**SOSGEO 2302**
**Final Exam**
**Spring 2025**

The exam consists of three short answer and one long answer questions. Your answers should draw on course concepts and examples from readings, lectures, or seminars.

**I. Short Answer** (please answer **three** of the following five choices). Your answers should be between 200 - 300 words each and demonstrate clear argumentation and relevant examples or evidence. (33% of grade).

1. Discuss one key similarity and one key difference between the critical discourse and the eco-centric discourse on climate change. Then, explain why each of these two discourses is important for understanding environmental issues.

2. Define climate justice and explain why it is essential to include justice considerations in responses to climate change at multiple levels (e.g., local, national, or global).

3. Describe how art and creative expression can support both the imagination and realization of sustainable futures. Include one concrete example of an artistic or creative initiative that has contributed positively to sustainability.

4. Briefly explain Hartmut Rosa's theory of social acceleration. Then describe two possible environmental consequences of living in a high-speed society.

5. Discuss how and why climate change can be considered a threat to security, and which groups are most vulnerable.

**II. Long Answer** (please answer **one** of the two choices). Your answer should be between 1500-1800 words, and offer a coherent analysis or argument, supported by references to course materials. (67% of grade)

**1) "Dear Environmental Ministers"**

The United States has withdrawn from the 2015 Paris Agreement on climate change and is removing most incentives for developing renewable energy. By weakening or eliminating environmental protection, including for national parks and endangered species, the administration is undermining years of efforts to increase climate action and conservation efforts.

These policies have implications for environmental policies around the world. Many governments are wondering whether to respond by weakening their environmental policies to remain economically competitive, or displaying strong leadership on environmental issues.

An international environmental NGO has asked you to write a short document that will be sent to every environmental minister around the world. Written in the form of a letter, your document should make the case for increased leadership on issues such as climate change and biodiversity loss.

The NGO would like you to use your knowledge on the social and human dimensions of environmental issues and present ministers with **A) three good reasons for strengthening climate change and nature conservation over the next four years**, drawing attention to 1) social, 2) economic, and 3) cultural arguments. Recognizing a diversity of worldviews and views of nature, the NGO would like you to **B) explain how to communicate one of your three reasons to ministers who align with the dismissive discourse**. Finally, the NGO would like your document to **C) highlight one transformative solution** that all governments should prioritize, with an explanation of why it is important.

**2). *Is techno-optimism the problem or the solution?***

You have a close friend from high school who has always been engaged with social and political issues. Recently, the two of you have been discussing climate change. Your friend, now studying engineering, is fully convinced that technological innovation will solve the climate crisis—helping humanity both **mitigate** the causes of climate change and **adapt** to its effects. They're especially enthusiastic about high-tech interventions such as **geoengineering**, including proposals like launching solar panels into space or injecting aerosols into the atmosphere to cool the Earth.

While you appreciate your friend's optimism, your *Environment and Society* course has introduced you to a wider range of perspectives. You decide to write a letter that shares some key insights and encourages your friend to think more critically about the limitations of a purely technological approach.

Write a letter to your friend that includes the following:

**A)** Explain the **limitations of techno-managerial approaches** to climate change. Use **two examples** to illustrate your points.

**B)** Present **two different views on the social drivers** of climate change. Explain how each one is connected to a **specific discourse** on environmental issues.

**C)** Describe **two alternative solutions** to climate change that emerge from **different discourses** than techno-optimism. Explain to your friend why these may be more

promising paths forward.

## Sensor Guidance - Short Answers

### *1. Critical and Eco-centric discourses*

**Sample answer (edited from ChatGPT's answer)**: Both the **critical discourse** and the **eco-centric discourse** challenge the dominant techno-managerial and market-based solutions to climate change that are often emphasized in the biophysical discourse. They point to the need for deeper structural or systemic transformations. A key **similarity** between the two is that they both view the climate crisis as a symptom of broader socio-political or cultural problems. For example, both discourses critique extractivist economies and dominant power relations that marginalize alternative ways of relating to nature. They both see climate change as more than merely a problem of carbon dioxide:

However, a major **difference** lies in their **focus and framing**. The critical discourse often centers on **justice**, **equity**, **intersectionality**, and the role of capitalism and colonialism in producing environmental harm. It tends to focus on social structures and power dynamics, especially how they affect marginalized or vulnerable communities. In contrast, the **eco-centric discourse** focuses more on **the intrinsic value of nature**, arguing for a shift in worldview that recognizes non-human beings and ecosystems as having rights and agency, independent of human interests. It also highlights the views of Indigenous knowledge.

