good life for all within planetary boundaries. *Nature sustainability*, 1(2), 88-95.
- [H] Bavel, B. J. P. v., Curtis, D. R., Dijkman, J., Hannaford, M., De Keyser, M., Van Onacker, E., & Soens, T. (2020). *Disasters and History: The Vulnerability and Resilience of Past Societies*, pp. 159-187

Optional

- [H] Wrigley, E. A. (2016). *The Path to Sustained Growth: England's transition from an organic economy to an industrial revolution*. Cambridge: Cambridge University Press, pp. 198-205.
- [S] Kemp, L., Xu, C., Depledge, J., et al. (2022). Climate Endgame: Exploring catastrophic climate change scenarios. *Proceedings of the National Academy of Sciences*, 119(34), e2108146119.
- [E] Nordhaus, W. D. (2021). *The Spirit of Green*. Princeton University Press, pp. 83-95.

PART III. Introduction to behavioral decision-making, climate and behavioral change

In this part of the course, all classes, except for those in Weeks 13 and 14, will be structured in the following way. In the first part of the class, the professor will introduce the topics by addressing and framing the main issues in a broad way. In the second part of the class, students' presentations will take place. Each group will present a specific paper related to the topics in no more than 20 minutes+10 minutes of question. The presentation will include the following

- a short summary of the paper,
- the main research questions, data, hypothesis
- critical assessment of way they have been addressed and answered in the paper and
- some personal comments on external validity, hypothesis and methodology

The presentation should be concise but complete. Students who will present and discuss a paper will send to the professor their PPT slides 24 h. in advance of their presentation. The presenting group should choose at least three questions from the list published in *Aula Global* and discuss them after their presentation to initiate a debate with the classroom.

After the presentation, the presenting group will produce a **policy paper** about the respective reading presented and of the produced discussion, adding some comments from the professor. The idea of the policy paper is to reproduce the technical information into a template addressing the general population. The language and style used to write down the policy paper should, hence, be clear and effective. All the remaining students will post on *Aula Global* a few questions on the paper that will be presented on Monday morning.

Week 10: November 14

Introduction to Behavioral Decision Making, behavioral change and climate change phenomenon.

- Why do we need behavioral economics and behavioral science to understand sustainability and climate change?
 - **Practica: Discussion Leadership**

Required readings

- Seo, S. Niggol. *The behavioral economics of climate change: adaptation behaviors, global public goods, breakthrough technologies, and policy-making*. Academic Press, 2017- Ch. 1 and 2
- Bowles, S., Carlin, W. and Stevens, M. (2017). 'Capstone: ECONOMICS OF THE ENVIRONMENT'. Unit 20 in The CORE team, *The Economy*. Available at: <https://www.core-econ.org>. [Accessed on 30/07/2022].-Chapter 20.2-20.4, 20.9

Optional

- Carattini, S., Levin, S., & Tavoni, A. (2020). Cooperation in the climate commons. *Review of Environmental Economics and Policy*.
- Carlsson, F., Gravert, C., Johansson-Stenman, O., & Kurz, V. (2021). The use of green nudges as an environmental policy instrument. *Review of Environmental Economics and Policy*, 15(2), 216-237

Week 11: November 21

Behavioral Economics and Environmental Policy Design

- What is the political economy model behind Environmental Policy design?
- **Practica: Discussion Leadership**

Required readings

- Seo, S. Niggol. *The behavioral economics of climate change: adaptation behaviors, global public goods, breakthrough technologies, and policy-making*. Academic Press, 2017- Chapter 3-4
- Bowles, S., Carlin, W. and Stevens, M. (2017). 'Capstone: ECONOMICS OF THE ENVIRONMENT'. Unit 20 in The CORE team, *The Economy*. Available at: <https://www.core-econ.org>. [Accessed on 30/07/2022]- Chapter 20.5, 7, 8
- European Commission, 'Designing policy to influence consumers: Consumer behaviour relating to the purchasing of environmentally preferable goods' (<http://ec.europa.eu/environment/enveco/pdf/RealWorldConsumerBehaviour.pdf>). (EC)
- UK Cabinet Office, Institute for Government, —MINDSPACE: Influencing behaviour through public policy: <http://www.instituteforgovernment.org.uk/sites/default/files/publications/MINDSPACE.pdf>. (UKC)

Optional

- Hu, H., Chen, D., Chang, C. P., & Chu, Y. (2021). The political economy of environmental consequences: A review of the empirical literature. *Journal of Economic Surveys*, 35(1), 250-306.
- Carlsson, F., & Johansson-Stenman, O. (2012). Behavioral economics and environmental policy. *Annu. Rev. Resour. Econ.*, 4(1), 75-99.
- Springel, K. (2021). It's Not Easy Being "Green": Lessons from Norway's Experience with Incentives for Electric Vehicle Infrastructure. *Review of Environmental Economics and Policy*, 15(2), 352-359.

Week 12: November 28

The determinants of Green Policy Acceptance.

- What are the factors determining people's acceptance to vote or accept mitigation policies?
- **Practica: Discussion Leadership**

Required readings

- Vincent, & Mäler, K.-G. (2005). *Handbook of Environmental Economics: Valuing environmental changes* (2nd edition.). North-Holland/Elsevier- Chapter 26
- Carattini, S., Carvalho, M. and Fankhauser, S., (2018). Overcoming public resistance to carbon taxes. *Wiley Interdisciplinary Reviews: Climate Change*, 9(5), p.e531.
- Farrow, K., Grolleau, G., & Ibanez, L. (2017). Social norms and pro-environmental behavior: A review of the evidence. *Ecological Economics*, 140, 1-13.

Optional

- Millner, A., & Ollivier, H. (2020). Beliefs, politics, and environmental policy. *Review of Environmental Economics and Policy*.
- Maestre-Andrés, S., Drews, S., & van den Bergh, J. (2019). Perceived fairness and public acceptability of carbon pricing: a review of the literature. *Climate Policy*, 19(9), 1186-1204.
- Hertwig, R., & Grüne-Yanoff, T. (2017). Nudging and boosting: Steering or empowering good decisions. *Perspectives on Psychological Science*, 12(6), 973-986.

Week 13: December 5

How to measure sustainability.

- How are the SDGs designed?
- Construction of composite indicator
- **Practica: Exploring the construction of composite indicators**

Required readings

- Joint Research Centre-European Commission. (2008). *Handbook on constructing composite indicators: methodology and user guide*. OECD publishing.

Week 14: December 12

How to measure behavioral change and people's attitude to support policies

- From data to field and lab experiments, survey and others methods
- **Practica: Exploring the design of Willingness to Pay**

Required readings

- Bowles, S., Carlin, W. and Stevens, M. (2017). 'Capstone: ECONOMICS OF THE ENVIRONMENT'. Unit 20 in The CORE team, The Economy. Available at: <https://www.core-econ.org>. [Accessed on 30/07/2022]-Chapter 20.6
- Vincent, & Mäler, K.-G. (2005). *Handbook of Environmental Economics: Valuing environmental changes* (2nd edition.). North-Holland/Elsevier- Chapter 17-19

Optional

- Levitt, S. D., & List, J. A. (2007). 'What do laboratory experiments measuring social preferences reveal about the real world?' *Journal of Economic perspectives*, 21(2), 153-174.