

Existential Risk in the Anthropocene

An upper-level undergraduate class

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With thanks to Una Europa and the Roosevelt Institute for American Studies.

Covering note

Firstly, the organizing committee would like to reiterate our thanks to everyone who attended the ‘Teaching Existential Risk in the Anthropocene’ workshop on 26/27 March 2026 at the RIAS in Middelburg. When coupled with the written material you all submitted, the discussions we held there were invaluable in producing the syllabus below both in thematic terms but also in the highly specific reading material you suggested. We are extremely grateful for the time and attention you have shown thus far.

Retaining thematic coherence while integrating the broad range of insights you all offered has come with some challenges. One of the core problems has been that of interdisciplinarity; it is difficult to design a syllabus that is genuinely interdisciplinary in nature. Accordingly, we have made the decision to ground this syllabus in a humanities and social-science perspective, albeit one that brings in a wide range of insights from political theory, history, international relations, and geography. We have also made sure to include several papers from the hard sciences to emphasise the underlying materiality of some of the geologic and biophysical processes underwriting x-risk.

The second major challenge we faced lay in the integration of a large range of material; there was far more than what we could plausibly include in a standard 10-week undergraduate course/module. This was further compounded by the wide range of thematic and empirical topics which this syllabus could explore.

We have attempted to resolve this dilemma by designing the syllabus around five thematic and five empirical weeks. The thematic weeks are further broken down into three **core** weeks: these a) define x-risks, b) describe the processes of knowledge production which underlie them, and c) explore potential options for addressing them. Core weeks (marked by the tag **[CORE]**) should be standard to every delivery of this course because they impart a common basis for understanding and interpreting x-risks, how we know about them, and what we might do in response. Beyond that, however, there are two more **modular** thematic weeks, which we have labelled with the **[MODULAR]** tag. These explore a range of other topics related to x-risks, including but not limited to justice, coloniality, and communication. For these two weeks teachers should select what they want to teach based on a combination of their own expertise and student interest from the four options at the end of the schedule (or design your own!). We have also included five empirical weeks, each examining a specific x-risk as it arises in relation to human society and activity. You can further replace these empirical weeks with modular weeks if you wish to have more of an emphasis on thematic and theoretical aspects in your delivery.

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We hope that this approach makes sense to you. We are certainly open to debate as to the choices we have made; we also welcome further feedback in terms of specific source material/class/assessment design. As always, this syllabus is intended to be the starting point in any discussion going forwards. We have arranged this material in a way we think is coherent and strikes a balance between conventional and critical approaches; you can adapt any and all of this for your own purposes if and when you teach this course! We thank you again for your consideration and look forward to your thoughts.

Rob and Maud

Course description

Existential risks (X-risks) are now a regular feature of mainstream commentary on global political, social, and economic life. Analysts and commentators focus on the vast, destructive potential posed by climate change, pandemics, and artificial intelligence, to name a few recent phenomena; these are typically posed as threats operating at a global level with implications for the viability of future human civilization. Cognisance of these threats is accompanied by an awareness that they are largely anthropogenic in nature, meaning they are largely the product of human social and economic activity. We now live, therefore, in an age of existential anxiety about the consequences of our own actions.

This course unpacks the idea of human-caused existential risks. It deploys a comprehensive range of perspectives drawn from political theory, ethics and moral philosophy, history, international relations, geography, and the hard sciences to explore the origins and nature of existential threats, their utility as an analytical tool, and what we might do about them. In addition to examining the causes and consequences of existential risks, we will examine how these risks intersect with fundamental considerations of justice, responsibility, and accountability, giving students a fresh perspective on questions central to our modes of living and working in the 21st century.

We will explore these questions from two broad perspectives: thematic and empirical. Thematically, we will examine the development of thinking about existential risks, including key analytical approaches, who is responsible for producing knowledge about risk, and the historical and social forces that shape how we know about existential risks. Empirically, we will be analysing the material factors that give rise to the phenomena we describe as existential risk, and the very real material effects that these phenomena produce in peoples' lived experiences. This course will therefore equip students with a balanced appreciation of anthropogenic existential risk as an intellectual lens in addition to an understanding of the underlying materiality provoking this new way of thinking about humanity's relationship to risk.