Both discourses are important because they provide **alternative lenses** that go beyond technological fixes or individual behavior changes. The critical discourse urges us to address social inequalities and ensure that climate solutions are just and inclusive. Meanwhile, the eco-centric discourse pushes us to rethink our relationship with nature, advocating for cultural and spiritual shifts that honor interdependence and ecological limits. Together, these discourses help expand the scope of climate action by addressing both human and more-than-human dimensions of the crisis.

**Criteria Marks**

| | |
|---|---|
| Correctly identifies one similarity | 1 mark |
| Clearly explains one difference | 1.5 marks |
| Provides insight into why both matter | 2 marks |
| Clarity, structure, and appropriate use of terms | 0.5 mark |

### *2. Climate justice*

**Sample answer (edited from ChatGPT's answer)**: Climate justice is a framework that understands climate change not only as an environmental issue but also as a social and ethical one. According to the definition (in their textbook) "it draws attention to inequalities across different communities, groups, and nations in contributions to rising greenhouse gas emissions, vulnerabilities and capacities to adapt to climate change impacts, and

representation and voice in climate change decision making." It emphasizes that the impacts of climate change are not experienced equally — they disproportionately affect communities that have contributed the least to global greenhouse gas emissions, including low-income countries, Indigenous peoples, and marginalized populations. Climate justice calls attention to the historical and structural inequalities that shape vulnerability and resilience, and it demands that responses to climate change be grounded in fairness, equity, and human rights.

Recognizing and including climate justice in climate change responses is important for several reasons. **First**, it ensures that those most affected by climate change have a voice in the decisions that shape their futures. This supports democratic participation and can lead to more locally appropriate and effective adaptation strategies. For example, Indigenous communities often have deep ecological knowledge that can contribute to more sustainable land and resource management, but their insights are frequently overlooked in top-down policy processes. **Second**, climate justice challenges the "one-size-fits-all" approach often seen in global climate governance. Policies that ignore social inequalities can unintentionally reinforce existing injustices — for instance, by displacing communities for renewable energy projects or by imposing carbon taxes that disproportionately impact low-income households. Including climate justice helps ensure that climate solutions do not create new forms of harm. **Lastly**, climate justice highlights the moral responsibility of wealthy nations and high-emitting industries to take the lead in reducing emissions and supporting adaptation efforts in vulnerable regions. This includes financing climate adaptation, transferring clean technology, and acknowledging the need for reparations or loss and damage funds. By centering justice in climate responses, we can move toward solutions that are not only environmentally sustainable but also socially inclusive and ethically sound.

Climate justice refers to the idea that the people and communities most affected by climate change are often the least responsible for causing it. The definition (in their textbook) "draws attention to inequalities across different communities, groups, and nations in contributions to rising greenhouse gas emissions, vulnerabilities and capacities to adapt to climate change impacts, and representation and voice in climate change decision making." In other words, climate justice emphasizes fairness in both the distribution of climate impacts and the processes used to address them. Climate justice is important because climate change disproportionately harms marginalized groups, such as low-income communities, Indigenous peoples, and countries in the Global South. Recognizing climate justice ensures that climate responses do not reinforce existing inequalities but instead empower those most affected. It also helps build more inclusive, effective, and legitimate climate policies that account for historical responsibility, different capacities, and diverse worldviews.

**Criteria Marks**

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|---|---|
| Accurate definition of climate justice | 1.5 marks |
| Explanation of its significance in climate action | 2.5 marks |
| Clarity, relevance, and use of course language | 1 mark |

**3. *Art and Creativity***

**Sample answer (edited from ChatGPT's answer)**: Art and creativity play a powerful role in helping societies imagine and create sustainable futures. While scientific reports and policy frameworks provide essential data and strategies, they often struggle to engage people emotionally or inspire collective action. Art, on the other hand, has the capacity to make abstract or distant issues like climate change feel personal, urgent, and real. Through visual, performative, and participatory forms, art can evoke empathy, spark new ways of thinking, and foster dialogue across diverse communities.

Creativity is central to envisioning alternatives to the current systems that contribute to environmental degradation. It helps people move beyond fear or apathy and into imaginative spaces where new relationships with nature, each other, and the future are possible. Artistic practices often invite collaboration and reflection, encouraging people to slow down, pay attention, and reimagine their role within larger ecological systems. This can be particularly important in sustainability education and activism, where shifting mindsets is just as crucial as changing behaviors or technologies.

