# San José State University Environmental Studies Department Energy & the Environment E /E 119! 2024

**Course and Contact Information** 

**MYSJSU Messaging and Canvas** 

### **Course Goals**

At the end of this course, students should be able to:

- Understand the nexus of energy challenges and relevant economic, social, and environmental issues.
- Describe the physical principles related to the energy, heat, power, and work
- Complete basic calculations / conversions in energy, heat, power, and work
- Describe the scientific properties and spatial distribution of conventional and renewable energy sources
- Analyze the relative energy use in U.S. to other nations, and the forces that shift the mix of energy sources over time under Climate Change and resource scarcity pressures.
- Describe basic principles to improve efficiency and design of energy delivery, recognize opportunities to reduce energy consumption, and promote sustainability;
- Assess basic economic, government policy, and social equity dimensions of energy options

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## Online tools and conduct

Technology Requirements: Students are required to have an electronic device other than a smartphone like a laptop, desktop or tablet, with a camera and a microphone. SJSU has a free equipment loan program available for students. Students are responsible for ensuring that they have access to reliable Wi-Fi during tests. If students are unable to have reliable Wi-Fi, they must inform the instructor, as soon as possible are at the latest one week before the test date to determine an alternative. See Learn Anywhere website for current Wi-Fi options on campus.

Proctoring Software and Exams: Exams and Quizzes will be proctored in this course through Respondus Monitor and LockDown Browser. Please note it is the instructor's discretion to determine the method of proctoring. If cheating is

**Academic integrity** 

# **Primary sources for your Final Paper**

(choose one book to read over the semester - most can be checked at SJSU library)

- "Big Coal, The Dirty Secret Behind America's Energy Future" by Jeff Goodwell
- "Dark Money, The Hidden History of the Billionaires Behind the Rise of the Radical Right" by Jane Mayer
- "Energy, The Making of the Atomic Bomb, a Human History" by Richard Rhodes
- "The Water Will Come, Rising Sea, Sinking Cities and the Remaining of the Civilized World" by Jeff Goodwell
- "Cadillac desert: The American West and it's Disappearing Water" by M. Reisner
- "Colossus. Hoover Dam and the Making of the American Century" bu Michael Hiltzik
- "Green Illusions, the Dirty Secret of Clean Energy and the Future of Environmentalism" by Ozzie Zehmer
- "Autonomy, The Quest to Build the Driverless Car and How it Will Reshape our World" by Lawrence D. Burns
- "Faster, Higher, Farther. The (Clean Diesel) Volkswagen Scandal" by Jack Ewing
- "High Voltage. The Fast Track to Plug-in the Auto Industry" by Jim Motavalli
- "Bottled Lightning. Superbatteries, Electric cars and the New Lithium Economy" by Seth Fletcher
- "The Great Transition, Shifting from Fossil Fuels to Solar and Wind Energy" by Lester R. Brown
- "Reinventing Fire. Bold Business Solutions for the New Energy Era" by Amory B. Lovins
- "Solar Power. Innovation, Sustainability and Environmental Justice" by Mulvaney
- "A fierce Green Fire" by Philip Shabecoff
- "Toward a Zero Energy Home. A complete Guide to Energy Self-Sufficiency at Home" by David Johnston & Scott Gibson
- "Let it Shine, The 6,000-year Story of Solar Energy" by John Perlin

### **Course Schedule**

Due to the possibility of changes, always refer to the electronic schedule on Canvas