Learning objectives

By the end of this course, you will learn how to:

1. Evaluate the interactions between socio-political activity and material phenomena which produce existential risks.
2. Analyse different disciplinary perspectives on and limitations inherent to existential risks as an intellectual category

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3. Produce varied and research-oriented summaries, reports, and policy memos on risk mitigation and adaptation
4. Propose alternative pathways forward in light of the insights yielded from Learning Objectives 1 and 2

Assignments and grading

Assessment 1:

The first assignment is an academic essay of 3,000 words responding to one of the following prompts:

- a. Better governance is the solution to existential risk. Agree/disagree.
- b. Existential risks are always global in nature. Agree/disagree.
- c. Describe three different disciplinary perspectives on existential risk, and evaluate the strengths and limitations of each.

The essay is worth 40% of your final grade.

Assessment 2:

The second assignment is a crisis simulation activity based around a simulated response to a specific existential risk (we will collectively determine which one in class). Although participation in this exercise is mandatory, assessment itself will be based on the authorship of two papers, one either side of the activity.

The first is a 1,000-word position paper to be submitted **prior** to the simulation: you will be asked to choose a particular actor (a state, international organisation, non-state actor etc.), conduct research to outline your actor's main objective during the simulation, and then argue why that objective is important. Pending instructor approval, you will then pursue that objective in the simulation.

The second paper is a 1,000-word reflective piece submitted **after** the simulation. In this paper, you will be asked to reflect on your experience of the simulation and how it relates to a thematic week or key reading we have examined during the course. Collectively, participation in the simulation and the two papers are worth 50% of your final grade.

Assessment 3:

You will also be assessed based on in-class participation. This will be assessed based on students' preparedness for each class and subsequent willingness to discuss and engage with each other. Heavy emphasis is placed here on active participation in classroom activities, and on your collegiality and willingness to entertain and develop others' ideas.

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In-class participation is worth 10% of your final grade.

Schedule of Classes

Week 1 Introduction: What is anthropogenic existential risk? [CORE].

This week introduces the ideas of existential risk and the Anthropocene.

Essential Reading:

- Bostrom, N. & Ćirković M. (2008) Introduction. In N. Bostrom & Ćirković N. (eds.) *Global Catastrophic Risks*. (Online edition), Oxford University Press, 1 – 30.
- Colebrook, C. (2019) The Future in the Anthropocene: Extinction and Imagination. In A. Johns-Putra (ed.) *Climate and Literature*, Cambridge University Press, 263 – 280.

Optional Reading:

- Beirlant, J., Goegebeur, Y., Segers, J. & Teugels, J. (2004) *Statistics of extremes: Theory and applications*. Wiley Series in Probability and Statistics.
- Liu H., Lauta K. & Maas M. (2018) Governing Boring Apocalypses: A new typology of existential vulnerabilities and exposures for existential risk research. *Futures*, 102, 6 – 19.
- Torres, P. (2019) Existential risks: a philosophical analysis. *Inquiry: An Interdisciplinary Journal of Philosophy*, 66(4), 614 – 639.

Week 2. How do we know about anthropogenic existential risk? [CORE]

This week focuses on the production of knowledge about existential risk, the key figures and bodies involved in that knowledge production, and the intellectual influences over that process. It problematizes the existential framing by asking “existential for who?”

Essential Reading:

- Roman, S. (2021) Theories and Models: Understanding and Predicting Societal Collapse. In SJ Beard, C. Richards & C. Rios Rojas (eds.) *The Era of Global Risk: An Introduction to Existential Risk Studies*, (online edition), 27 – 55.
- van Buuren, S., Fraise, T. & Pelopidas, B. (2025) Existential silos: The compartmentalization of the futures of environmental change and the nuclear threat. *Futures*, 173, 1 – 15.

Optional Reading:

- Gani, J.K. & Marshall J. (2022) The impact of colonialism on policy and knowledge production in International Relations. *International Affairs*, 98(1), 5 – 22.

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- Cremer, C. Z. & Kemp L. (2021) *Democratizing Risk: In search of a methodology to study existential risk*. In S. Beard and T. Hobson (eds.) *An Anthology of Global Risk* (1st edition), Open Book Publishers, 75 – 124.

