INTA 3040 / 8803

Energy, Environment, and Policy

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This is a ***Core IMPACTS*** course that is part of the **Social Sciences** area.

Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help students master course content, and support students' broad academic and career goals.

This course should direct students toward a broad **Orienting Question**:

- How do I understand human experiences and connections?

Completion of this course should enable students to meet the following **Learning Outcome**:

- Students will effectively analyze the complexity of human behavior, and how historical, economic, political, social, or geographic relationships develop, persist, or change.

Course content, activities and exercises in this course should help students develop the following **Career-Ready Competencies**:

- Intercultural Competence
- Perspective-Taking
- Persuasion

COURSE OBJECTIVES AND ORGANIZATION

If one accepts the International Energy Agency's definition of energy security as "the uninterrupted availability of energy sources at an affordable price," it is easy to imagine a country that is energy secure but environmentally or imperiled and/or impeded by societal pushback. For this reason, the central aim of this course is to identify the enabling conditions to achieve *sustainable* energy security at the country-level. Sustainable energy security requires the simultaneous promotion *energy security*, *environment stewardship*, and *social acceptance*, which

represent the three legs of the sustainability tripod. In this effort, a country's *institutions* – policies, laws, and behavioral norms – exert a shaping influence when it comes to precisely how its portfolio of economic capital, environmental capital, and social capital assets can be leveraged to achieve a sustainable energy future.

After laying the conceptual groundwork, we will explore the challenges of sustainable energy security in a variety of country-level contexts. This will serve to illuminate the pros and cons of the widely divergent approaches to sustainable energy security between countries of the Global North and the Global South. At the end of this course, students will be expected to possess the knowledge and skills needed to assess the energy security sustainability of a given community and to offer meaningful recommendations to its stakeholders. Topics covered in this course relate to many of the United Nations' Sustainable Development Goals, including SDG #7 (ensuring access to affordable, reliable, sustainable, and modern energy for all), SDG #13 (taking urgent action to combat climate change and its impacts), and SDG #16 (promoting peaceful and inclusive societies for sustainable development).

LEARNING GOALS

- Through comparative analysis of energy policy choices and their environmental and social consequences, students will demonstrate an understanding of how – and with what consequences – the social, political, and economic forces that influence a critically important area of sustainability develop, persist, and change.
- Students will become more aware of the diversity of cultural and ethical systems in the world. This will include the ability to identify, critically analyze, and apply distinguishing traits, perspectives, formulations, and institutions in comparative or international empirical cases or issue areas.
- Students will be able to describe the social, political, and economic forces that interact with scientific and technological factors to shape energy and environmental policymaking at the national- and subnational levels in different contexts.
- Students will have the ability to use different sources of data to comparatively evaluate national or subnational responses to common energy- and environment-related challenges.
- Students will be able to express their arguments clearly and effectively both in written reports and class discussions.
- Students will be able to work in small groups in a way that demonstrates respect for their colleagues and efficiency in working collaboratively towards projects and goals.

INSTITUTE POLICIES

- *Honor Code*: Academic honesty is required of all Georgia Tech students by the Institute's honor code, the text of which is found at honor.gatech.edu.
- *Special Accommodations*: Students requesting academic accommodations based on a documented disability are required to register with the Access Disabled Assistance Program for Tech Students (ADAPTS) at adapts.gatech.edu.

- *Diversity & Inclusion*: The Ivan Allen College of Liberal Arts – of which the Nunn School is a constituent part – supports the Institute's commitment to creating a campus free of discrimination on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status. We further affirm the importance of cultivating an intellectual climate that allows us to better understand the similarities and differences of those who constitute the Georgia Tech community, as well as the necessity of working against inequalities that may also manifest here as they do in broader society.

COURSE REQUIREMENTS

Course grades will be determined by your performance on a combination of individual and group assignments. Course grades will be weighted as follows:

Individual work

- discussion post/peer review: 20 points (three posts + documentary critique; 5 points each)
- midterm examination: 20 points
- anonymous peer assessment of oral presentations: 10 points

Group Work

- research design exercise (group project): 10 points
- oral presentation (group project): 20 points
- policy brief (group project): 20

DISCUSSION TOPICS AND COMMON READINGS

There are no required textbooks for this course. Common readings are available on-line or through the Georgia Tech Library's website.

Module 1

Lecture topics:

- August 20: LECTURE A-Course Overview
- August 22: LECTURE B-Course Requirements

Required readings:

- United Nations General Assembly (2015). *Transforming our World: The 2030 Agenda for Sustainable Development*(https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/291/89/PDF/N1529189.pdf?OpenElementLinks to an external site.)

