

COURSE OF STUDY	Management of green spaces, forests and protected areas
ACADEMIC YEAR	2023-2024
ACADEMIC SUBJECT	<i>Laboratory of Environmental Botany_ Module (Integrated course Environmental Monitoring and Surveying Laboratory)</i>

General information	
Year of the course	First year
Academic calendar (starting and ending date)	II SEMESTER (4 March - 14 June 2024)
Credits (CFU/ETCS):	3 ECTS
SSD	BIO/03 – LABORATORY OF ENVIRONMENTAL BOTANY
Language	ITALIAN
Mode of attendance	Recommended Attendance

Professor/ Lecturer	
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Department and address	Department of Soil, Plant and Food Science, Via G. Amendola 165/A 70126 - Bari (Italy), Last building, ground floor, room no. 11
Virtual room	Microsoft Teams Code: w57re8n
Office Hours (and modalities: e.g., by appointment, on line, etc.)	Visits are by appointment only, to be arranged via e-mail.

Work schedule			
Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
75		42	33
CFU/ETCS			
3		3	

Learning Objectives	The course aims to provide students with basic knowledge in the field of botanical sciences applied to the assessment, monitoring and management of plants in natural and artificial ecosystems for the purpose of their environmental rehabilitation.
Course prerequisites	Knowledge of the topics covered in the Environmental Botany course..

Teaching strategies	Course topics will be covered with: <ul style="list-style-type: none"> ○ practical laboratory and field activities aimed at the recognition and classification of major entities of systematic, economic and environmental importance in the area; ○ use of analytical keys for species determination; ○ preparation of an educational herbarium; ○ visit to the Botanical Garden of the University of Bari.
Expected learning outcomes in	

terms of	
Knowledge and understanding on:	<ul style="list-style-type: none"> ○ knowledge of information on phylogeny and taxonomy; ○ knowledge of morphological and reproductive characters that differentiate algae, fungi, lichens, bryophytes, pteridophytes, and spermatophytes.
Applying knowledge and understanding on:	<ul style="list-style-type: none"> ○ Ability to apply acquired knowledge of botanical characteristics, phylogenetic relationships, and taxonomic placement to taxa covered in the course
Soft skills	<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ Acquisition of thoughtful autonomy in processing data and knowledge in order to give a correct interpretation of it; • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Acquisition of a scientifically correct mode of expression. • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ Ability to make in-depth investigations independently, correctly choosing sources of information in order to be able to update one's knowledge
Syllabus	
Content knowledge	Observations of fresh material under optical and binocular microscopes for characterization and classification of species of forest interest and potential introduction in urban areas; investigations of reproductive characteristics; observation of exsiccata and models. Techniques for preparing a herbarium; guided tour of the University of Bari Botanical Garden Museum; nature excursions.
Texts and readings	<p>JUDD W.S., CAMPBELL C.S., KELLOGG E.A., STEVENS P.F., DONOGHUE M.J., 2019 – Botanica Sistematica. Un approccio filogenetico. III edizione. Piccin, Padova, 708 pp.</p> <p>PASQUA G., ABBATE G., FORNI C., 2008 – Botanica generale e diversità vegetale. Piccin.</p> <p>RAVEN P. H., EVERT R. F. , EICHHORN S. E., 2002 – “Biologia delle Piante” Ed. Zanichelli.</p>
Notes, additional materials	Notes from lectures and materials distributed during the course.
Repository	Teaching materials will be available on the Teams class: w57re8n
Assessment	
Assessment methods	<p>For students enrolled in the year of the course in which C.I. Laboratory of Environmental Monitoring and Surveying is conducted, there is an exemption test related to the activities conducted.</p> <p>The exoneration, which takes place on the dates published in the midterm assessment test diary, consists of an oral test on the practical activities of all three modules conducted in the first half of the integrated course. The oral exoneration test is considered passed if evaluated with a minimum average grade of 18/30.</p> <p>The outcome of this test contributes to the evaluation of the final oral examination.</p> <p>For those students who are successful in the oral exoneration test, the final oral examination will be based solely on the activities conducted after the exoneration break.</p>

Assessment criteria	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ Knowledge of the main morphological and reproductive characters of algae, fungi, lichens, bryophytes, pteridophytes and spermatophytes; ○ Ability to evaluate the relationships between plant diversity and environmental characteristics. • <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ Critical ability and level of individual reworking. Ownership of language. • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Ability to describe and characterize the main representative families of wild flora; ○ Ability to identify the taxonomic categories of major forest and urban species of interest. • <i>Communication skills</i> <ul style="list-style-type: none"> ○ Knows how to apply the knowledge acquired during the course to the area. • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ Can describe, comprehensively and in appropriate scientific language, the systematic characteristics of the main species of the Italian flora.
Final exam and grading criteria	<p>The single, comprehensive and collegial profit examination for C.I. Laboratory of Environmental Monitoring and Surveying consists of an oral test on the topics developed during the hours of practical activities of all three modules of the integrated course. Only the successful completion of the oral test will result in the final assessment of the examination, which will be expressed as the arithmetic mean of the oral tests of the three modules.</p> <p>The final assessment is expressed in thirtieths, as stated in the Teaching Regulations of the Degree Course in Agricultural Science and Technology (Art. 9) and in the study plan (Annex A).</p> <p>The final exam grade will be expressed as the arithmetic mean of all the tests taken on the three modules (exemption and final exam). The test is passed with a minimum average grade of 18/30.</p>
Further information	
	<ul style="list-style-type: none"> ○ The exemption test is valid until the close of the last examination session of that academic year, is not mandatory and failure to pass it does not affect the conduct of the final examination.