

Optional course – main information	
Academic subject	Plant Molecular Phylogeny
ECTS credits (CFU)	4
Compulsory attendance	
Teaching language	Italian
Accademic Year	2019/2020

Professor/Lecturer	
Name & SURNAME	Fabrizio Grassi
email	fabrizio.grassi@uniba.it
Tel.	
Tutorial time/day	Wednesday (by appointment)

Course details	Pass-fail exam/Exam with mark out of 30	SSD code	Type of class
	Exam with mark out of 30	Bio/01	Lecture/workshop

Teaching schedule	Semester	day and time	room
	I	Tuesday and Wednesday (14-16)	

Lesson type	CFU/ECTS	Lessons (hours)	CFU/ECTS lab	Lab hours	CFU/ECTS tutorial/workshop	Tutorial/workshop hours	CFU/ECTS field trip	Field trip Hours
	4	32						

Time management	Total hours	Teaching hours	Self-study hours
			32

Academic Calendar	First lesson	Final lesson
	15/10/2019	17/12/2019

Syllabus	
Course entry requirements	Fundamentals of plant biology
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)	
<i>Knowledge and understanding</i>	To acquire further knowledge in plant phylogeny and methods to construct phylogenetic trees
<i>Applying knowledge and understanding</i>	The student should be able to describe and apply the most suitable methods for the study of plant phylogeny
<i>Making informed judgements and choices</i>	Acquisition of autonomy in the evaluation and interpretation of the scientific literature
<i>Communicating knowledge and understanding</i>	To describe the phylogenetic relationships between the main taxonomic groups using a correct scientific terminology
<i>Capacities to continue learning</i>	Some scientific papers will be commented and critically analyzed to assess the progressive level of learning.

Syllabus	
Course content	Introduction to the plant phylogeny. The origins of the phylogeny and description of the main applications. Cladistics vs. Phenetics. Description of the main methods for the construction of phylogenetic trees. Description and use of the Maximum Parsimony method and probabilistic methods. Nuclear and plastid DNA, and genes of interest for the molecular phylogeny. Origin of Bryophytes, Tracheophytes and

	Spermatophytes. Evolution of the morphological and molecular traits. Origin and diversification of Angiosperms. Morphological and molecular evidence to support the main monophyletic groups. Basal angiosperms and paleoherbs. The molecular clock. The use of fossils to define the times of speciation. Polyploidy in the evolution of plants. Domestication of plants. The use of molecular markers to distinguish related species and critical groups. Resolution of taxonomic problems through the analysis of morphological and molecular traits. Description of some software for phylogenetic analysis.
Course books/Bibliography	Judd, Plant Systematics: A Phylogenetic Approach, Sinauer Associate
Notes	During the course students will be provided with further bibliographical references.
Teaching methods	Lectures, Power Point, software and database
Assessment methods (indicate at least the type written, oral, other)	Oral examination.
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)	<ul style="list-style-type: none"> -Acquisition of phylogenetic concepts and description of relationships between principal taxonomic groups. - Ability to describe phylogenetic trees and correct use of scientific language. - Ability to describe and apply principal phylogenetic methods. - Capacity to resolve basic phylogenetic problems.
Further information	