LOGO DELLA STRUTTURA PRIMARIA

COURSE: Organic chemistry			
ACADEMIC YEAR:2017/2018			
TYPE OF EDUCATIONAL ACTIVITY: base			
TEACHER: Maurizio D'Auria			
e-mail: maurizio.dauria@unibas.it		website:	
phone: 0971205480		mobile (optional):	
Language: Italian			
ECTS: 6 (lessons e tutorials/practice)	n. of hours: 56 (40+16) (lessons e tutorials/practice)	Campus: Potenza/Matera Dept./School: School of agriculture, forestry, food and environmental sciences Program:	Semester: II

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The course wants to give basic information on the principal properties of the organic compounds, allowing the student to understand the physical properties and the chemical behavior of every organic compounds.

- **knowledge and understanding:** the student ha sto know the structure of an organic compound e and understand the chemical behavior in several experimental reaction conditions.
- **applying knowledge and understanding**: ability to have a critical approach to the design of a chemical compound, both for the preparation and for the possible degradation pattern.
- **making judgements**: Ability to be able to choose the best experimental conditions to achieve a certain result
- **communication skills**: Ability to properly define an organic compound and ability to draw it in the right way both in the plane and space
- **learning skill**: to Know the main sources of update

PRE-REQUIREMENTS

General and inorganic chemistry

SYLLABUS

The course is structured in three equivalent blocks each capable of defining 2 cfu.

1. *A. Electronic configuration. Bonds. Representing molecules.*
    a. *Hydrocarbons: alkanes, alkenes, arenes, alkynes.*
    b. *Compounds containing nitrogen: sp3 nitrogen, amines, sp2 nitrogen, sp nitrogen.*
    c. *Compounds containing oxygen: sp3 oxygen, alcohols, ethers, sp2 oxyen, aldehydes and ketones, carboxylic acids and their derivatives.*
    d. *Compounds containing sulfur.*
    e. *Alkyl halides.*
    f. *Heterocyclic compounds*
    g. *Terpenes*
    h. *Carbohydrates*
2. *Organic chemistry in the spoce.*
    a. *Sterochemistry*
    b. *conformations,*
    c. *chirality.*
3. *The reactivity of an organic compound.*
    a. *The organic reactions.*
    b. *Reaction mechanisms: bimolecular nucleophilic substitution, electrophilic addition, monomolecular nucleophilic substitution, radicalic halogenation. Nucleophilic substitution at sp3 carbon.*
    c. *Eliminations.*
    d. *Oxidation of an alcohol.*
    e. *Addition to carbon-carbon multiple bonds: electrophilic additiom of HCl, HBr and H2O, addition to conjugated dienes, electrophilic addition to alkynes, halogen addtioni, radical addition, hydroboration-oxidation, epoxidation, oxidation with osmium tetroxide, ozonization and ozonolysis, hydrogenation.*
    f. *Aromatic elctrophilic substitutiona.*
    g. *Addition and nucleophilic substitution to the carbonyl group.*
    h. *Susbstitution alpha to carbnyl groups.*

TEACHING METHODS

The The course is organized as follows:

- classroom lessons on all subjects of the course;

EVALUATION METHODS
Written examination. For the written tests there are six open tracks, covering both application aspects and theoretical themes.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL
Maurizio D'Auria, Chimica Organica Essenziale, EditricErmes, Potenza, 2014

INTERACTION WITH STUDENTS
Starting the course, after the description of the objectives, syllabus and evaluation methods, the teacher gives to the students the electronic available material. The All'inizio del corso, dopo aver descritto obiettivi, programma e metodi di verifica, il docente mette a disposizione degli studenti il materiale didattico. It collects a list of students who intend to enroll in the course, together with name, serial number and email.
Office hours: Monday from 15 to 16 at the study and Tuesdays from 15 to 16 at the study
In addition to weekly reception, the instructor is available at all times for a contact with the students, through their e-mail

EXAMINATION SESSIONS (FORECAST)[1]
13.2.2018; 13.3.2018;15.5.2018; 12.6.2018; 10.7.2018; 9.10.2018; 11.12.2018.

SEMINARS BY EXTERNAL EXPERTS YES □ NO x

FURTHER INFORMATION
Evaluation commission: Maurizio D'Auria, Rocco Racioppi, Paolo Lupattelli, Maria Funicello

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