

SCIENCE, TECH, ENGINEERING, AND MATH (STEM)

Course information is subject to change. This list may not reflect the most current course offerings or curriculum updates. Please consult your advisor for the latest information.

STEM 2600. Energy & Alt Fuels. (3 Credits)

This course provides an interdisciplinary introduction to energy systems and alternative fuels with an emphasis on sustainability and societal impact. Students examine historical and contemporary energy sources, patterns of energy use, and the environmental and economic implications of energy production and consumption. Topics include fossil fuels, renewable energy technologies, biofuels, hydrogen, and emerging alternatives, along with basic concepts of energy efficiency and resource constraints. The course emphasizes qualitative and quantitative reasoning, interpretation of data, and systems-level thinking. STEM 2600 serves as a foundation for advanced coursework in energy systems, thermodynamics, and sustainability.

STEM 3510K. Conversation Biology. (4 Credits)

This course examines the scientific principles and practices of conserving biological diversity across genes, species, and ecosystems. Topics include extinction processes, habitat loss, population viability, and conservation strategies in terrestrial and aquatic systems. Emphasis is placed on applied problem-solving and evidence-based decision-making.

STEM 3600. Energy Sys & Adv Alt Fuels. (3 Credits)

This course is the second in a two-course sequence on energy and alternative fuels and builds upon the foundational concepts introduced in STEM 2600: Energy and Alternative Fuels. STEM 3600 emphasizes advanced analysis of energy systems and alternative fuel technologies using scientific, chemical, and thermodynamic principles. Students examine electricity generation and distribution, transportation and industrial energy systems, and advanced fuel pathways including biofuels, hydrogen, synthetic fuels, and energy storage technologies. The course focuses on system performance, efficiency, infrastructure, environmental impact, and technological constraints. Students develop quantitative and systems-level skills to critically evaluate emerging energy technologies and their role in sustainable energy transitions.