



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
CEE-462	Waste Management	5
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
CEE-260, CHEM-121	Engineering	Fall/Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Elective	Civil & Environmental Engineering	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Dr Paris Pittakaras	4 <sup>th</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face-to-face	N/A	None

### Course Objectives:

The main objectives of the course are to:

- Introduce students to the different types of municipal, hazardous and industrial wastes.
- Identify methods of collection, transportation, treatment, and disposal of solid, hazardous, and electronic wastes.
- Emphasize on the current state regulations and laws governing waste management.
- Explain recycling processes for different types of solid wastes.
- Provide valuable information on how to identify hazardous wastes and indicate methods of transportation and process.

### Learning Outcomes:

After completion of the course students are expected to:

- Identify and discriminate among different types of solid wastes.
- Identify hazardous wastes and classify those according to potential danger.
- Provide waste management solutions based on the local state regulations and imposed legislature.
- Apply recycling methods for different solid waste categories.
- Suggest methods of collection, transportation, disposal, and storage of hazardous wastes.

- Apply methods of recycling and processing of electronic wastes.

**Course Content:**

- Categories of wastes
- Ways to solid waste management
- History of waste management in different countries
- Regulations and laws governing waste management
- Characterization of solid wastes
- Solid waste collection
- Recycling solid wastes (paper, glass, plastic, aluminum, ferrous metals, tires, rubber, food, etc)
- Solid waste processing and material recovering facilities
- Composting municipal solid wastes
- Incineration of municipal solid wastes
- The sanitary landfill
- Identification of hazardous wastes
- Transportation of hazardous wastes
- Treatment, storage, and disposal of hazardous wastes
- Electronic wastes

**Learning Activities and Teaching Methods:**

Lectures, in-class examples and exercises, projects.

**Assessment Methods:**

Homework assignments, mid-term exam(s), final exam (comprehensive).

**Required Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Waste Management Practices: Municipal, Hazardous, and Industrial	J. Pichtel	CRC Press	2005	978-0849335259

**Recommended Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Waste Resources: Recycling and Management	Adele Cullen	NY RESEARCH PRESS	2016	978-1632385154