

CVEN 4834: Solid Waste (Mansfeldt)

Covers the scope of the nonhazardous solid waste problem and regulations that drive its management; discussions of non-engineering factors that impact waste management and recycling; design of incinerators, composting facilities, and landfills used to treat and dispose of solid waste.

CVEN 4833/5833-001: Colorado River Water Crisis (Hoerling)

Cover in detail the history of Colorado River water including significant political and social events and their development within a physically varying and changing Colorado River basin hydro-climate system. and how that has led to today's water crisis.

CVEN 4833/5833-002: Non-point Source Pollution (Bhaskar)

Principles, processes, and control of nonpoint source pollution. Particular emphasis is placed on non-point source (NPS) problems associated with urban runoff, agricultural influences on water quality, and impacts of mining and forestry. Surface and ground water pollution in diverse aquatic systems including stream, river, lake, reservoir, estuarine environments are considered. Students are exposed to a variety of structural and non-structural management principles.

CVEN 5835: Design of Masonry Structures (Hubler)

Covers modern masonry construction; properties and behavior of the reinforced masonry component materials, clay and concrete masonry units, mortar, grout, and steel reinforcement; vertical and lateral load types and intensities; and design of reinforced masonry walls, beams and columns by the strength design method.

CVEN 5836: AI/ML in the Built Environment (Behzadan)

Introduces fundamental concepts and theories of AI/ML through the use of real-world data and practical demonstrations encompassing various examples from built environment design, planning, construction, and operation. Covers limitations and ethical considerations such as privacy and bias in designing and adopting human-centered AI/ML models. Prompts students to utilize available resources to collaborate and put forward their own real-life examples in order to demonstrate the comprehension of the concepts and potential applications in research and practice.

CVEN 5838: Intro to Global Health for Engineers (Thomas)

Global Health, a multidisciplinary academic and professional discipline, works to address the unequal distribution of disease determinants and burden in low income communities. The Consortium of Universities for Global Health defines the discipline as, “an area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide. Global health emphasizes transnational health issues, determinants, and solutions; involves many disciplines within and beyond the health sciences and promotes interdisciplinary collaboration; and is a synthesis of population-based prevention with individual-level clinical care.”

Public Health, and Global Health, are purposefully multidisciplinary sectors. Successful Global Health practice requires familiarity with community health, behavioral health, epidemiology and biostatistics principles, while also incorporating public policy, environmental engineering, program management, social enterprise and business skills.

In this course, engineering students engaged in Global Engineering, poverty reduction efforts, technology and intervention design will be introduced to the conditions, context, and professional activities and standards of global health practice.