

Revised 08/98

NVCC COLLEGE-WIDE COURSE CONTENT SUMMARY

ARC 243 - ENVIRONMENTAL SYSTEMS (4 CR.)

COURSE DESCRIPTION

Studies energy sources and strategies for use in buildings; heat loss and heat gain; heating and cooling equipment and system; water supply, distribution and waste systems and equipment; and principles of electricity, electrical systems, and equipment. Lecture 4 hours per week.

GENERAL COURSE PURPOSE

Provide an understanding of building systems provided by consulting engineers in the fields of HVAC, sanitation, electricity, and lighting.

ENTRY LEVEL COMPETENCIES

Knowledge of building construction. Prerequisites are ARC 122 - "Architectural Drafting II" and ARC 134 - "Materials and Methods of Construction II" or equivalent.

COURSE OBJECTIVES

Upon completion of the course, the student will be able to:

- A. develop a knowledge of environmental systems for buildings
- B. understand how they affect building orientation, design, and construction

MAJOR TOPICS TO BE INCLUDED

- A. Active and Passive solar heating
- B. Conventional heating systems
- C. Calculation of heat loss for simple buildings
- D. Conventional cooling systems
- E. Water supply and drainage
- F. Electrical wiring systems
- G. Lighting requirements and systems