
COURSE: Chemistry of natural organic compounds

ACADEMIC YEAR: 2017-2018

TYPE OF EDUCATIONAL ACTIVITY: Affine

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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: I
(date)**From 02/10/2017 to
15- 31/01/2018**

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The aim is to give to students complete information about the main characteristic of the different metabolic pathways. At the end of the course students should know the ecological role of secondary metabolites and their use as drugs.

PRE-REQUIREMENTS

SYLLABUS**Primary and secondary metabolism:** main coenzymes and metabolic intermediates. Building blocks.**Acetate pathway.** Saturated and unsaturated fatty acids, polyacetates and polypropionates

Prostaglandins, leucotrienes and tromboxanes. Aromatic polyketides. Macrolides.

Shikimate pathway. Aromatic aminoacids. Cinnamyl acid and derivatives. Coumarins, flavonoids, stilbenes.**Mevalonic acid and methyl-erythritol phosphate pathways.** Terpenes (nomenclature) and steroids (stereochemistry): cholesterol, steroidal saponines, cardioactive glycosides, pythosterols, vitamin D, biliar acid, steroidal hormones.**Alkaloids. Alkaloids of hornitine, lysine, nicotine, tyrosine, triptophan, histidine..**

TEACHING METHODSTheoretical lessons, Classroom tutorials.

EVALUATION METHODSOral examination.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- P. M. Dewick: **Medicinal Natural Products, A Biosynthetic Approach**, (Wiley 2009)- **"Chimica, biosintesi e bioattività delle sostanze naturali"**, Piccin, Padova, 2013
 - X.-T. Liang, W.-S. Fang: **Medicinal Chemistry of Bioactive Natural product**, Wiley 2006
 - J. Clayden, N. Greeves, S. Warren, P. Wothers: **Organic Chemistry**, Oxford press
 - Nicolaou, K. C.; Montagnon, T. **"Molecules that changed the world"**, Wiley-VCH. 2007
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INTERACTION WITH STUDENTS

EXAMINATION SESSIONS (FORECAST)¹

12/02/2018

12 /03/2018

21/05/2018

25/06/2018

23/07/2018

17/09/2018

15/10/2018

17/12/2018

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

SEMINARS BY EXTERNAL EXPERTS YES ☐ NO ☒

FURTHER INFORMATION