One example is Nele Azebedo's "Melting Men" which are ice sculptures in the form of humans that slowly melt away over time, raising awareness of the fate of the Greenland and Antarctic ice sheets. There are many other examples of art that helps to raise awareness of climate issues in emotionally resonant and accessible ways, reaching audiences beyond traditional scientific or policy circles. In class we also were presented with an example of community art in Chile, where local people participating in writing traditional songs and painting a mural about the consequences of climate change.

These works translate the science of climate change into emotional and accessible experiences that resonate with wider audiences. Art and creativity can help societies imagine sustainable futures by offering new narratives, symbols, and emotional experiences that challenge dominant worldviews and inspire alternative possibilities. Creative expression also plays a role in enacting change, by engaging people emotionally and socially, sparking dialogue, and strengthening community cohesion. In sum, art and creativity are essential tools in the sustainability toolkit. They not only help us visualize more just and regenerative futures, but also strengthen the cultural and emotional foundations needed to bring those futures into being.

**Criteria Marks**

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|---|---|
| Clear explanation of how art/creativity contributes to imagining sustainable futures | 1.5 marks |
| Explanation of how it contributes to creating or enacting change | 1.5 marks |
| Relevant, specific example with positive sustainability impact | 1.5 marks |
| Clarity, structure, appropriate use of course themes | 0.5 mark |

4. ***Social acceleration***

**Sample answer (edited from ChatGPT's answer)**: Hartmut Rosa's theory of social acceleration argues that modern societies are shaped by an ever-increasing pace across three interconnected dimensions: technological acceleration, acceleration of social change, and acceleration of the pace of life. As technological advancements increase the speed of communication, travel, and production, society responds with faster cycles of innovation and transformation in culture, norms, and institutions. This in turn pressures individuals to do more in less time, leading to what Rosa calls the "shrinking of the present" — the feeling that there is never enough time to keep up. Rather than freeing people, acceleration tends to create restlessness, instability, and a chronic sense of being behind.

This high-speed mode of living has serious environmental implications. First, technological and economic acceleration drive increased consumption of natural resources. As production cycles speed up and products become obsolete faster, the demand for raw materials grows, resulting in resource depletion, pollution, and greater carbon emissions. Planned obsolescence and hyper-consumption are built into this system, reinforcing unsustainable patterns. Second, acceleration undermines the capacity for deep reflection and long-term thinking, which are crucial for responding to complex environmental crises like climate change and biodiversity loss. Political systems geared toward short election cycles and economic models obsessed with quarterly growth targets often fail to take the time required to design just and sustainable solutions. Instead, there is a tendency to favor short-term technological fixes or market-based solutions that align with the logic of acceleration, rather than addressing the root causes of ecological degradation. In sum, Rosa's theory helps us see how the structural pace of modern life not only affects personal well-being, but also deepens the environmental crisis by promoting speed over sustainability, efficiency over equity, and novelty over care.

**Criteria Marks**

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|---|---|
| Accurate and concise explanation of social acceleration theory | 2 marks |
| Clear description of two environmental consequences | 2 marks |
| Coherence, structure, and integration of course language/concepts | 1 mark |

5. ***Human security***

**Sample answer (edited from ChatGPT's answer):** Climate change is increasingly recognized as a major threat to human security because it undermines the basic conditions necessary for people to live safe, healthy, and dignified lives. Human security goes beyond traditional definitions of national or military security to include access to food, water, shelter, health, and livelihood. As climate-related impacts like extreme weather events, sea-level rise, droughts, and shifting disease patterns become more frequent and intense, they destabilize the systems that support these essential needs.

For example, rising temperatures and unpredictable rainfall can reduce agricultural productivity, leading to food insecurity and increased poverty in rural areas. Flooding and sea-level rise threaten homes and infrastructure, particularly in low-lying coastal regions. In some

contexts, climate impacts can also contribute to conflict and forced migration, as people are displaced from their homes or compete over shrinking resources.

While everyone is affected by climate change to some extent, certain groups are significantly more vulnerable due to pre-existing inequalities. These include low-income communities, Indigenous peoples, women, children, and those living in fragile or conflict-affected states. Vulnerability is shaped not just by geography but also by social, political, and economic factors. For instance, poor communities often lack the resources to rebuild after climate disasters, and marginalized groups may have limited access to decision-making processes that shape adaptation policies.

