

Main course information	
Academic subject	Environmental biochemistry
Degree course	Environmental Biology
Degree class	LM/6
ECTS credits (CFU)	5
Compulsory attendance	yes
Teaching language	Italian
Accademic Year	2020/2021

Professor/Lecturer	
Name & SURNAME	Paola Anna Maria Loguercio Polosa
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Tel.	080-5443310
Tutorial time/day	Every day, to be agreed with the teacher

Course details	Pass-fail exam/Exam with mark out of 30	SSD code	Type of class
	Yes		BIO10

Teaching schedule	Year	Semester
	I	II

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
		4.5	36	0,5	6	0	0	0

Time management	Total hours	Teaching hours	Self-study hours
	125	42	83

Academic Calendar	First lesson	Final lesson

Syllabus	
Course entry requirements	Knowledge of general, inorganic and organic chemistry, biochemistry and molecular 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>	Acquisition of advanced theoretical and practical knowledge of biochemistry related to the biotic component of an ecosystem, and of modern study methods, thanks to the frequency of lectures and exercises.
<i>Applying knowledge and understanding</i>	Expert adoption of biochemical and biomolecular methodologies and application of broad-spectrum methodological and instrumental procedures for the analysis of environmental pollutants and for biochemical research
<i>Making informed judgements and choices</i>	Acquisition of autonomy in areas related to the evaluation and interpretation of experimental data and in the application of techniques for the study of environmental biochemistry.
<i>Communicating knowledge and understanding</i>	Acquisition of the appropriate vocabulary and terminology in order to understand and clearly communicate the contents of the discipline.
<i>Capacities to continue learning</i>	Acquisition of the abilities that favor the development, deepening and constant updating of biochemical knowledge in relation to the surrounding environment, with particular reference to the consultation of bibliographic material and databases.

## Syllabus

Course content	<p>The biochemistry of nitrogen organization.</p> <p>The production of partially reduced oxygen species; oxidative stress and cellular defense systems.</p> <p>The metabolism of exogenous substances.</p> <p>Protein purification. Quantitation of substances and enzymes with enzymatic assays</p>
Course books/Bibliography	<p>I principi di Biochimica di Lehninger, Nelson e Cox, Zanichelli.</p> <p>Introduzione alla biochimica di Lehninger (sesta edizione), Nelson e Cox, Zanichelli</p> <p>Metodologia biochimica, a cura di K. Wilson e J. Walker, Raffaello Cortina editore</p>
Notes	<p>Integrate with lesson notes.</p> <p>Images of PowerPoint slides projected during the lessons are available</p>
Teaching methods	Frontal lessons with the use of the computer (PowerPoint slides) and the blackboard
Assessment methods (indicate at least the type written, oral, other)	Oral interview. Since the course refers to biochemical reactions and metabolic patterns, recourse to writing is also required where appropriate.
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 critical acquisition of the contents of the lessons, the ability to integrate this knowledge with that of the other biological disciplines and the clarity of the exposition are evaluated. Particular importance is given to the student's ability not to stop at the notion but to grasp the meaning of the disciplinary contents so that the study becomes the occasion to increase the knowledge and the culture proper to the subject in question.
Further information	