- Marilyn A. Brown, Yu Wang, Benjamin K. Sovacool, and Anthony Louis D'Agostino, "Forty years of energy security trends: A comparative assessment of 22 industrialized countries," *Energy Research & Social Science*, Vol. 4 (2014) 64–77
- David Gelles, Brad Plumer, Jim Tankersley, and Jack Ewing (2023), "The Clean Energy Future Is Arriving Faster Than You Think," *New York Times* (August 17)

Module 2

Lecture topics:

- August 27: LECTURE C- Sustainability Tripod
- August 29: LECTURE D- Energy Security

Required readings:

- Daniel Yergin, "Ensuring Energy Security," *Foreign Affairs* (March/April 2006), pp. 69-82
- Garrett Hardin, "The Tragedy of the Commons," *Science*162 (No. 3859, Dec. 1968): 1243-1248
- Elinor Ostrom, *Governing the Commons*(Cambridge: Cambridge University Press, 1990), pp. 1-32
- David Wallace-Wells (2023), "Floods, Heat, Smoke: The Weather Will Never Be Normal Again," *New York Times* (July 12).

Just for fun: enjoy listening to the "Fracking Song."

Assignments:

- Discussion Post / Peer Review #1

Module 3

Lecture topics:

- September 3 – LECTURE E-Environmental Stewardship
- September 5: LECTURE F-Social Acceptance

Required readings:

- Rolf Wüstenhagen, Maarten Wolsink, Mary Jean Bürer, "Social acceptance of renewable energy innovation: An introduction to the concept, Energy Policy, Vol. 35 No.5, 2007), pp. 2683-2691

- Benjamin K. Sovacool, Raphael J. Heffron, Darren McCauley, and Andreas Goldthau, "Energy decisions reframed as justice and ethical concerns," *Nature Energy*, Vol. 1 (May 2016), pp. 1-6
- Rebecca Windemer, "Acceptance should not be assumed. How the dynamics of social acceptance changes over time, impacting onshore wind repowering," *Energy Policy*, Vol. 173 (2023), 113363
- Marina Povitkina, "The limits of democracy in tackling climate change," *Environmental Politics*, Vol. 27 (No. 3, 2018), pp. 411-432

Module 4

Lecture topics:

- September 10: LECTURE G- Stakeholders
- September 12: LECTURE H-Assessing Sustainability

Required readings:

- Adjo Amekudzi, Meleckidzedeck Khayesi, and C. Jotin Khisty, "Sustainable development footprint: a framework for assessing sustainable development risks and opportunities in time and space," *International Journal of Sustainable Development*, Vol. 18 (1/2, 2015), pp. 9-40

Assignments:

- Discussion Post / Peer Review #2

Module 5

Lecture topics:

- September 17: LECTURE I- Guiding Theories
- September 19: LECTURE J-Comparative Method

Required readings:

- George T. Stigler, "The Theory of Economic Regulation," *The Bell Journal of Economics and Management Science*, Vol. 2, (No. 1, Spring, 1971), pp. 3-21
- Elinor Ostrom, "A General Framework for Analyzing Sustainability of Social-Ecological Systems," Science, Vol 325 (July 24, 2009), pp. 419-422
- Ronald Inglehart, "Globalization and Postmodern Values," *The Washington Quarterly*, Vol. 23 (No. 1, Winter 2000), pp. 215-228

- Anna Pegels, Georgeta Vidican-Auktor, Wilfried Lutkenhorst, and Tilman Altenburg, "Politics of Green Energy Policy," *Journal of Environment & Development*, Vol. 27 (No. 1, 2018), pp. 26–45
- Carsten Anckar, "On the Applicability of the Most Similar Systems Design and the Most Different Systems Design in Comparative Research," *International Journal of Social Research Methodology*, Vol. 11 (No. 5), pp. 389-401

Assignments:

- Research Design Project (Group) due

Module 6

Lecture topics:

- September 24: LECTURE K-USA (Liberal Market System)
- September 26: LECTURE L-Denmark (Coordinated Market/Social Corporatism)

Required readings:

- Miranda A. Schreuers, "Divergent Paths," *Environment* 45 (No. 8, 2003): 9-17
- US Energy Information Administration," US Energy Facts Explained" (https://www.eia.gov/energyexplained/us-energy-facts/Links to an external site.Links to an external site.)*
- Lisa Friedman and Trip Gabriel, "A Green New Deal Is Technologically Possible. It's Political Prospects are Another Matter," *New York Times,* February 21, 2019
- Nadja Popovich and Brad Plumer, "Why the U.S. Electric Grid Isn't Ready for the Energy Transition," *New York Times*Links to an external site. (June 12, 2023)
- Benjamin K. Sovacool, "Energy policymaking in Denmark: Implications for global energy security and sustainability," Energy Policy, Vol. 61 (2013), pp. 829–839.
- European Commission, Fourth Report on the State of the Energy Union (2019) (https://ec.europa.eu/commission/sites/beta-political/files/fourth-report-state-of-energy-union-april2019_en_0.pdf Links to an external site.)
- Richard Rhodes, "A Sensible Climate Change Solution, Borrowed From Sweden," New York Times, February 5, 2019

