
COURSE: Advanced Organic Chemistry Mod.1

ACADEMIC YEAR: 2018-2019

TYPE OF EDUCATIONAL ACTIVITY: **Characterizing**

TEACHER: Prof. Maria Funicello

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Language: **Italian**

ECTS: (lessons e
tutorials/practice)
5n. of hours: (lessons e
tutorials/practice)
44 (32 theoretical lessons
and 12 laboratory tutorial)Campus: **Potenza**
Dept./School: **Dipartimento di
Scienze**
Program: **Chemical Science
(LM54)**Semester: I

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

This course has the aim to acquire the following: advanced knowledge of reactions mechanism in organic chemistry; knowledge of pericyclic reactions and of metal transition catalized cross-coupling reactions; metathesis reactions; the experimental techniques to work. Synthetic approach for preparation of heterocycles

PRE-REQUIREMENTS

Knowledge of basic contents of organic chemistry.

SYLLABUS

1. Study and description of organic reaction mechanism
 2. Aromaticity
 3. Theory of concerted reactions and Pericyclic Reactions: cicloadditions, electrocyclic reactions, sigmatropic rearrangements
 4. Principal C-C bond formation (single and double bond) by using transition metals as catalyst: Suzuki coupling and Sonogashira reaction; metathesis reaction.
 5. Synthesis of Heterocycles
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TEACHING METHODS

Theoretical lessons, laboratory tutorials

EVALUATION METHODS

Oral examination

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Carey. R.J. Sundberg, "Advanced Organic Chemistry"- Part A, Plenum Press London

F.A. Miller, P.H. Solomon., "Writing Reaction Mechanism in Organic Chemistry", Academic Press, II ed.

I. Fleming, "Frontier Orbitals and Organic Chemical Reactions", J. Wiley and Sons, 2005

T. L. Gilchrist, R. C. Storr. "Organic Reactions and orbital symmetry", Cambridge University Press.

INTERACTION WITH STUDENTS

Contact by mail and receiving by appointment on every day

EXAMINATION SESSIONS (FORECAST)¹

20/2/2019; 20/3/2019; 14/5/2019; 19/6/2019; 16/7/2019; 15/10/2019; 13/12/2019

SEMINARS BY EXTERNAL EXPERTS YES NO **FURTHER INFORMATION**

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