EENV - Environmental Engineering

EENV 240. Chemistry for Environmental Engineers. 3 Credits. (3 Lec) PREREQUISITES: CHMY 143 or CHMY 153 Fundamentals of physical, biochemistry and organic chemistry with an emphasis on environmental engineering applications.

EENV 292. Independent Study. 1-3 Credits. (1-3 Ind; 6 cr max) On Demand PREREQUISITE: Consent of instructor and approval of department head. Directed research and study on an individual basis.

EENV 340. Principles of Environmental Engineering. 3 Credits. (3 Lec) F,S Lec 3 PREREQUISITE: CHMY 143 or CHMY 153. COREQUISITE: EGEN 335 or ECVT 337 or ECHM 321. Fundamentals of environmental engineering with emphasis on water and wastewater.

EENV 341. Physical and Chemical Treatment Processes. 4 Credits. (3 Lec, 1 Lab) PREREQUISITE: EENV 240 and ECHM 201. Principles of water chemistry, reactor theory, and unit operations are applied to water treatment processes, with a focus on municipal drinking water systems.

EENV 342. Biological Treatment Processes. 1-4 Credits. (3 Lec, 1 Lab) PREREQUISITES: EENV 341 Physical and Chemical Treatment Processes. Principles of microbial kinetics, biological reactors and unit operations are applied to water treatment, with an emphasis on municipal wastewater.

EENV 387. Environmental Laws and Regulations. 3 Credits. (3 Lec) S PREREQUISITES: CHMY 211 or EENV 240 or CHMY 321 or EGEN 335 or ECVT 337. Introduction to major environmental laws and regulations and the impacts of pollution by review of case studies.

EENV 432. Advanced Engineering Hydrology. 3 Credits. (3 Lec) F PREREQUISITE: ECVT 331 and ECVT 332 or ECVT 333. Hydrology emphasizing engineering design. Topics include modern techniques for flow estimation, flood routing and sediment yield, design of conveyance structures, and water project development.

EENV 434. Groundwater Supply/Remediation. 3 Credits. (3 Lec) PREREQUISITE: EGEN 335 or ECVT 337 or ECHM 321. Contemporary groundwater topics including water supply, contaminant transport, and remediation technologies.

EENV 436. Stormwater Management & Engineering. 3 Credits. (3 LEC) S PREREQUISITES: ECVT 333 and EENV 340 or EENV 341. Stormwater engineering is likely to be part of nearly all civil or environmental engineering construction projects. This course will introduce students to their careers. Moreover, stormwater management systems are a significant component of existing municipal infrastructure. This course will provide a solid foundation in stormwater engineering fundamentals including water quality, regulations that drive management, principles of low impact development, and design of structural controls. The course integrates the introductory hydraulics and hydrology material covered in ECVT 333 with the water quality aspects of EENV 340 or EENV 341 and applies that knowledge to the development of stormwater infrastructure that is designed to be embedded in a social context. EENV 436 will be a 3-credit course, offered once per year in the spring semester.

EENV 440. Water Chemistry for Envir Engr. 3 Credits. (3 Lec) PREREQUISITE: EENV 340 or EENV 341 Fundamentals of aquatic chemistry and principles of water technology for environmental engineers. Based on chemical thermodynamics. Students learn to quantify water quality and control parameters characterizing water quality. Co-convened with EENV 540. Students enrolled in this course will not be able to take EENV 540 and have it count toward degree requirements.

EENV 441. Natural Treatment Systems. 3 Credits. (3 Lec) PREREQUISITE: EENV 340 or EENV 342. Planning, design, and operation of remediation facilities emphasizing natural versus mechanical elements. Specific topics include stabilization ponds, constructed wetlands, land treatment, and on-site domestic systems.

EENV 443. Air Pollution Control. 3 Credits. (3 Lec) PREREQUISITE: EGEN 335 or ECVT 337, and CHMY 141. Fundamentals of air quality management with emphasis on the design of processes and equipment for controlling gaseous and particulate emissions.

EENV 591. Special Topics. 1-3 Credits. (1-3 Lec; 12 cr max) On Demand
PREREQUISITE: Upper division courses and others as determined for each offering. Courses not required in any curriculum for which there is a particular one time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

EENV 592. Independent Study. 1-3 Credits. (1-3 Ind; 6 cr max) F,S,Su
PREREQUISITE: Graduate standing, consent of instructor, approval of Department Head and Dean of Graduate Studies. Directed research and study on an individual basis.

EENV 598. Internship. 2 Credits. (2 Ind) On Demand
PREREQUISITE: Graduate standing, consent of instructor and approval of Department Head. An individual assignment arranged with an agency, business or other organizations to provide guided experience in the field.

EENV 690. Doctoral Thesis. 1-10 Credits. (1-10 Ind; max unlimited) F,S,Su
Prerequisite: Doctoral Standing.
Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Adobe Garamond Pro.

The editor may contact Leepfrog for a draft with the correct fonts in place.