SOSGEO 2302 Final Exam Spring 2026

The exam consists of three short answers and one long answer. 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 demonstrate clear argumentation and relevant examples or evidence. (33% of grade).

1. Define energy poverty and explain who is most affected by it and with what consequences. In your answer, you should also briefly discuss how energy poverty relates to energy justice.

2. Explain the relationship between sensitivity, exposure, and adaptive capacity.

3. Explain how social conventions and culture influence household energy use, drawing on Elizabeth Shove's concept of the "three C's" (comfort, cleanliness, convenience) and Harold Wilhite's concept of "cultural energy services". In your answer, define social conventions and use at least one concrete example (for instance from Norway and Japan) to show how culturally embedded practices shape energy demand.

4. Define the dismissive discourse on climate change and describe at least two ways that climate change is dismissed in society.

5. Describe the three spheres of transformation (practical, political, and personal) and explain how they interact in processes of social change. In your answer, you should use at least one concrete example to illustrate why change is needed in all three spheres.

II. Long Answer (please answer **one** of the two choices). In your answer, you should offer a coherent analysis or argument, supported by references to course materials. (67% of grade)

1. Scripted podcast interview

You are invited to take part in a long interview for a podcast about climate change and society. The host wants to explore different views on the role of economic growth as a driver of climate change, and how these views lead to different ideas about solutions. Furthermore, the host wants your perspective on the potential of technological innovations to mitigate climate change (such as geoengineering or carbon capture and storage). They are also interested in learning about alternative ways of understanding the social drivers of climate change and the solutions that follow from these perspectives.

Write the dialogue or transcript between the host and you, as an Environment and Society student, where you:

A) Present and explain at least two perspectives that see economic growth as compatible with environmental protection (for example using concepts such as the Environmental Kuznets Curve (EKC), decoupling, and ecological modernization).

B) Critically discuss these perspectives by drawing on ideas such as the rebound effect, Jevons' paradox, degrowth, and the limitations of focusing mainly on technological and efficiency-based solutions.

C) Introduce at least one alternative way of understanding the social drivers of climate change, such as approaches that emphasize the role of culture, consumption, inequality, or social structure. Give examples of alternative solutions to mitigate climate change that go beyond green growth and techno-managerial responses, and that may also address climate justice.

It may be helpful to format your answer in the transcript form, such as:

Host:

Student:

2. Narrative discussion essay

What is sustainability? Please discuss the origins and history of the term 'sustainability', and how this term emerged as a topic of debate. Then, discuss the relationship between sustainability, globalization, and environmental justice. In your answer, provide background and history, and discuss how sustainability has functioned as both a guide and element of society. Then, discuss how sustainability and environmental justice interface in a globalized world. Your ideas and critiques should be well-reasoned and supported by facts, statistics, or concepts from the literature to demonstrate your understanding of the connections between these topics. Please format your answer into multiple paragraphs, with an introductory paragraph, several discussion paragraphs, and a conclusion. Referencing course material or lectures is encouraged.

Sensor Guidance - Short Answers

1. Energy poverty and energy justice

'Energy poverty' and 'energy justice' are defined and described in the textbook Climate and Society (chapter 6) and discussed in lecture. Questions on energy justice and environmental justice are also generally discussed throughout the course. The textbook definition of energy poverty is 'a situation where low-income individuals or households cannot afford to meet their basic energy needs for heating, cooking and other uses without compromising their ability to afford food, medicine, shelter or other basic needs'. A good answer should be able to account for that, and explain that energy poverty affects large numbers of people in low-income countries (especially in Sub-Saharan Africa and South Asia, often in rural areas), but is also present in richer regions, for example households in Europe struggling to heat their homes

during recent energy price crises. Stronger answers may also discuss that energy poverty is not only a question of access and affordability to energy, but of access to reliable, quality, safe and environmentally sound energy sources. They may describe key consequences of energy poverty, including limits on basic services and mobility, health problems linked to cold homes and indoor air pollution, and constrained opportunities for education, work and development more broadly. Finally, the answer should briefly relate energy poverty to energy justice and carbon inequalities, emphasizing that the benefits and burdens of energy systems are unevenly distributed, and the importance of ensuring that low-carbon energy transitions are both just and sustainable.

