



## **1) Air Conditioning, Heating, and Refrigeration (AHR); Energy Assessment**

### **AHR 203 - Heating and Air Conditioning Load Calculations**

Course covers calculation of heating and cooling loads to determine appropriate selection of equipment in new construction. Content includes construction and heat transfer through structure, and computations for heat gains and heat losses for various building structures.

*Prerequisite: AHR 101 or consent of department chair.*

### **FME 240 - Energy Management and DDC Controls**

Course provides detailed examination of energy management. Content includes specific focus on building automation systems for energy management using DDC controls for HVAC, fire and security systems; and control of various equipment remotely from a control computerized system and DDC controls.

*Prerequisite: AHR 101 or FME 101 or consent of department chair.*

## **2) Architecture (includes Building Trades)**

### **ARC 290 - Topics in Sustainability & Arch Design**

Using the energy of nature to shape building design and create a sustainable architecture. Daylighting with the sun and employing local climatic conditions to provide natural heat and ventilation are primary sustainable methodology.

Through assignments in analysis and design, students will study the influence that integrating the flow of energy from the sun, wind, and light can have on architectural design. They will select and combine design strategies create buildings whose forms use the climatic conditions at the building site for lighting, heating and cooling, and minimize additional energy consumption to provide comfortable and sustainable environments.

Starting with a workable definition of sustainability, this course will teach energy analysis techniques and bio-climatic modeling to assemble, analyze, and display useful information about local climate conditions. Armed with this information, architectural designers can then use energy issues to generate building form, rather than design limitations that must be accommodated. A wide range of basic design strategies for daylighting and passive heating and cooling systems will be reviewed, all illustrated with multicultural examples drawn from contemporary and historic architecture.



### **3) Electronics and Photovoltaics**

#### **ELT 160 - Overview of Alternative Energy Resources**

Project-based course covering renewable and alternative forms of energy. Content includes an overview of solar, wind, hydroelectric, biomass, geothermal and nuclear power. Includes hands-on labs on solar, wind and hydropower, and simulations of the others. Prior knowledge of electronics and electricity is helpful. *Recommended: Concurrent enrollment in ELT 101 or ELT 107 or ELT 130.*

### **4) Green Management/Marketing**

#### **MGT 126 - Introduction to Green Business**

Course is an overview of how the green movement is impacting the marketplace and how businesses, nonprofits and government agencies can profitably adapt to the trend. The course will explore the current challenges and opportunities associated with greening existing operations; developing new products and services for the green market; initiating green purchasing; maintenance and building programs; and gaining a competitive advantage by demonstrating social and environmental responsibility.

#### **MGT 127 - Green Policy, Law and Government Regulations**

Course presents evolving "green" legal and regulatory issues. Topics include: the role of the law and regulation in green industries and the emerging impact on business, the public sector and society. The course will be of interest to anyone involved in business management and marketing, public administration, building design construction and maintenance, education, healthcare, real estate, and many other industries impacted by evolving environmental requirements.

#### **MKT 142 - Green Marketing**

Course examines how the green movement is impacting the marketplace and how businesses, nonprofits and government agencies are striving to meet growing consumer demand for eco-friendly products and services. Issues associated with developing environmental sensitive offerings, bringing them to market, engaging consumers with environmental programs, along with the best practices for substantiating, reporting and communicating environmental gains and outcomes are explored.

#### **MKT 263 - Green Events Planning**

Course focuses on the skills necessary to design, implement and manage green special events (either as stand-alone or within the context of other meetings). Topics include the planning and marketing of green events, from concept to conclusion, including catering and menu design, zero-waste kitchen, and selecting green venues while working with outside green vendors.

*Recommended: MKT 142 or MKT 260*



## ***Coming Fall of 2010***

**Topic:** Because of the rapid growth and intense interest in renewable and alternative energy in Illinois and elsewhere in the Midwest (spurred on by federal stimulus money), the courses will be presented under the title: ***“The Business and Technology of Energy-Efficiency and Alternative Energy.”*** (joint partnership with the Delta Institute)

***Being Green by using Social Media***

***Green Purchasing***

***Green Supply Chain***