

General Information	
Academic subject	Principles of biochemistry (I. C.: Principle of vegetable physiology, genetics and biochemistry)
Degree course	Bachelor programme: Food Science and Technology
ECTS credits	3 ECTS
Compulsory attendance	No
Teaching language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Maria Rosaria Provenzano	mariarosaria.provenzano@uniba.it	AGR/13

ECTS credits details		
Basic teaching activities	2 ECTS Lectures	1 Laboratory classes

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

Time management	
Hours	75
In-class study hours	30
Out-of-class study hours	45

Academic calendar	
Class begins	March 1 st , 2021
Class ends	June 22 th , 2021

Syllabus	
Prerequisites/requirements	Knowledge of chemical and physico-chemical basic concepts
Expected learning outcomes	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ The basic knowledge of structure and properties of the molecules that make up living organisms <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Capacity to utilize basic biochemistry notions to understand to transformation of biomolecules and energy in the metabolisms of food biochemistry <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ○ Awareness and autonomy of judgment to use the knowledge in the subsequent courses <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Ability to describe the constituents of living matter and biochemical phenomena related <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ○ Ability to deepen and update the knowledge about the biochemical processes <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	Structures and function of the biological macromolecules. Bioenergetics and enzymatic kinetics, ATP cycle. Structure and functions of membranes and cell wall. Principles of spectrophotometry and application to the enzymatic

	activity measure
Course program	
Reference books	<ul style="list-style-type: none"> • Notes of the lectures distributed during the course. • Nelson D. e Cox M.M.: <i>I principi della biochimica di Lehninger</i>, 2014, Zanichelli, Bologna. • For foreign students (LLP-Erasmus, Tempus, ecc.) text book in english language is: • D.L. Nelson, M.M. Cox: <i>Lehninger principles of biochemistry</i>, 4th edition Freeman and Company, New York and Basingstoke
Notes	
Teaching methods	Course contents will be presented through PC assisted tools (Powerpoint).
Evaluation methods	<p>The exam consists of an 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).</p> <p>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.</p> <p>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 structure and function of biomolecules in animal and plant systems <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describe the importance of biochemical studies to understand the bioenergetic and enzymatic catalysis <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ○ Capacity to understand the importance of the structures and functions of biomolecules in living cells <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Capacity to describe structures and functions of biological macromolecules; bioenergetics and enzymatic catalysis; structure and function of membranes <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ○ Capacity to deepen and update the knowledge about the biochemical processes
Receiving times	All afternoons previous telephonic or E-mail appointment