Università degli Studi della Basilicata
Scuola di Ingegneria

COURSE: ENVIRONMENTAL AND SANITARY TREATMENT PLANT			
ACADEMIC YEAR: 2017-2018			
TYPE OF EDUCATIONAL ACTIVITY: Characterizing			
TEACHER: PROF. ETTORE TRULLI			
e-mail: ettore.trulli@unibas.it		web:	
phone: 0971-205153		mobile (optional):	
Language: ITALIAN			
ECTS: 9 Lessons: 6 Tutorials: 2 Practice: 1	n. of hours: 81 Lessons: 54 hours; Tutorials: 18 hours; Practice: 9 hours;	Campus: Potenza Dept.: Scuola di Ingegneria Program: Environmental and Civil Engineering	Semester: Second

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Knowledge

The course provides the teaching of knowledge of engineering and wastewater and waste treatment plant design. The course is aimed at the control and preventing the pollution effects on health and the environment.

Theories and applications of plant engineering and management processes which are used in the field of “integrated water cycle" and “solid waste management and disposal" are described, explained and examined.

Students should attain with the basic theoretical knowledge and application and advanced approach to the study of:

- characteristics of the physical, biological and chemical processes for water and waste treatment;
- operation and operational and management conditions of environmental-health treatment plants;
- plant engineering and technical criteria.
- technological parameters for water and waste;
- useful system design methodologies, also by modeling;
- analysis and review of case studies.

The student must acquire a specific skill and be able to:

- Understand and apply the learned knowledge and develop complex processing, showing that they know and recognize the course object issues and developing a critical judgment;
- Analyze and evaluate independently the processes, set out the main methodologies relevant to water and waste treatment and to size and design engineering units;
- Examine and identify the distinctive features and problems that occur in the areas of design, testing, management and operation of sanitary and environmental treatment plants;
- Implement the communication skills to transmit clearly the knowledge gained to experts and also to those who do not have specific training on the subject; the student must have the ability to illustrate and explain the topics using technical and scientific language correctly;
- Increase the ability to deepen and sharpen their competence by updating and consultation of texts and publications related to the themes of the course;
- Acquire the capacity to attend specialized courses and master as well as to approach to applied research to develop even a doctorate course.

PRE-REQUIREMENTS

The basic knowledge for the understanding of the course content, considered already acquired, and on which will establish the developments of teaching, are associated mainly with those that have been obtained in the course of “Sanitary and Environmental Engineering."

SYLLABUS

The topics of study concerning the techniques of water treatment plants and solid waste treatment and disposal.

Main plants connected to the “integrated water cycle" are: wastewater treatment; municipal sludge treatment; plants for the reuse of municipal effluent; systems for the control of "urban drainage"; natural water treatment.

The main works concerning the "solid waste management cycle" are appropriate collection and selection systems, sanitary landfills, incinerators, composting, and plants for biogas production.

TEACHING METHODS

Theoretical lessons, Classroom tutorials, Laboratory tutorials, Project works, Technical visits.

EVALUATION METHODS

Oral examination, Discussion of a project work.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Notes provided by the lecturer, are delivered directly to students via e-mail.

Specific topics are deepened on texts and documentation extracted from web sites of recognized technical and scientific value.

For further information and updates, the teacher suggests texts and journals of specific interest for the course and the topics of study.

INTERACTION WITH STUDENTS

In order to establish a direct contact between teacher and student, from the first lesson, a register of attending students is compiled, collecting data on their first name, last name, identification number, e-mail address and telephone number.

Subsequently, in proceeding of the course, the material available in electronic form is transmitted to students by mail.

In the course of lessons in the classroom a “theme of the year” is given to each student.

It is represented by the performance of a technical project examined during the course, which students will develop according to the skills acquired.

The teacher informs students about appropriate methods of study and learning assessment and methods of examination. In addition to office hours weekly, the teacher is available every time for a contact with the students, through his email or phone number to secure, if necessary, additional office hours.

EXAMINATION SESSIONS (FORECAST)[1]

Last week of the month; the date is still agreed with students interested in taking the exam, following approximate date for years 2017 and 2018: 26/7/2017; 2/8/2017; 27/9/2017; 25/10/2017; 29/11/2017; 20/12/2017; 31/1/2018; 28/2/2018; 28/3/2018; 18/4/2018; 30/5/2018; 27/6/2018; 25/7/2018; 1/8/2018; 26/9/2018; 31/10/2018; 28/11/2018; 19/12/2018.

SEMINARS BY EXTERNAL EXPERTS YES

[1] Subject to possible changes: check the web site of the Teacher or the Department/School for updates.