
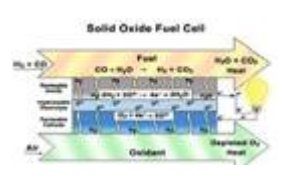




NEW at Northern Illinois University: A Unique Gen-Ed Interdisciplinary Course for Everybody

	<p style="text-align: center;">MEE 101 Energy and the Environment</p> <p>Development and current status of energy sources, technologies, consumption patterns, conservation, and energy policies. Emphasis on environmental effects of various choices made at each step of the energy cycle, and examination of those choices from technological and socioeconomical points of view. <i>PRQ: none</i></p>	
	<p style="text-align: center;"><i>This is a course essential for every person and the whole society, and it is an introductory course for everybody.</i></p> <p style="text-align: center;">'Energy and Environment for Everybody'</p> <p style="text-align: center;">More at: www.kostic.niu.edu/energy</p>	

Course Description and Vision:

It is essential for every person and the society, especially in a developed and sophisticated society in the twenty-first century, to expend 'awareness of Energy,' which is the cause for all progress ("living"), and its 'impact on the Environment' (all existing matter and organisms around and including "us"). The students should fully understand, appreciate and be intrigued with universality of energy and matter, and philosophy of the fundamental *Laws of Nature* and their impact on the *Environment and the Society* we live in. As consumers of energy or decision-making citizens in matters related to energy (virtually all matters!) and its effects on the environment and society, our graduates, the-soon-to-be engineers and economists, journalists and politicians, lawyers, educators, etc., should have an appropriate understanding and knowledge of the issues related to energy and the environment. Energy consumption has been growing exponentially, virtually reflecting the society's state of development, while at the same time impacting our environment in many important and sensitive ways. In addition to classical technical, socioeconomic, and political perspectives, our non-engineering (and engineering) students have to understand the philosophy and physics behind the fundamental concepts in order to be aware of reality and relativity associated with these important concepts.

Course Objectives:

- Understand the technological, economic, and social factors related to use of various forms of energy such as fossil fuels, solar energy, wind energy, biofuels, and other alternative and renewable energy resources (*scientific inquiry*).
- Understand why at various times and locations, different patterns of energy extraction, consumption, and conservation are used (*logical and integrative thinking*).
- Understand the limitations imposed on using various forms of energy by technological and socioeconomic factors (*quantitative skills*).
- Understand how energy conversion methods are used to change energy from one form to another for appropriate use (*quantitative skills, scientific inquiry*).
- Understand the tradeoffs between use of energy to raise the standard of living and the impact resulting from use of energy to the environmental pollution (*quantitative skills, ability to use modern technology, using resources*).
- Use various sources of knowledge to write logical and coherent papers on important aspects of energy and environment (*communication skills, scientific inquiry*).
- Understand how public policy can direct citizen's efforts in *wiser* use of energy resources, energy conservation, and prevention of pollution to the environment (*synthesis of knowledge from various disciplines*).

This course is designed and offered as a general education, interdisciplinary course, rather than an engineering or physics course, because the subject of energy is examined not only from scientific and technical, but also socioeconomic and political perspectives. As such, there is more emphasis on the various aspects of the impact on environment and society, and less on the technical and math skills or problem solving.

Course Instructor and Presentation:

Course instructor is Professor M. Kostic, Ph.D, P.E., a faculty in the Department of Mechanical Engineering at Northern Illinois University < www.kostic.niu.edu >. He received his Ph.D. from the University of Illinois, and then worked in industry for some time. Professor Kostic's teaching and research interests are Thermodynamics (*a science of energy, the Mother of All Sciences*), Fluid Mechanics, Heat Transfer and related Fluid/Thermal/Energy sciences; with emphases on new technologies, experimental methods, creativity, design, and computer applications.

The course presentation will use advantages of new and information technologies, including interactive multimedia and Internet resources, to effectively present technical concepts to interdisciplinary students in an appealing and easy-to-understand form – "an eye and mind opener." The course will consist of lectures, discussions of current events, and use of the World Wide Web to access current information and other invaluable recourses. The course presentation with relevant examples will illustrate underlying philosophy, developments and applications, as well as the hype, challenges and opportunities related to the "Energy and Environment."