2. Exposure, sensitivity and adaptive capacity

Exposure, sensitivity, and adaptive capacity are all components to assess vulnerability to climate change. The concept is introduced in the syllabus in the lecture about climate impacts, vulnerability, and adaptation and has been discussed on several occasions. A good answer will define Exposure x Sensitivity / Adaptive Capacity, and explain that exposure to climate change relates to what is exposed to harm (e.g. heat, droughts, floods, sea level rise) and that sensitivity relates to the severity of impact (a function of wealth, education, health status, disability status etc.). Adaptive capacity refers to the capability of a community or individual to anticipate, respond, and recover from climate change hazard (a function of governance, institutions, emergency response, etc.). Strong answers will emphasize these components can overlap and is a multidimensional process that can result in differential vulnerability, this analytical approach has roots in ecology and ball and cup theory, is generally associated with the biophysical discourse, or that these components usually focus on the human impacts of climate change. Strong answers will refer to institutional avenues, such as the IPCC and climate change risk assessments, that utilize these terms in order to predict and manage climate impacts. Strong answers may provide discussion into the challenges and benefits of these terms to accurately represent the elements they are attempting to capture.

3. Social conventions and culture

The concepts of ‘cultural energy services’ and the ‘three Cs’, including examples, are introduced in the syllabus texts by Shove and Wilhite and in lectures. Candidates may also draw on content from discussions on consumption and social practice theory in the Climate and society textbook and the Stuart-textbook. A good answer should show that energy use and high-impact consumption are shaped by social norms, culture, and shared practices, not just by individual preferences or technical needs. Students may explain social conventions as socially established norms and standards that guide everyday routines and “ideas of a good life”, for example what a “normal” home or lifestyle looks like. They can draw on Elizabeth Shove’s “three C’s” – comfort, cleanliness, convenience – as historically and culturally changing expectations that influence energy and resource use (e.g. heating all rooms to a

certain temperature, frequent showering and laundry, reliance on many appliances). Harold Wilhite's idea of cultural energy services can be used to show that some forms of energy use are culturally meaningful and therefore harder to change, illustrated for instance by differences between Norway and Japan in lighting and heating practices, where similar needs (light, warmth) are met with very different energy intensities. Strong answers may also distinguish between invisible consumption (taken-for-granted everyday energy use such as heating, hot water and lighting) and conspicuous consumption (Torstein Veblen) as high-impact consumption used to signal status and wealth, such as luxury travel, large cars or big houses, and explain how both are shaped and justified by cultural norms.

4. Dismissive discourse on climate change

The dismissive discourse on climate change is one of five climate change discourses introduced in the lecture on discourses and a chapter in the Climate and society textbook, as well as other syllabus text. Dismissive discourse questions the reality and significance of climate change. The dismissive discourse encompasses discourse that trivialize, minimize, or deny climate change as a problem, even the existence of climate change. Today, dismissive discourses are less about believing or not believing in climate change. Dismissal is more nuanced, such as dismissing the significance relative to other issues, or dismissing the human causes of climate change, or our ability to respond to climate change in what Norgaard (2006) describes as implicatory denial. This discourse might use biophysical or critical measures to draw different conclusions (e.g., forests are growing, we need more 'global warming!').

5. Three spheres of transformation

The concept is introduced in the syllabus through the article by O` Brien and in the Climate and Society textbook (especially the final chapter) and has been discussed in lectures on several occasions. A good answer should show that transformation is a continuous and interconnected process across three spheres, not just a matter of technical fixes or individual behavior change. Students should distinguish the practical sphere (concrete actions, technologies, practices and behaviors such as low-carbon technologies, efficiency measures or everyday lifestyle changes), the political sphere (systems, structures, institutions and power relations, including laws, policies, economic structures and governance arrangements that set the "rules of the game"), and the personal sphere (values, worldviews, beliefs, identities and narratives that shape what people see as possible or desirable). Strong answers will emphasize that these spheres are embedded and interacting: personal change can support political mobilization and institutional reform, political decisions can enable or constrain practical changes, and practical changes can reinforce or challenge existing norms and beliefs. Using at least one concrete example (for instance food choices, transport or energy use) to illustrate how all three spheres are involved in transformation will further strengthen the answer.

