Università degli Studi della Basilicata
Scuola di Ingegneria

COURSE: ENVIRONMENTAL AND SANITARY TREATMENT PLANT			
ACADEMIC YEAR: 2016-2017			
TYPE OF EDUCATIONAL ACTIVITY: Characterizing			
TEACHER: PROF. ETTORE TRULLI			
e-mail: ettore.trulli@unibas.it			
phone: +39-0971-205153		mobile: +39-329-3178374	
Language: Italian			
ECTS: 9 Lessons: 6 Tutorials: 2 Practice: 1	n. of hours: Lessons: 54 Tutorials: 18 Practice: 9	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 to the control and preventing the pollution effects on health and the environment. Theories and applications of treatment 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;
- analysis and review of case studies.

Skill

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 understand 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;
- analyze and identify the distinctive features and problems that occur in the areas of design and testing and management and operation of sanitary and environmental treatment plants;
- implement the communication skills to convey clearly and made 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 who of course using technical and scientific language correctly;
- gain the ability to deepen and sharpen their skills by updating and consultation of texts and publications related to the themes of the course;
- acquire the ability to attend later specialized courses and master as well as 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 merge the developments of teaching, are associated primarily with those which are acquired in the course "Sanitary and Environmental Engineering."

SYLLABUS

The topics of study concerningthe 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 systems, sanitary landfills, incinerators, composting, 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 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 noted texts and special interest magazines in the thematic study.

INTERACTION WITH STUDENTS
In order to establish a direct contact between teacher and student, from the very first lessons, we shall draw up a register of students attending, of which you are collecting data on name, surname, identification number, e-mail address and telephone number.
Subsequently, in proceeding of the course, is transmitted to students by mail the material is available in electronic form.
In the course of lessons in the classroom a “theme of the year” is given to each student, that is represented by the performance of a project outline concerning a technological equipment covered in the course, which students will start 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 at any time for a contact with the students, through their 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.

SEMINARS BY EXTERNAL EXPERTS YES

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