

General Information	
Academic subject	Food edible plant biology (I.C. Basic principles of plant and animal biology)
Degree course	Bachelor programme: Food Science and Technology
ECTS credits	6 ECTS
Compulsory attendance	No
Teaching language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Alessandra Di Franco	alessandrarosari.difranco@uniba.it	BIO/04

ECTS credits details	
Basic teaching activities	4 ECTS Lectures 2 ECTS Laboratory classes

Class schedule	
Period	II semester
Course year	First
Type of class	Lecture - workshops

Time management	
Hours	150
In-class study hours	60
Out-of-class study hours	90

Academic calendar	
Class begins	March 4 th , 2019
Class ends	June 14 th , 2019

Syllabus	
Prerequisites/requirements	Knowledge of general biology.
Expected learning outcomes	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Adequate basic knowledge for understanding the basic aspects of plant biology <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Capacity to distinguish, through scientific observations, plant components, in the field of processing, storage, distribution and marketing of food and beverages <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ○ Ability to understand the morphological and physiological organization of plants of food interest ○ Ability to acquire the necessary necessary information on their growth and reproductive mechanisms to evaluate their implications in a production context <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Ability to to communicate effectively the biological and reproductive mechanisms underlying the development of plants of food interest <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ○ Ability to deepen and update their knowledge of plant biology of food interest even with tools that make use of new technologies of communication and information technology <p>The expected learning outcomes, in terms of both knowledge and skills, are provided in Annex A of the Academic Regulations of the Degree in Food Science and Technology (expressed through the European Descriptors of the qualification)</p>

Contents	<p>Chemical composition of food plant: short account for main organic molecules in food plants</p> <p>Ultrastructural organization of plant cell: function of the individual cell organelles</p> <p>Cell division: mitosis and meiosis.</p> <p>Structure, morphology and anatomy of Spermatophyta: seed structure and germination, classification, structure and function of plant tissues; morphology, anatomy and use of roots stems and leaves as foodstuffs.</p> <p>Reproduction in Angiosperms (Magnoliophyta): plant life cycle, general characteristics of sexual and asexual reproduction (photoperiod influence on blossoming, flower structure, anthesis and pollination, fecundation and parthenocarpy, fruit classification ripening and abscission)</p> <p>Plant Biodiversity and Taxonomy: phylogenetic relationships among organisms of plant kingdom. General characteristics of Spermatophyta; leaf, flower and fruit morphology in Angiosperm. Taxonomic allocation and morphological characteristics of major plant families of alimentary interest: Leguminosae, Cucurbitaceae, Solanaceae, Compositae, Cruciferae, Umbelliflorae, Labiatae, Rosaceae, Rutaceae, Oleaceae, Gramineae, Liliaceae, Iridaceae.</p>
Course program	
Reference books	<ul style="list-style-type: none"> • Notes of the lectures distributed during the course • Neil A. Campbell, Jane B. Reece Biology.Sixth Edition. Pearson Education Inc. publishing as Benjamin Cummings • Cronquist A. An integrated System of Classification of Flowering Plants. Columbia University Press, New York. <p>Study schemes:</p> <ul style="list-style-type: none"> • presentations and other didactic material provided during the lessons <p>Additional readings:</p> <ul style="list-style-type: none"> • Taiz L. Zeiger E. Plant Physiology. Fourth Edition. Sinauer Associates Inc. • Mauseth J.D. Plant Anatomy. Benjamin Cummings Publ. Co.Inc. Menlo Park California • Judd, Campbell, Kellogg, Stevens. Plant Systematics. A Phylogenetic Approach Sinauer Associates, Inc. Publishers Sunderland Massachusetts U.S.A. • Langenheim J.H. and Thimann K.V. Botany – Plant biology and its relation to human affairs. JOHN WILEY AND SON.1982 • Wickens G.E., Economy botany - Principles and practices. Kluwer Academy Publishers, 2001 <p>For foreign students (LLP-Erasmus, Tempus, etc.):</p> <ul style="list-style-type: none"> • Neil A. Campbell, Jane B. Reece Biology.Sixth Edition. Pearson Education Inc. publishing as Benjamin Cummings • Cronquist A. An integrated System of Classification of Flowering Plants. Columbia University Press, New York.
Notes	
Teaching methods	<p>The subjects will be provided with several examples and illustrations by means of Power Point presentations, movies, practical drills in the classroom</p> <p>Students could get a copy of all presentations utilized for lectures, including also those eventually needed for the practical activities,</p>

	<p>downloading them through the repository at the ATutor digital platform on the website http://tempus-it.agrif.bg.ac.rs/login.php. Through the ATutor digital platform, students can have access to evaluation tests by means of which they can test their level of learning and knowledge. On the same site, students can use the "Forum" function in order to interact among them and with the teacher.</p>
Evaluation methods	<p>The exam consists of a written and oral dissertation on the topics developed during the theoretical and theoretical-practical lectures in the classroom and in the laboratory/production plants, as reported in the Academic Regulations for the Bachelor Degree in Food Science and Technology (article 9) and in the study plan (Annex A). Students attending at the lectures may have a middle-term preliminary exam, consisting of a written test, relative to the first part of the program, which will concur to the final evaluation and will be considered valid for a year. The evaluation of the preparation of the student occurs on the basis of established criteria, as detailed in Annex B of the Academic Regulations for the Bachelor Degree in Food Science and Technology.</p> <p>Non-Italian students may be examined in English language, according to the aforesaid procedures.</p>
Evaluation criteria	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describe the basic morphological, physiological and reproductive characteristics of plant organisms and to understand the functional relationships <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Apply basic knowledge acquired to plants of food interest and to their products used for food and food industries <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ○ Introduce reasonable hypotheses to address factors that may affect the development and productivity of plants of food interest in a productive and market context related to food production. <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describe and illustrate comprehensively, with the appropriateness of language, with a wealth of examples and links the basic aspects that characterize the success of plants of food interest <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ○ Ability to deepen and update their knowledge of the morphological and functional organization of plants of food interest and the physiological and reproductive mechanisms developed by them
Receiving times	<p>Visiting hours: Monday-Friday 11.30-13.30 Additional information on specific topics may be requested at the following e-mail address: alessandrarosari.difranco@uniba.it</p>