Main course information	
Academic subject	Botany, i. c.
Degree course	Biology
Degree class	L-13
ECTS credits (CFU)	7 (6.5CFU Lectures + 0.5CFU workshop)
Compulsory attendance	Yes
Teaching language	Italian
Accademic Year	2019/2020

Professor/Lecturer	
Name & SURNAME	Linda Mastropasqua
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Tel.	080-5443556
Tutorial time/day	on appointment by e-mail

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	Year	Semester
	II	I

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
	6,5	52	0,5	6	0	0	0	0

Time management	Total hours	Teaching hours	Self-study hours
	175	58	117

Academic Calendar	First lesson	Final lesson

Syllabus	
Course entry requirements	Knowledge of general cytology and of the basics of chemistry and physics
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)	
Knowledge and understanding	To acquire knowledge in the botanical field regarding morphology and functionalities of plant organs and structures. To understand and interpret the biological and reproductive phenomena of the plant cell and organism
Applying knowledge and understanding	Learning methodologies and techniques that, with the use of scientific instruments and acquired information, can allow the recognition of plant cells, tissues and organs, correlating morphology to function.
Making informed judgements and choices	Autonomy in evaluating and interpreting the direct observation of plant tissues and cells in the light of the theoretical study.
Communicating knowledge and understanding	Acquisition of the appropriate vocabulary and terminology related to the discipline.
Capacities to continue learning	Capacity of depth-study of the topics through the use of texts and literature searches

Sylabus	
Course content	**Botany and the study of plants.** Evolution of cells and organisms. **The Plant Cell**. Organization, growth and development of plant cells. Types of cell division and cell growth by expansion. Cell wall: genesis and differentiation, polymeric

	composition; processes of lignification, suberification, cutinization. Plastids: morphology, function and mode of development; interconversion of plastids. Vacuolar system: genesis and differentiation, chemical composition of vacuolar juice, physiological importance of the vacuole in plant-environment relationships. **Vascular terrestrial plants**. Meristematic tissues. Adult tissues: tegumental, parenchymatic, mechanical, conductive, secretory. **The root**: types of root systems, anatomy, organization of the root apex, area of primary structure. Development of cambium in the roots. Emission of lateral roots. **The stem**. Morphology and functions. Stem anatomy: meristematic zone and organization of the bud's apex; area of primary structure. Vascular cambium and secondary structure, homoxyl and eteroxyl wood. Stem modifications. **The leaf**: genesis of leaves, structure of leaf lamina in Angiosperms and Gymnosperms. Leaves functions and modifications. **Reproduction and development in Spermatophytes**. The ontogenetic cycle. The biological bases of vegetative reproduction. Vegetative propagation structures. In vitro cultures. Micropropagation. Sexual reproduction in Angiosperms. Flowers and the inflorescences. Sporogenesis. Development of male and female gametophytes. Pollination, fertilization, fruit formation and dissemination. **The seed**. Structure, seed reserve compounds. Phases of germination: events and morphological aspects. Hypogeal and epigeal seeds. Some of the most important plants from an economic point of view
Course books/Bibliography	Pasqua; Abbate; Forni - Botanica generale e diversità vegetale – Piccin. Speranza,Calzoni - Struttura delle piante in immagini – Zanichelli. R.F. Evert, S.E. Eichhorn – La Biologia delle Piante di Raven- VII ed. Zanichelli. - Speranza. G.L.
Notes	
Teaching methods	Lectures with the use of PowerPoint slides and laboratory activities
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	The evaluation will consider student's ability to demonstrate good knowledge of the subject, clarity, use of appropriate scientific terminology and ability to make connections between different topics of the syllabus.
Further information	