Sensor Guidance: Long Answers:

Long Answer Q1: Scripted podcast interview

A good answer should use the interview format (questions and answers) clearly and address all three parts (A, B, C). Strong answers clearly define and explain concepts, show that different understandings of economic growth and social drivers lead to different ideas about solutions and also discuss limitations of different solutions. Medium answers address all three parts but with less depth or precision; some key concepts are present but not fully explained. Low but passing answers have a general discussion of growth, technology and behavior change with weak use of course concepts and little linkage between understanding of drivers and proposed solutions.

Students can draw on concepts and discussions from throughout the lectures and the syllabus, such as the Climate and Society textbook (particularly chapter 5), the textbook by Stuart (particularly chapter 3 and 4), syllabus texts on culture and social conventions as well as other contributions.

A) The answer should present and explain at least two perspectives that see economic growth as compatible with environmental protection, for example *Environmental Kuznets Curve* (suggesting an inverted U-shaped relationship between income and environmental impact, where pollution increases at low/middle income levels and declines as countries become wealthier), *Decoupling (t*he idea that economic growth can be "decoupled" from environmental degradation so that GDP rises while resource use and emissions fall) or *Ecological modernization* (the view that societies can "modernize out of" environmental problems through science, technology, markets and policy reforms (green growth).) Strong answers will explain how these perspectives support techno-optimistic / managerial solutions such as efficiency improvements, green technologies, and possibly geoengineering.

B) The answer should critically discuss the perspectives in A by using ideas such as *Rebound effect* (efficiency gains can be partially or fully offset by increased total consumption, also called a "take-back effect"), *Jevons' paradox (i*ntroduced by William Stanley Jevons, greater efficiency (e.g. in coal use) do not lead to less use of a resource, but higher total consumption). Students could note limitations of focusing mainly on technology and efficiency, for instance that EKC and simple decoupling stories may fit some local pollutants, but are problematic for global, cumulative CO_2, often ignore outsourcing of emissions via international trade (spatial displacement), underplay structural, cultural and power dimensions, and overestimate what technological innovation alone can achieve. Better answers will explicitly connect these critiques to the limited potential of relying mainly on individual behaviour change, efficiency, and high-tech fixes like geoengineering or CCS.

C) Alternative frameworks and solutions (beyond green growth and techno-managerial responses)

The answer should introduce at least one alternative way of understanding social drivers, such as perspectives that emphasize culture, consumption patterns, inequality, capitalism, and power relations as key drivers. Students may for instance introduce perspectives relating environmental degradation and climate change to the economic system of capitalism, such as the the concepts of "fossil capital" (syllabus article by Andreas Malm) or "the threadmill of production" (Allan Schaiberg, introduced in the Stuart-book and touched upon in lecture). Or they may discuss culture as a driver, as discussed in lecture and articles of Wilhite and Shove (see also short answer 3). Stronger answer might address formulas such as I=PAT (

$I = P \times A \times T$), Kaya identity, or STIRPAT. IPAT is a widely recognized formula for analyxing the effects of human activities on the environment. The I stands for Impact, P for population, A for affluence and T for technology. STIRPAT builds on IPAT, including additional factors such as institutions, policy, culture and social structure, and introduced stochasticity, which means the coefficients of the drivers are elastic and may change.

The answer should also give examples of alternative solutions that go beyond "green growth" and techno-managerial fixes, and may address climate justice, for example reducing high-consumption lifestyles and luxury emissions, work-time reduction (WTR) as a way to lower energy use and improve well-being, policies addressing inequality (wealth taxes, taxes on high-carbon luxury goods), changing indicators of progress (beyond GDP), measures that support cultural change and new social norms (for instance the Japanese Cool Biz campaign is an example given in lecture).

Long answer Q2: Sustainability, globalization, and environmental justice

Students may answer this question using concepts reviewed in Lecture 2, chapter 2 of Environment and Sustainability in a Globalizing World, Lecture 6, and other articles from the course material.

A good answer should follow the paragraph format, with an introductory paragraph and several discussion paragraphs, and a concluding paragraph. Average (C) answers define and discuss without synthesization. Strong answers (A) clearly define and synthesize concepts and identify at least 3 articles or resources. Strong answers attempt an analysis, even if the sensor finds it personally unconvincing, at discussing the relationship between sustainability, globalization, and environmental justice. References to lectures are also acceptable in strong answers. Low but passing answers may generally describe these terms without complete accuracy, with weak analysis of the relationship.

