# COURSE ID SHEET

| Course No. | 5288 | NTUA |
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| Semester: | 8,10 | Core | | Elective | | Specialization | X |
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Title: **INDUSTRIAL WASTE MANAGEMENT**

Aim:

The purpose of the course is to study the whole field of solid waste management. Specifically, the aim is to acquire knowledge of the categories and general characteristics of solid industrial waste and to identify efficient methods and technological systems for the treatment, recovery, recycling, re-use and disposal in accordance with the current waste/resources management framework, which contribute to sustainable development and circular economy.

Content:

- Categories - General characteristics of solid waste - Classification codes. Hazardous waste: Characterization (toxicity, corrosivity, flammability, etc.), storage and transport
- Physicochemical, biological and thermal treatment and neutralization processes of hazardous waste. Risk assessment. Environmental impacts.
- Waste streams-Treatment of specific waste: End of Life Vehicles (ELV's), End of Life Tires (ELT's), Construction and Demolition Waste (CDW), Waste of Electric and Electronic equipment (WEEE), Waste Batteries and Accumulators, Agricultural and Animal Waste, Hospital Waste.
- Waste streams-Treatment of specific waste.: End of Life Vehicles (ELV's), End of Life Tires (ELT's), Construction and Demolition Waste (CDW), Waste of Electric and Electronic equipment (WEEE), Waste Batteries and Accumulators, Agricultural and Animal Waste, Hospital Waste
- Solid waste management- solid waste treatment and recovery of materials
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- Recovery and conservation of natural resources. Circular Economy. Life Cycle Analysis. Case studies
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**Laboratory exercises:**

-Organic waste treatment and production of new products

-Stabilization and solidification of hazardous waste

-Solid waste Toxicity Characteristic Leaching procedure (TCLP)

Hours per semester:

| LECTURES | 24 | EXERCISES | - | LABORA-TORY | 16 | HOME-WORK | 135 | **TOTAL HOURS: 175** |
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Student performance/ evaluation:

The evaluation of the students will be done through:

- A Final (written) Examination (FE),
- Projects (PR), and
- Laboratory Exercises (LE)

**The Final Grade results as follows: Final grade = 0.6 x (FE) + 0.2 x (PR) + 0.2 x (LE)**