ENVIRONMENTAL ENGINEERING (ENVE)

ENVE 101 Introduction to Environmental Engineering
Description: Introduction to engineering design process through hands-on projects supported by instruction of underlying engineering science and fundamentals, model development, and the required tools. Be exposed to environmental engineering to know what it means to be an environmental engineer and an introduction to environmental engineering profession with focus on ethics.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Offered: FALL

ENVE 210 Fundamentals of Environmental Engineering
Prerequisites: CHEM 109A or CHEM 113A with a C or better, and MATH 106 with a C or better
Description: Introduction to material and energy balances on environmental systems involving physical, chemical, and biological processes. Primary focus on single phase systems.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Offered: FALL
Prerequisite for: ENVE 410

ENVE 322 Biological Principles of Environmental Engineering
Prerequisites: CIVE/BSEN 321
Notes: There will be two lab sessions, one focusing on microbes in water and one focusing on microbes in soil/sludge.
Description: Introduction to the basics of microbes in the environment, including basic microbiological concepts, microbial environment, detection/enumeration/identification of microbes, microbial interactions with environment, microbial remediation of pollutants, waterborne pathogens, and wastewater treatment and disinfection.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Grading Option: Graded
Prerequisite for: ENVE 401

ENVE 401 Environmental Engineering Design I
Prerequisites: CIVE321, ENVE 322; CIVE 352 or BSEN 350
Notes: The first of two courses in the capstone sequence.
Description: Practical application of the engineering design process in a team project focused on an authentic and comprehensive environmental engineering design project.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: FALL/SPR
Prerequisite for: ENVE 402

ENVE 402 Environmental Engineering Design II
Prerequisites: ENVE 401
Notes: The second of two courses in the capstone sequence.
Description: Practical application of the engineering design process in a team project focused on an authentic and comprehensive environmental engineering design project.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: FALL/SPR
ACE: ACE 10 Integrated Product
Experiential Learning: Case/Project-Based Learning

ENVE 410 Environmental Fate and Transport
Prerequisites: CIVE 310 or CHME 332; ENVE 210 or CHME 202; and CIVE 321
Description: Covers fate and transport principles, such as interphase chemical equilibrium, the formulation and application of the advection-diffusion equation, and their specific environmental engineering applications.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ENVE 430 Sustainable Design in Environmental Engineering
Prerequisites: CIVE 321; Co-requisite STAT 380
Description: Introduction to sustainability concepts and sustainable engineering design processes for environmental engineers such as life cycle assessment, multi-criteria decision analysis, and analysis of renewable energy systems.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Offered: FALL