



| General information | |
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| Academic subject | Geobotany Ecology and Geobotany I.C. – 13 CFU |
| Degree course | Natural Sciences (I level) |
| Academic Year | III |
| European Credit Transfer and Accumulation System (ECTS) | 6 |
| Language | Italian |
| Academic calendar (starting and ending date) | II semester (March 2022- June 2022) |
| Attendance | Strongly recommended |

| Professor/ Lecturer | |
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| Telephone | 080 5442168 |
| Department and address | Museo Orto Botanico – Campus Universitario |
| Virtual headquarters | Microsoft Teams code: nos4gdy |
| Tutoring (time and day) | Thursday, ore 13:00-14:00 |

| Syllabus | |
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| Learning Objectives | <i>To provide knowledge and expertise about the analysis of plant component of both natural and anthropogenic environment, in terms of study of systems and processes, of biodiversity, of an ecological interpretation of landscape, by the point of view of conservation, restoration and enhancement of natural environments.</i> |
| Course prerequisites | <i>Basic knowledge of Systematic Botany, Plant physiology, Geography and Physical Geography, Ecology and Geomorphology</i> |
| Contents | <p><i>The course, after a presentation of the goals and methods of Geobotany and an introduction to the concepts of Flora, Vegetation and Complexes of Vegetation (Plant Landscape), provides the illustration of contents about:</i></p> <ul style="list-style-type: none"><i>- ecologic factors and their relationships with plants (soil science, climatology and phytoclimatology, ecology of fire, man as an ecologic factor);</i><i>- chorology (distribution areas and factors that define their shape and dimension, kind of distribution areas and methods of construction and representation, geoelements, with specific regard to Italian flora, endemisms, chorologic spectra, floristic territories and the phytogeographic classifications, historical aspects of Flora;</i><i>- vegetation science (plant communities and their spatial and temporal organization, criteria in the study of vegetation, discontinuity and continuity approach, phytosociological method, plant association and the other phytosociological units, vegetation zones and belts, zonal, azonal and extrazonal vegetation, the major biomes on Earth, vegetation dynamism, primary and secondary successions, climax concept, vegetation series);</i><i>- landscape ecology (aims and methods, geosynphytosociology).</i> <p><i>The contents of the field trips will deal about the subjects debated during class lectures.</i></p> |
| Books and bibliography | <p><i>Ubaldi D., 2012 – Guida allo studio della flora e della vegetazione. Clueb, Bologna.</i></p> <p><i>Ubaldi D., 2003 - Flora, fitocenosi e ambiente. Clueb, Bologna.</i></p> <p><i>Pignatti S., 1994. Ecologia del Paesaggio. UTET, Torino.</i></p> <p><i>Pignatti S., 1995. Ecologia vegetale. UTET, Torino.</i></p> |



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| Additional materials | <i>All the texts suggested are available for reference at the Library of the Plant Biology Section of the Department of Biology. During the course, electronic documents as well as course slides will be provided, though they must not be considered as lecture notes. The use of class notes is strongly recommended.</i> |
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| Work schedule | | | |
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| Total | Lectures | Hands on (Laboratory, working groups, seminars, field trips) | Out-of-class study hours/ Self-study hours |
| Hours | | | |
| 150 | 44 | 10 | 96 |
| ECTS | | | |
| 6 | 5,5 | 0,5 | |
| Teaching strategy | | | |
| <i>Classroom lectures supported by multimedia tools and field trips aimed at the identification and field direct analysis of adaptation strategies of the main species of different Biomes, by means of comparative analysis of diagnostic characters. Moments of interaction teacher-student stimulated by the teacher during the classroom lectures. The course is not supplied in e-learning mode.</i> | | | |
| Expected learning outcomes | | | |
| Knowledge and understanding on: | The student will have to know the different levels of analysis of plant on the Earth: Flora, Vegetation and Complexes of vegetation. Current and previous factors that cause the distribution of plant species. He/she will have to be able to understand the relationships among ecologic factors and floristic composition, structure, dynamic and distribution of plant communities. This knowledge, as well as the ability in comprehension, will be acquired through classroom lectures and field trips. | | |
| Applying knowledge and understanding on: | The student will have to develop the ability in phytoclimatic diagnosis and in reading and interpreting the vegetation mosaic and vegetation Complexes (Plant Landscape). This skill will be acquired through classroom lectures and field trips. | | |
| Soft skills | <ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> The student will have to be able to understand the causes of the plant distribution of the ecosystems at different levels of expression. This skill will be acquired through classroom lectures and field trips. • <i>Communicating knowledge and understanding</i> The student will have to acquire geobotanical lexicon and terminology, aimed at carrying out activities dealing with naturalistic divulgation and at understanding possible in-depth analysis through specialized bibliography. This ability will be acquired through classroom lectures and during moments of interaction teacher-student which will be stimulated by the teacher during the course. • <i>Capacities to continue learning</i> The student will have to acquire the ability to deepen and read with critical sensibility the evolution of the discipline, by consulting texts and data bases. This ability will be acquired through the consultation of the webography that will be suggested by the teacher during the course. | | |

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| Assessment and feedback |
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| Methods of assessment | <i>Oral exam is the main instrument for the assessment which, however, will be based upon the regularity in attending the course as well. For the final assessment, clarity in the presentation and a correct use of language will be considered too.</i> |
| Evaluation criteria | <ul style="list-style-type: none">● <i>Knowledge and understanding:</i> The student will have to demonstrate to know all the contents of the teaching subject and particularly will have to prove that he/she has acquired the basics about the different levels of expression of the plant on the Earth and the causes of the geographic distribution of flora and vegetation on the planet. He/she will have to prove to have fully understood the relationships among the different modules of the course (ecological factors, flora and vegetation) and to be able to make connections with other disciplines, even abiotic, since Geobotany is not exclusively a biologic discipline. However, details that are peculiar to other disciplines are not required; what is required is the ability to grasp what, of the other disciplines, enables to comprehend Geobotany. The knowledge of these topics is necessary to pass the exam, while the mere acquisition of basics notions allows an assessment which will not exceed a middle level.● <i>Applying knowledge and understanding:</i> The student will have to be able to use the instruments for phytoclimatic station diagnosis and for the reading and interpretation of vegetation mosaic. These skills are essentials to pass the exam.● <i>Autonomy of judgment:</i> The student will have to demonstrate the ability to interpret the relationships among the distribution of species, of communities and of plant landscapes and related causes. This skill allows to get a very positive assessment.● <i>Communicating knowledge and understanding:</i> The abilities to express concepts and formulate interpretations, with a correct use of language and clarity in exposition, making use of the scientific terminology learnt during the semester, will be greatly appreciated. These skills, together with the previous one, ensure a very positive assessment of the competence and performance of the student.● <i>Capacities to continue learning:</i> During the final examination, the student must show to have acquired critical abilities and that he/she is able to achieve new knowledge on his/her own. Possessing these abilities will contribute to a strongly positive assessment of the final exam. |
| Criteria for assessment and attribution of the final mark | <i>The final assessment is given in thirtieths. The exam is passed when the final mark is higher than or equal to 18. For the final assessment, regular attendance at the course will be considered too, as well as clarity in the presentation and a correct use of language.</i> |
| Additional information | |
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