

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY  
ARC 240 – DESIGNING SUSTAINABLE BUILT ENVIRONMENTS (3 CR.)**

**Course Description**

Introduces students to ethics, ideas, technologies, methods and current practices in designing sustainable environments. Lecture 3 hours per week.

**General Course Purpose**

To introduce Architectural Technology students to the role that architects must play in designing ecologically sustainable environments to address issues of climate change and the use of energy producing resources.

**Course Prerequisites/Co-requisites**

Prerequisites are ARC 123 and ARC 133.

**Course Objectives**

Upon completing the course, the student will be able to:

- Discuss the ethics of designing sustainable environments and the forces mitigating against such design.
- Identify renewable and ecologically sustainable energy producing resources.
- Describe factors affecting energy use in buildings.
- Analyze passive design strategies.
- Describe the USGBC and LEED rating systems and their design implications.
- Identify recyclable building products.
- Identify building products which are produced, delivered and installed while producing the smallest carbon footprint.
- Cite strategies for sustainable site planning
- Cite current examples of practical applications of the above.

**Major Topics to be Included**

- a. The ethics of sustainable design
- b. Energy producing resources
- c. Energy use in buildings
- d. Passive design strategies
- e. USGBC and LEED rating systems
- f. Recyclable building products
- g. The carbon footprint
- h. Sustainable site planning
- i. Current practice in designing sustainable architecture