



UNIVERSIDADE FEDERAL DE SANTA MARIA
PROGRAMA DE PÓS-GRADUAÇÃO EM ENGENHARIA CIVIL
PROGRAMA DE DISCIPLINA

DEPARTAMENTO:

Departamento de Engenharia Sanitária e Ambiental

IDENTIFICAÇÃO DA DISCIPLINA:

CÓDIGO	NOME	(T-P) Cr
	WATER AND WASTEWATER TREATMENT	45-15

OBJETIVOS – ao término da disciplina o aluno deverá ser capaz de:

The course examines theoretical concepts and mechanisms of water and wastewater treatment by physicochemical processes and its applications in practical engineering solutions. Water-quality and sludge control strategies are discussed in terms of treatment, management, and disposal.

PROGRAMA:

TÍTULO E DISCRIMINAÇÃO DAS UNIDADES

1. WATER AND WASTEWATER CONSTITUENTS

- 1.1 – Physical Characteristics.
- 1.2 – Chemical Characteristics.
- 1.3 – Biological Characteristics.
- 1.4 – Constituents of Concern in Water and Wastewater Treatment.

2. BASIC UNIT OPERATIONS

- 2.1 – Screening.
- 2.2 – Coagulation and Flocculation.
- 2.3 – Sedimentation.
- 2.4 – Flotation.
- 2.5 – Filtration.
- 2.6 – Disinfection.

3. ADVANCED UNIT OPERATIONS

- 3.1 – Adsorption.
- 3.2 – Ion Exchange.
- 3.3 – Membrane Filtration.
- 3.4 – Advanced Oxidation Processes.
- 3.5 – Gas Stripping.

4. SLUDGE TREATMENT AND MANAGEMENT

- 4.1 – Sludge Characterization.
- 4.2 – Sludge Treatment. Dewatering and Thickening.
- 4.3 – Sludge Management and Disposal.

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