
COURSE: Complement of organic chemistry

ACADEMIC YEAR: 2017-2018

TYPE OF EDUCATIONAL ACTIVITY: optional

TEACHER: Lucia CHIUMMIENTO

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Language: **italian**

ECTS: **6** (lessons e
tutorials/practice)n. of hours: **48** (lessons e
tutorials/practice)Campus: **Potenza**
Dept./School: **Dipartimento di
Scienze**
Program:Semester: II
(date): **from
05/03/2018 to 15-
30/06/2018**

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Main topics of the course deal briefly with the advanced organic chemistry and asymmetric synthesis.

At the end of the course students would be able to plan synthetical strategies for organic compounds, both cyclic and acyclic ones, with care for eventually present chirality.

PRE-REQUIREMENTS

SYLLABUS

The course deals with topics of advanced organic chemistry and asymmetric synthesis.

Organic synthesis: retrosynthetic analysis. Selectivity: chemo-, regio-, diastereo- and enantioselectivity.

Stereospecific reactions. Main protective groups.

Symmetry and stereogenic structures:

Stereochemical control: Controlling stereochemistry in cyclic compounds.

Fused and condensated rings. Diastereoselectivity in acyclic systems.

Additions to carbonyl groups: Cram rules and Felkin-Ahn model

Enolates: Stereoselective enolization, boron enolates and Zimmerman-Traxler transition state.

Asymmetric synthesis: resolution, chiral reagents: Brown's allylation and crotylation. Biocatalysis: enzymes.

Chiral auxiliaries: oxazolidinones, chiral catalysts: catalytic hydrogenation. Advantages and disadvantages.

TEACHING METHODS

Theoretical lessons, Classroom tutorials.

EVALUATION METHODS

Oral examination.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- *J. Clayden, N. Greeves, S. Warren, P. Wothers: **Organic Chemistry**, Oxford press*
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INTERACTION WITH STUDENTS

EXAMINATION SESSIONS (FORECAST)¹

23/07/2018

17/09/2018

15/10/2018

17/12/2018

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.