Small island nations are especially at risk due to rising sea levels, while arid regions face increasing water scarcity. In all cases, vulnerability is compounded by historical injustices, such as colonialism or unequal access to development benefits.

Addressing climate change as a human security issue requires integrating justice and equity into climate responses, ensuring that the most affected communities are supported and empowered in building resilience to future shocks.

## Sensor Guidance: Long Answers:

### Long Answer Q1: NGO Letter on Environmental Leadership

#### Overall Structure and Clarity (10–15%)

- Is the response clearly written in the form of a letter, with an appropriate tone for a global policy audience?
- Does the structure flow logically from the introduction to the conclusion?
- Is the language accessible yet informed, suitable for ministers from diverse political and cultural contexts?

#### Part A: Three Reasons to Strengthen Environmental Action (40%)

**1. Social Argument**

- Does the student explain how environmental degradation affects human health, wellbeing, justice, or displacement?

- Is there attention to vulnerable populations or equity issues?

**2. Economic Argument**

- Does the student reference the long-term economic benefits of environmental action (e.g., green jobs, cost of inaction, sustainable development)?
- Are economic risks of climate inaction or biodiversity loss articulated?

**3. Cultural Argument**

- Does the response address how nature relates to cultural identity, heritage, or spiritual values?
- Is there recognition of Indigenous knowledge systems or local traditions tied to environmental stewardship?

*Note:* Credit originality, relevance, and the integration of course concepts, even if not all ideas are fully fleshed out.

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## Part B: Communicating One Reason to a Dismissive Audience (20%)

- Does the student identify a likely dismissive worldview (e.g., denial of climate science, policy prioritization, implicatory denial)?
- Is one of the three reasons adapted effectively for that audience (e.g., reframing conservation as national pride, security, or economic resilience; reframing climate change as an economic opportunity)?
- Are rhetorical strategies used thoughtfully—e.g., appeals to values, shared goals, or indirect persuasion?

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## Part C: One Transformative Solution (20%)

- Is the proposed solution bold, systemic, and feasible (e.g., just transition, nature-based solutions, green infrastructure, universal environmental education)?
- Does the student explain *why* it is transformative and important across contexts?
- Is the solution justified with reference to social, ecological, or policy relevance?

**Critical Thinking and Use of Course Knowledge (15–20%)**

- Does the response draw on key concepts from the course (e.g., social dimensions of climate, worldviews and views of nature, concepts of equity, power, governance)?
- Is there evidence of independent synthesis and thoughtful reflection, not just rote repetition?
- Are examples or references (implicit or explicit) used appropriately?

# Grading Rubric: NGO Letter on Environmental Leadership

Undergraduate Written Exam – Letter Grade Scale (A–F)

This rubric is designed to guide the evaluation of student responses to the exam question on international environmental leadership. The letter is assessed across six key criteria, each contributing to the overall letter grade. Strong responses will demonstrate clarity, originality, and deep engagement with the social and human dimensions of environmental issues.

| Criteria | A (Excellent) | B–C (Satisfactory) | D–E (Needs Improvement) | F (Unsatisfactory) |
|---|---|---|---|---|
| Structure and Clarity | Clear, persuasive letter format; logically structured; tone is diplomatic and audience-aware. | Mostly clear structure; tone appropriate but may lack polish or flow. | Poorly structured or unclear; inconsistent tone or formatting. | No clear structure or letter format; inappropriate tone. |
| Social Argument | Strong justification using health, justice, or social equity with clear | Adequate reasoning but underdeveloped or generalized. | Superficial or unclear argument. | No meaningful social justification provided. |

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| | environmental relevance. | | | |
| Economic Argument | Compelling economic reasoning (e.g., green jobs, avoided costs); clearly argued. | Present but lacks depth or specific examples. | Vague or weak economic rationale. | No economic argument or off-topic response. |
| Cultural Argument | Thoughtful engagement with cultural views of nature, including Indigenous perspectives. | Cultural ideas mentioned but not deeply explored. | Minimal cultural insight or vague references. | No cultural perspective addressed. |
| Reframing for Dismissive Audience | Strategic, persuasive reframing of an argument to resonate with a dismissive worldview. | Some effort to adapt the argument, though not fully effective. | Weak or ineffective adaptation; little audience awareness. | No attempt to reframe or address dismissive views. |
| Transformative Solution | Bold, systemic solution proposed and well justified with global relevance. | Solution is plausible but explanation is thin or generic. | Solution is vague, unrealistic, or poorly justified. | No transformative solution proposed or irrelevant suggestion. |
| Course Knowledge & Critical Thinking | Excellent integration of course concepts and original thought; strong examples. | Concepts are referenced but lack depth or integration. | Surface-level engagement with course material. | Little to no understanding of course concepts shown. |

Overall Comments:

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# Grading Guidance: “Is Techno-Optimism the Problem or the Solution?”

