

# Env Engr (ENVE)

---

## Courses

### **ENVE 5504 Environmental Risk Assessment: 3 semester hours.**

Quantitative and qualitative approaches to characterizing and controlling contaminant pathways. Risk assessment requirements and implications in superfund projects for engineers working on remediation. PREREQ: BIOL 5521 and ENGR 5501.

### **ENVE 5508 Water and Waste Water Quality: 3 semester hours.**

Principles of chemistry in applications to water and waste water treatment systems for water quality control and reuse. COREQ: ENVE 5509. PREREQ: CHEM 1111 or equivalent.

### **ENVE 5509 Water and Waste Water Lab: 1 semester hour.**

Fundamental analytical procedures for measurement of water and wastewater quality. Introduction to materials and protocols associated with general environmental analytical techniques. COREQ: ENVE 5508.

### **ENVE 5510 Introduction to Environmental Engineering: 3 semester hours.**

Introduction to physical, chemical, and biological principles of solid and hazardous waste management, water and waste water treatment, air pollution control, and national environmental regulation. PREREQ: ENVE 5508, ENVE 4408, or equivalent.

### **ENVE 5530 Air Pollution and Solid Waste: 3 semester hours.**

Sources, characteristics, regulations, and effects of air pollution and solid waste on environmental quality analysis and design of control systems, including the recovery of resources from solid waste. PREREQ: Permission of instructor.

### **ENVE 5599 Experimental Course: 1-6 semester hours.**

The content of this course is not described in the catalog. Title and number of credits are announced in the Class Schedule. Experimental courses may be offered no more than three times with the same title and content. May be repeated.

### **ENVE 6610 Introduction to Radioactive Waste Management: 3 semester hours.**

Principles and practices of radioactive waste storage, transportation and disposal. Evolution of government regulations and current solutions developed in response to the regulations. PREREQ: ENGR 5501.

### **ENVE 6611 Treatment Systems for Environmental Engineering: 3 semester hours.**

Fundamental principles and processes for physical, chemical, and biological treatment of wastes including mixing, flocculation, sedimentation, stripping, aeration, sorption and leaching. Some experiments required. PREREQ: ENVE 5510 or ENVE 4410.

### **ENVE 6615 Water Quality Modeling and Control: 3 semester hours.**

Fundamental principles for mathematical modeling and analysis of environmental contaminant's fate and transport in lakes, rivers, estuaries, and groundwater. PREREQ: ENVE 5510 or ENVE 4410.

### **ENVE 6616 Biological Treatment of Wastewater: 3 semester hours.**

Fundamental principles, design, and operation of aerobic and anaerobic biological waste treatment processes. PREREQ: ENVE 5510 or ENVE 4410.

### **ENVE 6617 Environmental Systems Engineering and Design: 3 semester hours.**

Application of physical, chemical, and biological operations and processes to the design of water, waste water, and industrial waste treatment systems. PREREQ: ENVE 5510, ENVE 4410 or previous design experience.

### **ENVE 6629 Physical and Chemical Treatment of Water and Waste Water: 3 semester hours.**

Fundamental principles, design and operations of physical and chemical water and waste water treatment processes. Removal of hazardous materials emphasized. PREREQ: ENVE 5510 or ENVE 4410.

### **ENVE 6630 Air Pollution and Control: 3 semester hours.**

An introductory air pollution course. Regulations, atmospheric dispersion models, control of emissions and sources and human health effects are emphasized. PREREQ: ENVE 5510 or ENVE 4410.

### **ENVE 6650 Thesis: 1-6 semester hours.**

Thesis research must be approved by the student's advisory committee. Total of six credits are required to satisfy the research requirements for the degree. May be repeated. Graded S/U.

### **ENVE 6652 Advanced Topics: 3 semester hours.**

Advanced topics in Environmental Engineering and related fields, depending upon the interest of students and faculty. May be repeated for credit when topics vary. PREREQ: Permission of instructor.

### **ENVE 6660 Special Project: 1-3 semester hours.**

A significant project, involving engineering applications, toward the completion of M.S. program with non-thesis options. Includes a report and oral examination. Total of three credits may be used to satisfy the degree requirement. May be repeated. Graded S/U.

### **ENVE 6699 Experimental Course: 1-6 semester hours.**

The content of this course is not described in the catalog. Title and number of credits are announced in the Class Schedule. Experimental courses may be offered no more than three times with the same title and content. May be repeated.

### **ENVE 8850 Doctoral Dissertation: 1-24 semester hours.**

Research toward completion of the dissertation for Ph.D. in Engineering and Applied Science. Variable credits. May be repeated. Graded S/U.