ONLINE MS IN SUSTAINABILITY: ENERGY AND MATERIALS MANAGEMENT

ACHIEVE SUSTAINABLE PRACTICES FOR SOCIETY

DELIVERY FORMAT 100% Online	**TIME TO COMPLETE** 18+ Months	**CREDIT HOURS** 30
TIME COMMITMENT 10 to 20 Hours Weekly	**START DATES** Fall, Spring	**COST** The MS in Sustainability: Energy and Materials Management delivers a strong return on investment, equipping students with the expertise to lead at the highest levels and command greater earning potential in a rapidly growing field. Tuition and fees for the program total $30,450 ($1,015 per credit hour). This cost does not include books or additional materials.

AT A GLANCE

The online Master of Science in Sustainability: Energy and Materials Management from OU Online equips professionals with the tools to drive impactful change. This forward-thinking program blends science, policy, technology, finance, and best practices to empower students to lead sustainable initiatives across industries.

With 10 dynamic courses aligned with the United Nations Sustainable Development Goals, students gain actionable knowledge that supports global sustainability efforts and positions them as leaders in energy and materials management.

MASTER OF SCIENCE IN SUSTAINABILITY: WHERE IT LEADS AND WHAT YOU CAN ACHIEVE

Earning an online master's in Sustainability: Energy and Materials Management from the University of Oklahoma prepares you for career advancement in a variety of areas that rely on the skill and expertise of individuals in with knowledge of sustainability practices. Accelerate your career in these areas:

- Industrial Engineer
- Architectural and Engineering Managers
- Transportation, Storage, and Distribution Managers
- Mechanical Engineers
- Industrial Production Managers
- Purchasing Managers
- Environmental Consultant/Specialist
- Sustainability Director
- Climate Scientist/Engineer
- Chief Sustainability Officer

INDUSTRY INSIGHTS

- Median Pay: $104,170
- Job Outlook: Employment for environmental engineers is projected to grow 7 percent by 2033, faster than the average for all occupations.
- Job Openings: An estimated 3,000 environmental engineering positions are expected to open each year, on average, over the next decade.

Source: U.S. Bureau of Labor Statistics

PROGRAM OUTCOMES: WHAT YOU'LL LEARN AND HOW YOU'LL LEAD

OU's online MS in Sustainability: Energy and Materials Management prepares graduates to:

- Apply sustainable production practices that reduce environmental impact, conserve energy, and optimize natural resource use
- Navigate and implement ESG (Environmental, Social, and Governance) regulations to meet growing compliance demands
- Build expertise in material requirements planning, environmental economics, engineering management, and sustainable procurement and development
- Develop innovative solutions that stabilize systems, improve manufacturing and processes, and address climate and engineering challenges to drive global progress

TO APPLY: HTTPS://ONLINE.OU.EDU/ADMISSIONS/GRADUATE/

FOR MORE INFO: HTTPS://ONLINE.OU.EDU/PROGRAM/MS-IN-SUSTAINABILITY/

COURSE DETAILS

The Master of Science in Sustainability: Energy and Materials Management offers a comprehensive exploration of sustainable engineering and manufacturing practices. Students gain in-depth knowledge in environmental separations, decision and risk analysis, and other critical topics that drive innovation in sustainable systems and processes.

COURSE STRUCTURE

You'll earn 30 credit hours across 10 courses. You'll take two 16-week courses at a time in the Spring and Fall semesters and two 14-week courses at a time during the Summer semester. Students are required to join live lectures one night per week per class Tuesday – Thursday from 7 to 9 pm CT.

SUSTAINABLE ENGINEERING PRACTICES

Credit Hours: 3

Basic concepts of sustainability will be discussed, including elements relevant to materials manufacturing, chemical processes, energy production, waste minimization, and reduction of greenhouse gas emissions. Emphasis will be given to equity, diversity, and inclusion in the workplace. Students will also learn to quantify the environmental impact of materials, products, and processes via the implementation of a life cycle assessment.

SUSTAINABLE POLYMER MANUFACTURING

Credit Hours: 3

This course will provide opportunities for students to develop skills necessary to understand the basic principles of polymer life cycles, polymer properties and environmental footprints, manufacturing, design guidelines for sustainability, and recycling/upcycling. Provides an overview of the contradictory positive and negative characteristics of polymers with respect to sustainability. Discuss conventional processing and additive manufacturing methods for producing polymeric parts and goods.

SUSTAINABLE PROCESS DESIGN

Credit Hours: 3

This course will cover concepts of sustainable design of chemical processes, including issues related to energy usage and GHG emissions, long-term availability of raw materials, and changes to process design that can lead to sustainable outcomes, including 'green' chemistry options.

EMERGING TECHNOLOGIES TOWARD WATER SUSTAINABILITY

Credit Hours: 3

This course will provide an introduction to water reclamation and reuse, wastewater characteristics, conventional approaches for wastewater treatment, emerging materials and technologies for water remediation, and water reuse applications and outlook.

CHALLENGE GROUP PROJECT

Credit Hours: 3

The Challenge consists primarily of a group research project on a topic relevant to the MS in Sustainability. Projects will be offered by Faculty members in the School of Chemical, Biological and Materials Engineering. The instructor will coordinate the activities and assign some individual tasks. Specialistic presentations will be offered to support the project's development.

