

ABET course syllabus (Water Reuse Engineering)

1. *Course number and name*  
0901574: Water Reuse Engineering
2. *Credits and contact hours*  
3 Credit Hours
3. *Instructor's or course coordinator's name*  
Instructor: Bashar Al Smadi, Associate Professor of Civil Engineering  
Course Coordinator: Bashar Al Smadi, Associate Professor of Civil Engineering
4. *Text book, title, author, and year*
  - Selected chapters and articles from different references will be used
  - 1. *other supplemental materials*
    - "Wastewater Reclamation and Reuse", Takashi Asano, (1998), TECHNOMIC PUBLISHING CO., INC.
5. Specific course information
  1. *brief description of the content of the course (catalog description)*  
Water reuse related definitions and historical background. Environmental and health issues of water reuse. Risk assessment and risk management, Non potable and potable uses of reclaimed water: Agricultural irrigation, industrial uses, groundwater recharge, and indirect potable reuse. Case studies.
  2. *prerequisites or co-requisites*  
Prerequisite: Drinking Water Engineering (0901371)
  3. *indicate whether a required, elective, or selected elective course in the program*  
Elective for Civil Engineering
6. Specific goals for the course
  1. *specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.*
    - The student will be able to understand the water reuse concept and it's importance.
    - Student will study different reclaimed wastewater uses.
    - Student will be able to understand the different impacts of water reuse.
    - Student will be able to understand the different water reuse projects in different countries.
    - Student will be able to evaluate different water reuse applications
    - Student will be able to understand different components of water reuse projects.
  2. *Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.*  
Course addresses ABET Student Outcome(s): a, and e

7. *Brief list of topics to be covered*

- Wastewater reclamation and reuse: An introduction
- Public health and environmental health issues in water reuse
- Introduction to risk assessment
- Water reclamation technologies
- Storage of reclaimed water
- Agricultural and landscape irrigation
- Industrial water reuse
- Groundwater recharge with reclaimed water
- Planning for wastewater reclamation and reuse
- Case studies of water reuse