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COURSE: Chemical Plants for Pollution Abatement

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ACADEMIC YEAR: 2017/2018

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TYPE OF EDUCATIONAL ACTIVITY: Basic

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TEACHER: Pierfrancesco Zirpoli

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e-mail: p.zirpoli@alice.it

web: -

phone: 3357406528

mobile (optional): -

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Language: italian

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ECTS: 9

n. of hours: 81

Campus: Potenza  
Dept./School: engineering  
Program:

Semester: II

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#### EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The environmental materials and their interaction with environmental pollutants. Treatment plants for the removal of pollutants from water and soil environmental materials. Systems of treatment of gaseous effluents. Design of chemical plants for the removal of pollutants. Adsorption processes

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#### PRE-REQUIREMENTS

none

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#### SYLLABUS

The environmental materials and their interaction with environmental pollutants. Physical - chemical properties of organic and inorganic pollutants. Treatment plants for the removal of pollutants from water and soil environmental materials. Systems of treatment of gaseous effluents. Design of chemical plants for pollutant removal (coagulation, precipitation, chemical oxidation). Adsorption on activated carbon, ion exchange resins, reactive chemical barriers. Equipment for gas-liquid separation (stripping). Application processes with fluids in the supercritical state.

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#### TEACHING METHODS

Theoretical lessons, Classroom tutorials, Laboratory tutorials

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#### EVALUATION METHODS

Oral examination

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#### TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Notes of the teacher

Siti contaminati, Maurizio Gorla – Dario Flaccovio Editore

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#### INTERACTION WITH STUDENTS

Reception hours: Tuesdays from 10.30 am to 11.30 am at the studio of the Professor, Health Engineering Laboratory. In addition to the weekly reception time, the teacher is available at any time for a contact with the students through their email.

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#### EXAMINATION SESSIONS (FORECAST)<sup>1</sup>

28/06/2018, 12/07/2018, 26/07/2018, 06/09/2018, 18/10/2018, 22/11/2018, 06/12/2018

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SEMINARS BY EXTERNAL EXPERTS YES  NO

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#### FURTHER INFORMATION

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<sup>1</sup> Subject to possible changes: check the web site of the Teacher or the Department/School for updates.