Week 3. [MODULAR]

Select from the list of modular weeks below.

Week 4. Planetary boundaries, the biosphere, and climate change

This week covers existential risks arising from human interaction with the environment and ecology, with a particular focus on climate change.

Essential Reading:

- Richardson, K., et al. (2023) Earth beyond six of nine planetary boundaries. *Science Advances* 9(37), 1 – 16.
- Huggel, C. et al. (2022) The existential risk space of climate change. *Climatic Change*, 174(8), 1 – 20.

Optional Reading:

- Stoddard, I. et al. (2021) Three decades of climate mitigation: why haven't we bent the emissions curve? *Annual Review of Environment and Resources*, 46:1, 653 – 685.
- Kemp, L. et al. (2022) Climate Endgame: Exploring Catastrophic Climate Change Scenarios. *Proceedings of the National Academy of Sciences*, 119, 1 – 9.

Week 5. Nuclear weapons

This week examines the existential risk posed by states' development of massively destructive nuclear arsenals. It also examines pathological thinking about nuclear weapons and their immensely destructive capabilities.

Essential Reading:

- Considine, L. (2025) Thinking through and beyond survival in a nuclear age. *Review of International Studies*, 51(5), 782 – 799.
- Rendall, M. (2022) Nuclear war as predictable surprise. *Global Policy*, 13(5), 782 – 291.

Optional Reading:

- Baum S. (2015) Winter-safe Deterrence: The Risk of Nuclear Winter and Its Challenge to Deterrence. *Contemporary Security Policy*, 36(1), 123 – 148.

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- Pelopidas, B. (2017) The unbearable lightness of luck: three sources of overconfidence in the manageability of nuclear crises. *European Journal of International Security*, 2(2), 240 – 262.

Week 6. Artificial intelligence

This week examines artificial intelligence, which is often said to be an existential threat, examining the cases for and against this characterization.

Essential Reading:

- Yudkowsky, E. & Soares, N. (2025) If anyone builds it, everyone dies: why superhuman AI would kill us all. The Bodley Head.
- Kulveit, J. et al. (2025) Gradual disempowerment: Systemic existential risks from incremental AI development. *ArXiv preprint arXiv: 2501.16946*.

Optional Reading:

- Kwa, T. (2026) Measuring AI Ability to Complete Long Software Tasks. *Advances in Neural Information Systems Processing*, 38, 92213 – 92266.
- Bostrom, N. (2014) *Superintelligence: Paths, Dangers, Strategies*. Oxford: Oxford University Press.

Week 7. Pandemics

This week examines pandemics, particularly as they derive from human interaction with the environment and non-human species as a result of economic growth and expansion.

Essential Reading:

- Woolhouse M. & Gowtage S. (2005) Host range and emerging and reemerging pathogens. *Emerging Infectious Diseases*. 11(12), 1842 – 1847.
- Ord, T. (2020) *The Precipice: existential risk and the future of humanity*. Bloomsbury, Chapter 5: Pandemics, 111 – 125.

Optional Reading:

- Jones, K. et al. (2008) Global trends in emerging infectious diseases. *Nature*, 451(7181), 990 – 993.

Week 8. Non-anthropogenic risk: volcanoes, celestial bodies, and seismic events

This week examines the underlying probability of major non-Anthropogenic catastrophes and explores their potential consequences in interaction with human economic and settlement patterns; the overall aim is to spell out the anthropogenically-produced nature of our vulnerability to these occurrences.

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Essential Reading:

- Cooper, M. (2025) Asteroid Economics: The Paradox of Acceleration Under Existential Risk. *RAND Corporation* (working paper). Available at <http://dx.doi.org/10.2139/ssrn.5482586>
- Mason B., Pyle, D. & Oppenheimer C. (2004) The size and frequency of the largest explosive eruptions on Earth. *Bulletin of Volcanology*, 66(8), 735 – 748.
- Perna, D., Barucci, M. & Fulchigoni M. (2013) The near-Earth objects and their potential threat to our planet. *The Astronomy and Astrophysics Review*, 21(65).

