

Basic Environmental Engineering

Code: 102819
 ECTS Credits: 6

Degree	Type	Year	Semester
2501915 Environmental Sciences	OB	3	2

Contact

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Use of languages

Principal working language: catalan (cat)
 Some groups entirely in English: No
 Some groups entirely in Catalan: Yes
 Some groups entirely in Spanish: No

Teachers

Adriana Artola Casacuberta
 Xenia Juan Diaz
 Ernest Marco Urrea

Prerequisites

Students must be able to solve equations, chemical formulation, stoichiometry, to find out molecular weight of ele

Objectives and Contextualisation

- To understand some environmental processes and analyze the unit operations.
- To perform mass and energy balances in environmental systems.
- To apply the concept of "ideal reactor" in environmental engineering.
- To know the basic principles that underlie the most relevant biological treatments in environmental engine

Content

1. INTRODUCTION TO ENVIRONMENTAL ENGINEERING

Principles. Unit operations. Continuous and discontinuous operations. Steady state and unsteady state. Type of r

2. MASS BALANCES APPLIED IN SYSTEMS WITHOUT REACTION

Concept of balance. Mass balances without reaction under steady state. Balance in multiple units. Systems with i

3. MASS BALANCES APPLIED IN SYSTEMS WITH REACTION

Stoichiometry. Measurement of changes in composition. The rate of reaction. Ideal reactors design equations. Cc

4. ENERGY BALANCES

Forms of energy. The general energy balance. Simplified forms. Energy balance at steady state. Heat energy bal

5. BIOLOGICAL PROCESSES IN ENVIRONMENTAL ENGINEERING

Classification. Wastewater treatment: activated sludge. Anaerobic digestion. Composting.