

Week	Date	Day	Module Name	Lecture Title	Topics Covered
1	8/23/2016	TU		Introduction of the Course	Introduction to class, syllabus
	8/26/2016	TH	Module 1: Energy Basics and Fundamentals	Energy Fundamentals	Important definitions, energy forms and sources, thermodynamics introduction, energy units and notation
2	8/30/2016	TU			Energy Trends and Transitions
	9/1/2016	TH	Module 2: Primary Energy Sources	Fossil Fuels (Conventional)	Conventional coal, petroleum, and natural gas
3	9/6/2016	TU		Fossil Fuels (Continued)	Finish conventional; Start unconventional
	9/8/2016	TH		Fossil Fuels (Unconventional)	Coal-to-liquids, coal gasification, shale gas, tight gas, coal-bed methane, methane hydrates, oil shale, tar/oil sands, heavy oils
4	9/13/2016	TU		Hydraulic Fracturing (Unconventional)	Focus on Hydraulic Fracturing and its environmental Impacts
	9/15/2016	TH		Bioenergy	Biomass, Biogas, and Biofuels
5	9/20/2016	TU		Nuclear Energy	Uranium extraction, fission vs. fusion, generation technologies, environmental and security concerns
	9/22/2016	TH		Module 3a Energy Infrastructure: The Power Sector	Introduction to the Power Sector; Thermoelectric Power
6	9/27/2016	TU	Non-thermoelectric Renewable Electricity Generation		Hydropower, wind turbines, Photovoltaics, wave/tidal power, salinity gradients, etc.
	9/29/2016	TH	The Electricity Grid		Transmission: AC vs DC, Power Markets, Grid Reliability, Energy Storage, Smart Grid
7	10/4/2016	TU		The Electricity Grid	Emerging Technologies and Market Structures
	10/6/2016	TH	Module 3b Energy Infrastructure: The Transportation Sector	Conventional Methods of Transportation	Current trends, vehicle standards, fuel economy standards, technologies
8	10/11/2016	TU		Alternative Fuels and Vehicles for Transportation	Electric cars, plug-in hybrids, flex-fuel vehicles, fuel cells, compressed natural gas, hydrogen, etc.
	10/13/2016	TH		The Built Environment	Building energy consumption, HVAC, lighting, energy efficiency

9	10/18/2016	TU	Module 3c Energy Infrastructure: Other Energy-related Infrastructure	End of Life Materials Management	Energy and resource management- landfilling, recycling, composting, and incineration; global trends
	10/20/2016	TH	EXAM 1	EXAM 1	Covers Modules 1-3
10	10/25/2016	TU	Module 4: Energy and the Environment	Environmental Impacts: Water	Water quantity and quality impacts of energy production, energy-water nexus
	10/27/2016	TH		Environmental Impacts: Water/Begin Air	Continued
11	11/1/2016	TU		Environmental Impacts: Air	Overview of emissions and pollutants, combustion, and health impacts
	11/3/2016	TH		Environmental Impacts: Land and Biodiversity	Land, wildlife, and soil impacts of energy production
12	11/8/2016	TU		Energy and Food Environmental	Energy and agriculture, lifecycle energy usage, energy and dietary preferences
	11/10/2016	TH		Impacts: Global Climate Change	The science, trends, and impacts of global climate change
13	11/15/2016	TU		Environmental Impacts: Global Climate Change cont.	Continued
	11/17/2016	TH		Energy & Environmental Policy	Federal environmental policies affecting energy production, transportation, and consumption
14	11/22/2016	TU		Energy & Environmental Policy; Societal Issues	Energy and Geopolitics
	11/24/2016	TH		Thanksgiving	No Class
15	11/29/2016	TU	Video Presentations	Video Presentations	
	12/1/2016	TH	EXAM 2	EXAM 2	