Optional Reading:

- Black, B., et al. (2021) Global climate disruption and regional climate shelters after the Toba supereruption. *Proceedings of the National Academy of Sciences*, 118(29), 1 – 8.

Week 9. [MODULAR]

Please select from the list of modular weeks below.

Week 10. What is to be done? [CORE]

This week adopts a normative posture to probe the degree of agency we have in responding to existential risk, and invites students to consider what kind of world they think should come into being in response to existential risk, as well as what changes might need to take place to bring that world into being.

Essential Reading:

- Boyd, M. & Wilson N. (2020) Existential Risks to Humanity Should Concern International Policymakers and More Could Be Done in Considering Them at the International Governance Level. *Risk Analysis*, 40(11), 2303 – 2312.

Optional Reading:

- Gostin, L. (2021) *Global Health Security: A Blueprint for the Future*, Harvard University Press.
- Young, D. (2024) Who Can Govern From A House on Fire? International Order, State Responsibility, and the Problem of Solar Radiation Modification. *Ethics & International Affairs*, 38(3), 243 – 254.

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Modular weeks

Historicizing risk

This week focuses on the development of ideas about existential risk over time.

Essential Reading:

- Moynihan, T. (2020) Existential risk and human extinction: An intellectual history. *Futures*, 116, 1 – 13.
- Schuster, J. & Woods, D (2021) Introduction: What is Existential Risk? In *Calamity Theory: Three Critiques of Existential Risk*. University of Minnesota Press, 1 – 23.

Optional Reading:

- Boudia, S. & Jas, N. (2007) Introduction: Risk and ‘Risk Society’ in Historical Perspective. *History and Technology*, 23(4), 317 – 331.
- Corry, O. (2011) Securitisation and ‘Riskification’: Second-order Security and the Politics of Climate Change. *Millennium: Journal of International Studies*, 40(2), 235 – 285.

Communicating risk

This week focuses on the ways that existential risks are perceived, described, and communicated.

Essential Reading:

- Trippenbach, P. et al. (2025) From Catastrophic to Concrete: Reframing AI Risk Communication for Public Mobilization. *arXiv preprint*: [arXiv:2511.06525](https://arxiv.org/abs/2511.06525).
- Turchin A. & Denkenberger, D. (2018) Global catastrophic and existential risks communication scale. *Futures*, 102, 27 – 38.

Optional Reading:

- Slovic, P. (1987) Perception of risk. *Science*, 236(4799), 280 – 285.
- Westerstrand, S., Westerstrand R. & Koskinen J. (2024) Talking existential risk into being: A Habermasian critical discourse perspective to AI hype. *AI and ethics*, 4, 713 – 726.

Justice and coloniality under conditions of existential risk

This week explores how power dynamics fundamental to the international political system – particularly colonialism and inequality – intersect with experiences of and responses to existential risk.

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Essential Reading:

- Jecker, N. et al. (2024) AI and the falling sky: interrogating X-Risk. *Journal of Medical Ethics*, 50(8), 811 – 817.
- Sultana, F. (2022) The unbearable heaviness of climate coloniality. *Political Geography*, 99, 1 – 16.

Optional Reading:

- Højme, P. (2019) Whose Survival? A Critical Engagement with the Notion of Existential Risk. *Scientia et Fides*, 7(2), 63 – 76.
- McLaughlin, A. (2024) Existential Risk, Climate Change, and Nonideal Justice. *The Monist*, 107(2), 190 – 206.

Responsibility and accountability

This week explores who is and who should be held responsible for the production of existential risk, and ways in which they might be brought to account.

Essential Reading:

- Bostrom, N. (2013) Existential Risk Prevention as Global Priority. *Global Policy*, 4(1), 15 – 31.
- Kermisch, C. (2012) Risk and Responsibility: A Complex and Evolving Relationship. *Science and Engineering Ethics*, 18(1), 91 – 102.

Optional Reading:

- Sardo, M. (2020) Responsibility for climate justice: Political not moral. *European Journal of Political Theory*, 22(1), 26 – 50.
- Frumhoff P., Heede, R. & Oreskes, N. (2015) The Climate Responsibilities of Industrial Carbon Producers. *Climatic Change*, 132, 157 – 171.