EENV - Environmental Engineering

EENV 440 Water Chemistry for Envr 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 ECIV 337, and CHMY 141. () Fall, even years. Fundamentals of air quality management with emphasis on the design of processes and equipment for controlling gaseous and particulate emissions

EENV 445 Hazardous Waste Treatment: 3 Credits (3 Lec)
PREREQUISITE: EENV 340 or EENV 341. () Fall, odd years. Principles, theory, and practice of treating hazardous materials

EENV 489R Environmental Engineering Design I: 2 Credits (1 Lec, 1 Lab)
PREREQUISITE: EGEN 310R, ECIV 333 and EENV 341 and student must be within two semesters of graduation
COREQUISITE: EGEN 325 or EGEN 330. Senior capstone course. Discussion of the design process from conceptual/preliminary design to final design, plans, and specifications. Develop proposal for engineering services, including scope of work, data acquisition, and organization of design team

EENV 490R Undergraduate Research: 1-6 Credits (1 Other)
(F, Sp, Su) Directed undergraduate research which may culminate in a research paper, journal article, or undergraduate thesis. Course will address responsible conduct of research. May be repeated. Repeatable up to 12 credits.

EENV 491 Special Topics: 1-3 Credits (1-3 Lec)
PREREQUISITE: Course prerequisites as determined for each offering. On demand. 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. Repeatable up to 12 credits.

EENV 492 Independent Study: 1-3 Credits (1-3 Other)
PREREQUISITE: Junior standing, consent of instructor, and approval of Department Head. (F, Sp, Su) Directed research and study on an individual basis. Repeatable up to 4 credits.

EENV 498 Internship: 1-3 Credits (1-3 Other)
PREREQUISITE: Junior standing, consent of instructor and approval of Department Head. An individualized assignment arranged with an agency, consulting firm, business, or other organization to provide guided environmental engineering experience in the field. Students may not take this course the semester they graduate

EENV 499R Environmental Engineering Design II: 2 Credits (1 Lec, 1 Lab)
PREREQUISITE: EENV 489R. (F, Sp) Senior capstone course. Design of an engineering project. Evaluation of design alternatives and design recommendations. Development of construction documents. Discussion of project management, cost estimates, and engineering services during construction
EENV 534  Environmental Engineering Investigation: 3 Credits (3 Lec)
PREREQUISITE: EENV 434 or EENV 529. Laboratory and field investigations for design and analysis of environmental engineering systems with focus on site investigations, remediation and incorporation of modeling studies

EENV 540  Water Chemistry for Envr 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 440. Students enrolled in this course will not be able to take EENV 440 and have it count toward degree requirements.

EENV 561  Environ Eng Reactor Theory: 3 Credits (3 Lec)
PREREQUISITE: EENV 340 or EENV 341. Theory and mathematics of reactors commonly used in water and wastewater operations

EENV 562  Water Treatment Process/Design: 3 Credits (3 Lec)
Principles, theory, and practice of water treatment plant design.

EENV 563  Wastewater Treat Proc/Design: 3 Credits (3 Lec)
PREREQUISITE: EENV 561. Principles, theory, and practice of wastewater treatment plant design

EENV 575  Research or Prof Paper/Project: 1-4 Credits (1 Other)
PREREQUISITE: Graduate standing. (F, Sp, Su) A research or professional paper or project dealing with a topic in the field. The topic must have been mutually agreed upon by the student and his or her major adviser and graduate committee Repeatable to 6 credits.

EENV 589  Graduate Consultation: 1-3 Credits (1-3 Other)
PREREQUISITE: Master’s standing and approval of the Dean of Graduate Studies. This course may be used only by students who have completed all of their coursework (and thesis, if on a thesis plan) but who need additional faculty or staff time or help Repeatable to 3 credits.

EENV 590  Master’s Thesis: 1-10 Credits (1 Other)
PREREQUISITE: Master’s standing. May be repeated Repeatable up to 99 credits.

EENV 591  Special Topics: 1-3 Credits (1-3 Lec)
PREREQUISITE: Upper division courses and others as determined for each offering. On demand. 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 Repeatable up to 12 credits.

EENV 592  Independent Study: 1-3 Credits (1 Other)
PREREQUISITE: Graduate standing, consent of instructor, approval of Department Head and Dean of Graduate Studies. (F, Sp, Su) Directed research and study on an individual basis Repeatable up to 6 credits.

EENV 598  Internship: 2 Credits (2 Other)
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 Repeatable up to 12 credits.

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