## 📬 Format, Tone & Structure (10–15%)

- Is the letter written in a **clear and engaging tone** appropriate for a peer?
- Does it maintain a logical structure, flowing naturally between the three main sections (A, B, C)?
- Is the tone respectful and persuasive, balancing critique with approachability?

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### Part A: Limitations of Techno-Managerial Approaches (25%)

- Does the student identify key **limitations** (e.g., rebound effects, technocratic decision-making, socio-political blind spots)?
- Are **two distinct examples** clearly explained? (e.g., carbon capture schemes, geoengineering risks, unequal tech access)
- Does the answer go beyond surface-level critique to question underlying assumptions (e.g., control over nature, depoliticization)?

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### Part B: Social Drivers and Environmental Discourses (25%)

- Are **two different views on social drivers** of climate change clearly presented? (e.g., capitalism, colonialism, consumerism, inequality)

- Are these views accurately tied to broader **environmental discourses** (e.g., market-based environmentalism, environmental justice, deep ecology)?
- Does the student demonstrate **understanding of how discourse shapes problem framings and solutions**?

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### Part C: Alternative Solutions from Other Discourses (25%)

- Are **two solutions** proposed that emerge from **non-technocratic discourses**? (e.g., degrowth, Indigenous land stewardship, food sovereignty, climate justice movements)
- Are these solutions explained with **clear rationale for their promise**? (e.g., equity, local empowerment, systems thinking)
- Does the student make a **persuasive comparison** with techno-optimism, showing why these alternatives may be more holistic or sustainable?

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### Use of Course Concepts and Critical Thinking (10–15%)

- Does the response incorporate **key theories, terms, or readings** from the course?
- Are concepts like **discourse**, **worldview**, **justice**, or **transformations** used accurately and thoughtfully?
- Does the student demonstrate **independent synthesis** and reflection, rather than merely summarizing content?

# Grading Rubric: Techno-Optimism Letter

Undergraduate Written Exam – Letter Grade Scale (A–F)

This rubric is designed to guide the evaluation of student responses to the long-form letter question exploring techno-optimism and climate change. Students are expected to demonstrate a deep understanding of course concepts, engage with different environmental discourses, and write persuasively and clearly for a peer audience.

| Criteria | A (Excellent) | B–C (Satisfactory) | D–E (Needs Improvement) | F (Unsatisfactory) |
|---|---|---|---|---|

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|---|---|---|---|---|
| Format, Tone & Structure (10–15%) | Well-structured and persuasive letter; tone is respectful and engaging; transitions smoothly between sections. | Generally clear structure and tone; may lack some flow or polish. | Disorganized or inconsistent tone; weak transitions. | Letter format not followed or inappropriate tone. |
| A. Limitations of Techno-Managerial Approaches (25%) | Clearly explains two limitations with strong examples and conceptual depth; critiques underlying assumptions. | Two examples are present but may lack depth or clarity; limited critique. | Superficial or underdeveloped analysis; unclear or vague examples. | Fails to address techno-managerial limitations or provide relevant examples. |
| B. Social Drivers and Environmental Discourses (25%) | Effectively presents two distinct social drivers and links them to relevant discourses with insight. | Drivers and discourses are discussed but may be underexplained or partially accurate. | Minimal or confused discussion of social drivers and discourse. | No meaningful connection made between social drivers and discourse. |
| C. Alternative Solutions from Other Discourses (25%) | Proposes two thoughtful solutions tied to distinct discourses; rationale clearly explained and contrasted with techno-optimism. | Solutions are appropriate but discussion may be uneven or only loosely connected to discourse. | Weak or vague solutions with unclear links to discourse. | No alternative solutions or irrelevant responses. |

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|---|---|---|---|---|
| Use of Course Concepts & Critical Thinking (10–15%) | Demonstrates excellent synthesis of course materials and original thought; terms used appropriately. | Some engagement with course concepts; limited synthesis or originality. | Surface-level engagement or misused terminology. | Little to no evidence of course knowledge or critical thinking. |

Overall Comments:

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