UNIVERSITY OF JORDAN
School of Engineering
Chemical Engineering Department

1. **Course Number and Name:** (0915471) Environmental Engineering
2. **Course Prerequisite:** (0915351) Unit Operations of Particulate Solids
3. **Credits, Contact Hours and Categorization:** 3 Credit hours, 3 Contact hours weekly, Required Engineering course.
4. **Syllabus URL:** To be added to the University of Jordan e-learning portal (Sep 2025).
5. **Instructors Name:**
6. **Textbook:** Davis, M.L. and Cornwell, D.A. Introduction to Environmental Engineering, McGraw-Hill, 5th Edition, 2013.

References:

1) Peavy, H.S.; D.R. Rowe and G. Tchobanoglous, Environmental Engineering, McGraw-Hill, 1985.
2) Course Notes and Handouts

7. **Live Stream Platform**: Microsoft Teams

Live Stream URL:

https://teams.microsoft.com/l/channel/19%3ab24a7a68c2684cfe870574f4a3db800c%40thread.tacv2/General?groupId=53c2c1d5-a924-483c-bbd5-0c899653a841&tenantId=05405dba-373c-4e20-a30e-3e6fcf507cfe

8. **Specific Course Information:**

- Catalog Description: Overview of ecological & environmental systems, environmental ethics, regulations, and standards. Environmental impact assessment and sustainable development. Water pollution and water quality management. Environmental Microbiology. Selection and design of municipal wastewater treatment systems. Air pollution and meteorology. Climate change and global pollution effects. Sources, effects, control of gas and particulate pollutants. Solid waste management and sanitary landfill design.
- (0915351) Unit Operations of Particulate Solids
- Required or Elective: Required Specialization Course

9. Specific Goals of the Course:

- Specific Outcomes of Instruction:

1) Appreciate the need to apply chemistry, physics, biology and math in environmental engineering issues (**O1**)

2) Understand the environmental quality parameters and how to measure and report them as well as the sources and impacts of environmental pollutants (air, water, soil) (**O1**).

3) Be familiar with major environmental laws, regulations, standards, and ethics (**O4**)

4) Select and design basic systems, processes and techniques for water treatment, waste management and pollution control (**O2**).

5) Appreciate the professional role and societal responsibility of Engineers in sustainable development at local, regional, and global levels (**O2**).

10. List of Topics to be Covered:

1) Environmental Concepts, Systems and Management Overview

2) Water Quality Parameters and Standards

3) Surface and Ground Drinking Water Treatment

4) Natural Water Pollution and Water Quality Management

5) Municipal Wastewater Treatment and Sludge Handling

6) Air Pollution and its Control

7) Solid Waste Management

Prepared by: *22/09/2025*

ABET Criterion 3 Students Outcomes

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.