The student will learn how the role of decentralized wastewater treatment systems relates to the sustainable wastewater management infrastructure of the future. Students will learn the concepts and methods of site evaluation, matching sites with various technologies, and be introduced to design tools and methods for various types of on-lot and cluster systems.

**Prerequisites and Class Meeting Information**

- Microbiology or Biochemistry Course
- Fluid Mechanics Course
- Recommended Fundamentals of Soil Science Course or equivalent
- Basic computer aided design and spreadsheet skills
- Class schedule to be arranged

**Instructors**

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A collaboration of Michigan State, Central State, Ohio State, and Purdue Universities to provide an experiential, web based set of classes for students interested in sustainable agricultural and watershed management. The four courses are mentored, self-study experience, taught by faculty at each of the four universities.
Agricultural Air Quality Engineering
FABE 694 Group Studies

This course will discuss the fundamentals of air quality within and air emissions from animal production facilities; assessment of indoor air quality and air emissions, evaluation of air emission impacts on neighboring communities, and selection and design of air pollution mitigation options.

Environmental Management Options for Animal Agriculture
FABE 694 Group Studies

Provide students and professionals within agricultural, allied industries, and the public sector professional a self-guided educational opportunity focused on high priority manure management issues. Develop and design a manure handling and storage system for a modern food animal operation followed with a follow-up visit of an existing operations manure handling system.

Suburban/Rural Watershed Interface Modeling
BE 491-008

Students use watershed scale water quantity and quality models at the suburban/rural interface to evaluate the impacts of changes in land use management practices and to design best management practices (BMPs) to address stream water quality and quantity problems.

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Prerequisites and Class Meeting Information

- Junior, Senior, or Graduate Status in Engineering or FAES
- 4 credits
- Winter Quarter
- 2 hour class
- 2 hour lab, study session, or field

Prerequisites and Class Meeting Information

- Junior Engineering or Graduate Status
- 4 credits
- Winter Quarter
- 3 hour class
- 1 hour lab

Prerequisites and Class Meeting Information

- Prerequisites required by University offering course or competency examination
- Working knowledge of hydrology, hydraulics, water quality and quantity management, and TMDLs and pollutants
- Self-study program available to help students prepare for course

Instructor
Lingying Zhao, Ph.D.
Ohio State University

Instructor
Jon Rausch
Ohio State University

Instructors
Steve Miller, P.E.
William Northcott, Ph.D.
Michigan State University