Assignments:

- Discussion Post / Peer Review #3

Module 7

Lecture topics:

- October 1: LECTURE M-Japan (Coordinated Market System/Developmental State)
- October 3: LECTURE N-China (BRICS)

Required readings:

- John Duffield and Brian Woodall, "Japan's New Basic Energy Plan," *Energy Policy*39 (June 2011): 3741–3749
- Brian Woodall, "The Development of Japan's Developmental State: Stages of Growth and the Social Costs of Energy and Export Promotion Policies," in *East Asian Development Model: 21st Century Perspectives*(Shiping Hua and Ruihua Hu, eds., London: Routledge, 2014), pp. 101-120
- "Japan 'left behind' by world over its lack of climate change measures,"*Mainichi Newspaper*Links to an external site. (June 12, 2023)
- "Experts slam Japan's 'green transformation' bills for protecting nuclear power industry,"*Mainichi Newspaper*Links to an external site. (April 18, 2023).
- Abby Brown, "Japan Is Showing the World How Not to Handle Radioactive Waste," *New York Times* (August 22, 2023)
- Brian Woodall and Siqi Han, "The Development of China's Developmental State: Environmental Challenges and Stages of Growth," China Currents, Vol. 13 (No. 1, May 2014) (on-line at: /www.chinacenter.net/the-development-of-chinas-developmental-state-environmental-challenges- and-stages-of-growth/)
- Charlie Campbell, "China Is Bankrolling Green Energy Projects Around the World," Time (November 1, 2019) (https://time.com/5714267/china-green-energy/)

Module 8

Lecture topics:

- October 8: LECTURE O-Argentina (Developing Country)
- October 10: LECTURE P-Fiji (Small Island Developing State)

Required readings:

- Tomás Lanardonne and Brian D. Burstein, "Argentina: Energy Policy," chapter in *Encyclopedia of Mineral and Energy Policy* (Gunter Tiess, Tapan Majamder, and Peter Cameron, eds.). Berlin: Springer, 2016.
- Rok Spruk, "Why Argentina Declined, and How It Can Rise Again," *The Bridge* (https://www.mercatus.org/bridge/commentary/qa-why-argentina-declined-and-how-it-can-rise-again_(Links to an external site.)); 2018
- Ravita Prasad, R.C. Bansal, and Atul Ratur, "A review of Fiji's energy situation: Challenges and strategies as a small island developing state," *Renewable and Sustainable Energy Reviews*, Vol. 75 (August 2017), pp. 278-292.

Assignments:

- Documentary Critique/Peer Assessment

Module 9

Lecture topics:

- October 15: Fall Break – *no class*
- October 17: LECTURE Q-Uganda (Less Developed Country)

Required readings:

- Obadia Kyetuza Bishoge, Godlisten Gladstone Kombe, and Benatus Norbert Mvile, "Renewable energy for sustainable development in sub-Saharan African countries: Challenges and way forward," Journal of Renewable and Sustainable Energy, Vol. 12, (September 2020), pp. 1-14.
- Max Berak, "Clean Energy Projects Are Booming Everywhere. Except in Poor Nations," *New York Times* (September 4, 2023)
- Victoria Ritah Nalule and Ayebare Tom Rukund, "Uganda: Energy Policy," chapter in Encyclopedia of Mineral and Energy Policy (Gunter Tiess, Tapan Majamder, and Peter Cameron, eds.). Berlin: Springer, 2016.
- Chalmers Johnson, "South Korean Democratization: The Role of Economic Development," The Pacific Review, Vol. 2 (No.1, 1989), pp. 63-79.

Module 10

- October 22: LECTURE R-Course Recap
- October 24: Midterm Examination

Module 11

Group Project:

- October 29: LECTURE S-Group Project Set-up
- October 31: Group Work

Assignments:

- Status Report #1 (due November 2)

Module 12

Group Project:

- November 5: Group Work
- November 7: Group Work

Assignments:

- Status Report #2 (due November 9)

Module 13

Group Project:

- November 12: Group Work
- November 14: Group Work

Assignments:

- Status Report #3 (due November 16)

Module 14

Group Project:

- November 19: Group Work
- November 21: Elevator Speeches

Thanksgiving Holiday – November 26 & 28 – no class

Module 15 - Group Presentations, Policy Briefs, and Peer Assessment

- Policy Brief (due by ***noon*** on December 2)
- Oral Presentation (due in class on December 3)
- Anonymous Peer Assessment – Oral Presentations (due by ***noon*** on December 4)
- Anonymous Peer Assessment – Policy Briefs (due by ***noon*** on December 4)