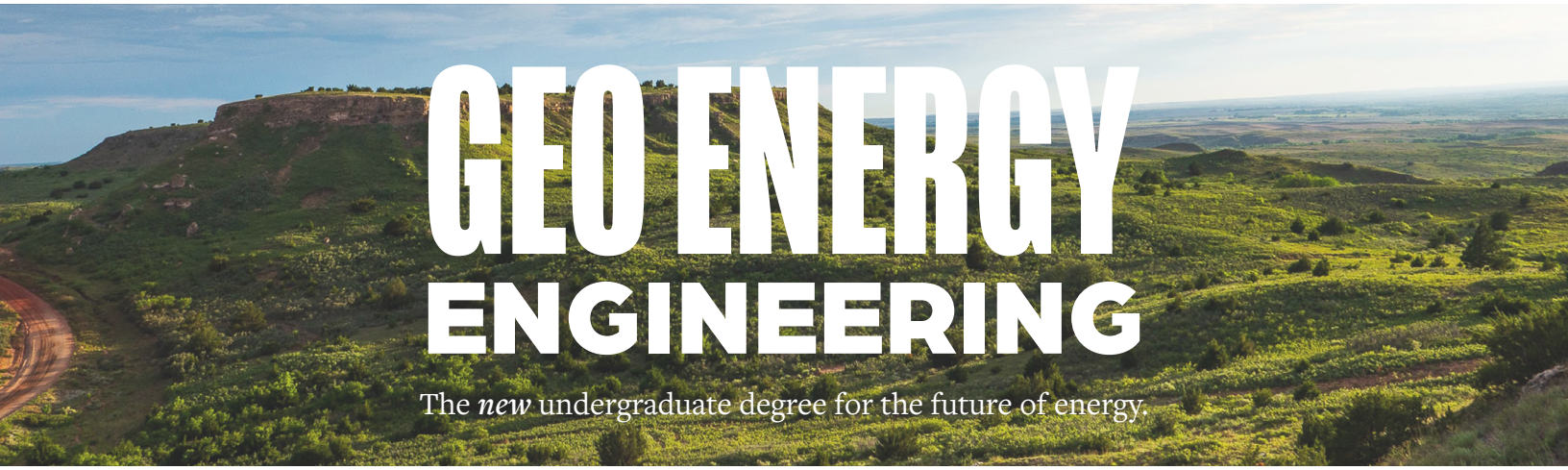
MEWBOURNE
COLLEGE OF EARTH AND ENERGY
The UNIVERSITY *of* OKLAHOMA



GEOENERGY ENGINEERING

The *new* undergraduate degree for the future of energy.

How can we power the future for generations to come, meet a growing world-wide demand for energy, embrace new technologies, expand emerging energy sources, protect the planet, fight energy inequality, and apply a century's worth of expertise in energy and the Earth's subsurface? The answer is **A FIRST-OF-ITS-KIND ENGINEERING DEGREE** created at the University of Oklahoma's Mewbourne College of Earth and Energy.

GEOENERGY ENGINEERING is the study of how to characterize, model, and monitor the ground below to design and oversee construction of wells and facilities for subsurface storage, production, and injection.

GEOENERGY ENGINEERS are involved in projects to produce geothermal energy and hydrogen, and store energy, carbon, and hydrogen in the subsurface to minimize carbon footprint in the environment.

One degree. Three disciplines. Your future.

ENERGY ENGINEERING FUNDAMENTALS

The foundation of this degree is built upon a core of engineering classes that will prepare you for a career as an engineer in a number of energy-related fields.

Course examples:

- Thermodynamics
- Mechanics of Materials
- Electrical Circuits
- Statics and Dynamics

GEOLOGY AND THE SUBSURFACE

Geothermal energy, carbon storage, and blue hydrogen have one thing in common: the subsurface. Students will gain an in-depth understanding of geology.

Course examples:

- Physical Geology for Science and Engineering Majors
- Structural Geology & Stratigraphy for Petroleum Engineers
- Geoscience Elective

NEW PRACTICES AND EMERGING TECHNOLOGIES

The world is changing, and we're here to prepare students to change with it. You will learn about the latest tools, energy sources, tech and practices.

Course examples:

- Carbon Capture, Utilization and Storage
- Overview of Geothermal Energy
- Hydrogen Energy Systems
- Data Analytics

Why this degree is the launchpad for your career.

Graduates of the GeoEnergy Engineering degree will have the skills to adapt with the rapidly changing energy industry. This forward-thinking degree is a broad launchpad for the 21st century.

Here are just a few of the jobs for GeoEnergy Engineering graduates:

ENGINEERING

You can be an engineer in a number of new and traditional fields.

- Geothermal Engineer
- Natural Gas Engineer
- Petroleum Engineer

GEOLOGY

Love the geology part of the curriculum? You can go on to become a geologist.

- Geoscientist Environmental
- Geoscientist Energy Geoscientist

NEW TOOLS

With this degree, you can lead in the latest areas of energy.

- Big Data Analyst
- Blue Hydrogen Engineering

RENEWABLES

Become a pioneer in carbon capture and utilization, helping to remove pollution from the air. Specialize in areas like energy storage, hydrogen or Energy Systems Engineering.

POLICY

With this rich foundation, you will have the skills to make policies, become an a sustainability or ESG officer at an energy company, or go on to study energy law.

"As the Chief Sustainability Officer at an energy company, I lead teams who are creating the future of energy and using GeoEnergy Engineering skillsets to provide the reliable, low-lost, law-carbon energy the world needs." David Ferris, Mewbourne College alumnus

Why our focus is the subsurface.

WE KNOW THE SUBSURFACE. It's a legacy at OU that extends for more than 120 years.

Engineers who know the subsurface will be the ones with **THE EXPERTISE TO CREATE NOVEL ENERGY SOLUTIONS** our world will continue to need.

NEW AND EMERGING LOW-CARBON TECHNIQUES for hydrocarbon extraction, usage and carbon management are relevant and important skills for now and the future.

With an increasing world population, subsurface solutions are critical in **PROTECTING THE PLANET'S DIVERSE ECOSYSTEMS AND WILDLIFE**.

Subsurface applications extend to many energy types: petroleum, natural gas, geothermal energy, blue hydrogen, carbon sequestration and storage, and more. **SKILLS ARE LARGELY TRANSFERABLE BETWEEN SUBSURFACE ENERGY DISCIPLINES.**

Why we're passionate about energy and think you should be, too.

WHEN SUSTAINABLE, AFFORDABLE, RELIABLE AND ABUNDANT ENERGY COMES INTO A COMMUNITY:

- ⬇ INFANT MORTALITY
- ⬇ MATERNAL MORTALITY
- ⬇ GENDER INEQUALITY
- ⬆ LIFE EXPECTANCY
- ⬆ CHILDREN'S YEARS IN SCHOOL
- ⬆ EDUCATION FOR GIRLS

A COMMUNITY'S ENERGY SYSTEM SUPPORTS ALL SECTORS: BUSINESSES,MEDICINE, EDUCATION, AGRICULTURE, INFRASTRUCTURE, COMMUNICATIONS AND HIGH-TECHNOLOGY.

3 BILLION PEOPLE LACK ACCESS TO MODERN ENERGY SOURCES. THE ENERGY SOURCES THEY USE (CROPS, TRASH, WOOD, COAL, ANIMAL WASTE) ARE THE WORST FOR THE ENVIRONMENT.

CONTACT US

Learn more about joining the future of the energy industry.

ou.edu/mcee/geoenergy

SOURCES CAN BE FOUND AT OU.EDU/MCEE/GEOENERGY

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