

General Information	
Academic subject	Environmental and Applied Botany
Degree course	Conservation and management of the agricultural and forest territory
Curriculum	
ECTS credits	6 ECTS
Compulsory attendance	No
Language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Valeria Tomaselli	valeria.tomaselli@ibbr.cnr.it	BIO 03

ECTS credits details	Area	SSD	Credits
Basic teaching activities	Botany	BIO 03	6 ECTS

Class schedule	
Period	09.10.2017 – 26.01.2018
Year	First year
Type of class	Lecture- workshops

Time management	
Hours	60
In-class study hours	48
Out-of-class study hours	12

Academic calendar	
Class begins	09.10.2017
Class ends	26.01.2018

Syllabus	
Prerequisites/requirements	
Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS)	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> • Knowledge of basic information on plant biodiversity and on morphological and functional organization of plant organisms of agro-forestry interest • Knowledge of the main taxonomic categories and their phylogenetic relationships; of the mechanisms through which plant organisms reproduce and interact during development <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> • Ability in applying the knowledge acquired from the study of plant biology in relation to morpho-functional organization, reproductive mechanisms, botanical characteristics, as well as phylogenetic relationships and taxonomic placement of the species of agro-forestry interest <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> • Ability in understanding and elaborating the information acquired from the study of plant biology, considering its implications for the agro-forestry system, with particular attention to the eco-compatible and sustainable management of resources. <p><i>Communicating knowledge and understanding</i></p>

	<ul style="list-style-type: none"> • Ability in communicating, both orally and in writing, the knowledge acquired from the study of plant biology, even with the help of modern communicative systems, in Italian and in another language of the European Union, usually English <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> • Acquisition and ability in using the methodological tools and knowledge necessary to successfully address the studies provided in the Master's Degrees of Reference <p>The expected learning outcomes, in terms of knowledge and skills, are listed in the Annex A of the Study Course Regulations (expressed through the European Degree Program descriptions)</p>
Contents	<ul style="list-style-type: none"> • Elements of General Botany. Elements of plant biology; the plant cell, characters and functions; growth and differentiation of plant cells; meristems and tissues. Stem, root and leaf morphology, anatomy and functions in Monocotyledons and Dicotyledons. Absorption and transport. Transpiration. The plants for the environment: hydrophytes, xerophytes and halophytes. Plant hormones. • Elements of Systematic Botany. Evolution of plant landscape in the course of the geological history of the Earth. Algae, Fungi and Lichens. Bryophytes and Pteridophytes: general characteristics, evolutionary importance, life cycle, ecology, distribution and importance. Spermatophytes: Gymnosperms and Angiosperms, their evolutionary importance and ontogenetic cycle; the most representative families. Flower and fruit: functions and types. Seeds; dissemination modalities. • Principles of geobotany. Life forms. Geographical distribution of plant species, distribution areas; chorotypes. Flora, vegetation and plant landscape. Dynamism of vegetation. Vegetation zones. Sampling and analysis techniques for vegetation surveys..
Course program	
Bibliography	<ul style="list-style-type: none"> • C. Longo: <i>Biologia vegetale: Morfologia e fisiologia</i>, 1994. Ed. UTET • F. Gerola - <i>Biologia vegetale vol. 2 - Sistematica filogenetica</i>. 2006. UTET. • E. Strasburger - <i>Trattato di botanica vol.2 - Evoluzione sistematica ed ecologia</i>. 2007. Delfino Ed • Pignatti S., 1994. <i>Ecologia del paesaggio</i>. UTET, Torino • Pignatti S. (ed.), 1995. <i>Ecologia vegetale</i>. UTET, Torino
Notes	
Teaching methods	The subjects will be handled with PowerPoint presentations, laboratory exercises, and in field training.
Assessment methods (indicate at least the type written, oral, other)	<p>The assessment method consists of an oral exam on the topics developed during the theoretical lessons in the classroom and the training in laboratory and in field, as reported in the Teaching Regulations of the Bachelor's Degree in _____ (art.) And the study plan (Annex A).</p> <p>The assessment of the student's preparation takes place on the basis of established criteria, as detailed in Annex A of the</p>

	<p>Teaching Regulations of the Bachelor's Degree. For students who have supported exoneration, the assessment of the profit test is expressed as the average between the scores received on the exoneration and on the profit test. Foreign students' profit examination can be done</p>
<p>Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are.</p>	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> • Knowledge of basic information on plant biodiversity and on morphological and functional organization of plant organisms of agro-forestry interest • Knowledge of the main taxonomic categories and their phylogenetic relationships; of the mechanisms through which plant organisms reproduce and interact during development <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> • Ability in applying the knowledge acquired from the study of plant biology in relation to morpho-functional organization, reproductive mechanisms, botanical characteristics, as well as phylogenetic relationships and taxonomic placement of the species of agro-forestry interest <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> • Ability in understanding and elaborating the information acquired from the study of plant biology, considering its implications for the agro-forestry system, with particular attention to the eco-compatible and sustainable management of resources. <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> • Ability in communicating, both orally and in writing, the knowledge acquired from the study of plant biology, even with the help of modern communicative systems, in Italian and in another language of the European Union, usually English <p><i>Capacities to continue learning</i> Acquisition and ability in using the methodological tools and knowledge necessary to successfully address the studies provided in the Master's Degrees of Reference</p>
<p>Further information</p>	