Energy (ENER)

ENER 3310. Energy and the Environment. 3 Hours.
Energy and the Environment course introduces and evaluates the current energy from an environmental and human health perspective. It covers the energy related challenges particularly with respect to the environment, and possible paths to a sustainable energy systems in future. In this course students will learn about new transportation technologies, sustainable manufacturing and industrial ecology basics, green buildings, energy management and sustainable food production. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Classify the major sources and uses for energy. 2. Explain the nature, scope and impact of the most important environmental problems arising from our current energy system. 3. Identify and evaluate the potential for alternative energy resources. 4. Analyze potential solutions to fundamental energy questions through cost, waste, and efficiency calculations. Prerequisites: MATH 1050 or higher (Grade C- or higher) or a qualifying placement score for enrollment in MATH 1060, taken within two years of enrollment in this course; and CHEM 1210 (Grade C- or higher). FA.

ENER 4310. Energy Technology and Sustainability. 3 Hours.
This course emphasizes on the complex relationship between technology and sustainability at multiple scales; from products, to organizations, to the world. It covers a brief review of alternative views, energy and materials usage, and carbon emissions as key variables. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain the importance of technology and technological systems in shaping the world and our future. 2. Apply concepts of "sustainability" to propose modernized manufacturing processes. 3. Analyze the economic and environmental issues arising from emerging technologies. 4. Assess sustainable technologies in terms of social, environmental and economic metrics. Prerequisites: ENER 2310 and GEO 2050 (Both Grade C- or higher). SP (odd).