What is sustainability? The origins and history of the term 'sustainability' draw from the Enlightenment—an intellectual movement in several European countries primarily during the 18th century—marked a distinct shift in how society-environment dynamics were conceptualized. Following the rise of the scientific method as the dominant way to understand the world, Enlightenment thinkers proposed a mechanistic conceptualization of the Earth that leaned heavily on production of observable, empirical knowledge. The Enlightenment framed the environment as a resource, absent intrinsic value or connection to humans. The Industrial Revolution coincided with the Enlightenment as a rapid socioeconomic change from feudalism to capitalism, and is closely tied to the systematic exploitation of resources through mercantile colonialism, imperialism, and the slave trade to fuel the growth the capitalist economy. The Industrial Revolution ushered in the colonial, capitalist economy that caused widespread movement of people and resources and produced exploitive relationships between different countries, societies, and environments which still persist today. This expansion of

exploitative relationships within a capitalist economy also solidified the place of environmental concerns in the political agenda. As extraction of natural resources and movement of people through chattel slavery became the bedrock of global capitalism, the management of these highly unequal relations became political, and thus, negotiable.

Sustainability in society: Sustainability concerns have served as both a guide and a part of society for the last several hundred years. Classical economists such as Adam Smith argued the imperative of reducing dependence on resource extraction as the limits of human consumption became clear. These critiques were primarily aimed at population growth, which later fueled eugenicist policies concerned with carrying capacities and food provision. Other economists argued that consistent capitalist growth, not necessarily tied to population growth, will lead to environmental degradation, and that society should transition to controlled growth economic system for sustainability. The hegemonic power of isolating resources from the environment, and humans from the environment, continued well into the 1960s when some thinkers began to challenge the basis of Enlightenment thought. However, by that time, notions of sustainability were a part of the global order. Agreements such as the Bretton Woods agreement, which established the dollar as the world's reserve currency in order to rebuild European economies following the destruction of WW2, built the foundations of development and later, sustainable development. Sustainable development was predicated on the idea that industrialization is good for countries, because it enables them to participate in capitalism, and thus ideas of progress, growth, and expanding socioeconomic development became synonymous with sustainable development. The Brundtland report, named after the prime minister of Norway, established the most commonly used definition of sustainability used today, as "meeting the needs of the present without compromising the ability of future generations to meet their own needs."

Neoliberalism: In neoliberal reform through the 1980s, sustainability became synonymous with sustained economic growth as sustainability efforts became focused on global partnerships between governments, international organizations, NGOs and civil society. These partnerships were less focused on sustainable resource management and more on improving living standards for all to Western living standards. A new evaluative necessity emerged in this time to ensure sustainability. The Intergovernmental Panel on Climate Change (IPCC) measures and evaluates climate change and its impacts on people and the Earth. These new pressures from climate change concerns and poverty alleviation through development were on display at the Rio+20 summit, in 2012. This meeting of global leaders lead to the establishment of the Sustainable Development Goals, which were intended to establish a roadmap for a new, green economy.

Social movements and environmental justice: Environmental justice is concerned with procedural justice, distributive justice, and recognition. Sustainability is not complete without consideration of environmental justice and how harms and benefits of sustainability actions are disproportionately distributed throughout a community. Arguably, significant political movements through the 1980's and 1990's needed to take place for sustainability as a movement to have traction in the global sphere. For example, feminist concerns about women's exclusion from many aspects of development in urban and rural settings, and the movement for indigenous and cultural minority participation and leadership in development benefits. These movements demonstrated the interconnectivity, or intersectionality, of environmental concerns of ecological degradation and economic development, and that these concepts did not need to be mutually exclusive. Caring for and protecting biodiversity does not mean having to choose between intensive agriculture and environmental protection. Environmental justice means transforming the current system to provide equal access to tools and resources that benefit everyone. However, the distributional concerns while this transformation occurs is what is hotly contested in environmental justice debates. Will industrialized countries pay the reparations necessary for loss and damage attributable to climate change? From whom, to whom, for how long? Strong answers will raise these questions, and may not necessarily provide answers.

Strong answers may touch on the examples provided above, or may provide another well-reasoned example from lectures or seminars.