MANAGEMENT & LEADERSHIP

Credit Hours: 3

The graduates will master the differences between management and leadership, will be able to assemble teams based on main personality traits, will effectively design risk mitigation strategies, and will be proficient in managing financial resources. Invited speakers from academia and industry will allow graduates to understand that effective management/leadership depends on the circumstances.

DECISION & RISK ANALYSIS

Credit Hours: 3

The graduates will master methods for predicting capital and operational costs of chemical plants, approaches for the quantification of uncertainties, and how such uncertainty could affect the profitability of industrial operations, and the most common approaches for decision making in industry, with their pros and cons. Industrial speakers will provide a framework for the material discussed in class.

ENVIRONMENTAL SEPARATIONS

Credit Hours: 3

The graduates will master the fundamentals and applied aspects of 1. Sustainable aspects of gas and liquid separations 2. Emergent technologies for the prevention and remediation of liquid contamination. The course will cover existing technologies, as well as current cutting-edge research in these fields, with an emphasis on the potential applicability in the field.

BUSINESS SUSTAINABILITY

Credit Hours: 3

The graduates will be able to plan and assess the efficacy of business strategies to ensure the sustainability of commercial operations. In particular, the graduates will be able to (a) achieve and maintain the social license to operate; (b) operate within the boundaries of environmental regulations; and (c) promote the goals of a diverse, inclusive, and equitable workforce.

CARBON CAPTURE & UTILIZATION

Credit Hours: 3

The graduates will quantify the pros and cons of cutting-edge technologies available for capturing, storing, and utilizing CO2 (CCUS). They will become familiar with technological developments in catalysis (for carbon utilization), materials design (carbon capture), and sequestration (geological repositories, hydrates, mineralization, direct capture from air). The graduates will quantify capital and operational costs associated with these technologies.

WHY CHOOSE OU ONLINE FOR AN MS IN SUSTAINABILITY

OU Online offers high-quality, affordable, professional undergraduate and graduate programs in a flexible, online format from a top-tier public institution. Learn what it takes to operate in the dynamic world of sustainable energy and materials management.

FACULTY EXPERTISE

The MS in Sustainability: Energy and Materials Management is built on the foundation of world-class University of Oklahoma faculty mixed with professors of practice providing valuable instruction. By linking industry experts with our online programs, we offer the most advanced curriculum and prepare students for future career success.

ROBUST STUDENT SUPPORT

OU Online offers robust student support services, including academic support, online tutoring, mental health counseling, and an online career development center. The program accommodates the needs of working professionals, allowing you to expand your technical skills while maintaining full-time employment.

GLOBAL ALUMNI NETWORK

With more than 250,000 alumni across the world, becoming a Sooner means you'll have access to a strong network of sustainability professionals to accelerate your career. As a Sooner, you'll be part of a powerful network of leaders working in organizations across the world, helping you expand your sustainability career.

COST & FINANCIAL AID

Earning your Master of Science in Sustainability: Energy and Materials Management is a strategic investment in your future—and OU Online is committed to making that investment clear, accessible, and manageable.

Tuition for the program is $1,015 per credit hour, totaling $30,450. This cost does not include books or additional materials.

Financial aid, scholarships, and employer tuition assistance may be available to help reduce your out-of-pocket expenses. OU's dedicated financial services team will support you through

every step of the funding process, so you can stay focused on your education and career goals.

For questions about financial aid for your online program, contact the Online Aid office at onlineaid@ou.edu or call 405–325–2929.

A nonrefundable deposit of $350 is required upon admission to secure your place in the program. This deposit guarantees your spot in your first semester of courses and will be applied toward your first semester's tuition.

** Please be aware that tuition and fees may change, as determined by the Oklahoma State Regents for Higher Education.*

TRANSFER CREDIT

No more than 9 credit hours will be accepted as transfer credit. Transfer credits must adhere to the graduate college transfer credit policy. You must be admitted before beginning a transfer credit request.

LEARN MORE ABOUT FINANCIAL AID: HTTPS://ONLINE.OU.EDU/COST-AND-AID/GRADUATE/

TAKE THE NEXT STEP

To apply to the online Master of Science in Sustainability: Energy and Materials Management program, you must hold a bachelor's degree from a regionally accredited college or university—or the international equivalent—with a minimum 3.0 cumulative GPA. Applicants must also have completed College Algebra as part of their undergraduate coursework.

APPLICATION PROCESS

- Complete an online application at https://gograd.ou.edu/apply/
- Provide official college transcripts from all institutions
- Must have completed college algebra in their undergraduate studies
- Detailed resume documenting relevant work experience and past education
- Personal statement

APPLICATION TIMELINE

The admissions committee follows a rolling admissions process, reviewing applications as they are received. While admissions may remain open until two weeks before classes begin, some programs may set earlier deadlines. The committee aims to provide decisions within two weeks of receiving a completed application.

A nonrefundable deposit of $350 is required upon admission to secure your place in the program. This deposit guarantees your spot in your first semester of courses and will be applied toward your first semester's tuition.

STEP 1	STEP 2	STEP 3
Contact an Enrollment Coach to discuss your qualifications and interest in the program.	Complete the online application at https://gograd.ou.edu/apply/	Provide supplemental materials, including a resume, personal statement, and undergraduate transcripts.

TO APPLY: HTTPS://GOGRAD.OU.EDU/APPLY/