



biotechnological methods.

5 Develop skills of application, analysis and synthesis of knowledge.

6 To develop student competencies such as deep mastery of challenging content, critical thinking, complex problem-solving, effective communication and collaboration, and self-direction.

#### **Conditions for credit contract**

Access to this course unit via a credit contract is determined after successful competences assessment

#### **Conditions for exam contract**

This course unit cannot be taken via an exam contract

#### **Teaching methods**

Excursion, Lecture

#### **Extra information on the teaching methods**

Theoretical classes, theoretical-practical and field trips, provide the tools that allow students to understand the objectives and strategies of the curricular unit. The contents of the program are exposed at lectures using the projection of slides and films, and illustrative examples of application of the fundamental concepts will be presented. In the theoretical-practical classes several case studies and scientific papers will be analyzed and discussed. In the field trips, visits to laboratories and companies will be made.

#### **Learning materials and price**

Resources are made available free of charge via the tutorial platform.

Students are encouraged to use the Web of Knowledge to collect bibliography

#### **References**

The literature will be mostly based on leading scientific journal devoted to natural products and bioprospecting available via web of science.

The professor will recommend the most suitable papers for each topic of the program.

Nevertheless, the students will be encouraged to develop their capacities to search updated and relevant scientific information in the area.

Some books recommended:

Roessner U., Dias D.A. (Eds.) (2013) *Metabolomics Tools for Natural Product Discovery. Methods and Protocols*, ISBN 978-1-62703-577-4,

Springer Protocols

Dewick P.M. (2009). *Medicinal Natural Products: A Biosynthetic Approach*, 3rd Edition, Wiley & Sons

Bhat S.V., Nagasampagi B.A., Meenakshi S. (2005) *Chemistry of Natural Products*, ISBN: 3-540-40669-7, Springer, Berlin

Hans J.R. (2003) *Natural Products: The Secondary Metabolites*. ISBN: 978-0-85404-490-0, Ed. EW Abel, R.S.C

#### **Course content-related study coaching**

Tutorials are provided as requested for coaching or problem resolution. 2h per week are set aside for resolution of problems students may have.

#### **Assessment moments**

end-of-term and continuous assessment

#### **Examination methods in case of periodic assessment during the first examination period**

Written examination with multiple choice questions, Written examination with open questions

#### **Examination methods in case of periodic assessment during the second examination period**

Written examination with multiple choice questions, Written examination with open questions

#### **Examination methods in case of permanent assessment**

Report, Assignment

#### **Possibilities of retake in case of permanent assessment**

examination during the second examination period is possible

#### **Extra information on the examination methods**

• Written examination with open questions and multiple-choice questions;

(Approved)

- the assessment of a written work about a topic of the syllabus, its oral presentation and discussion.

#### **Calculation of the examination mark**

The examination mark will be calculated as follows:

- Written examination with open questions and multiple choice questions (60%);
- the assessment of a written work about a topic of the syllabus, its oral presentation and discussion (40%).