

Main course information	
Academic subject	Structural Biochemistry and Proteomics
Degree course	Cellular and Molecular Biology
Degree class	LM/6
ECTS credits (CFU)	8
Compulsory attendance	Si
Teaching language	italian
Accademic Year	2019/2020

Professor/Lecturer	
Name & SURNAME	Paola Anna Maria Loguercio Polosa
email	paolaannamaria.loguerciopolosa@uniba.it
Tel.	080-5443310
Tutorial time/day	Every day, agree with the teacher

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

Teaching schedule	Year	Semester
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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
	7	56	1	12	0	0	0	0

Time management	Total hours	Teaching hours	Self-study hours
	200	68	132

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 knowledge and practices of proteomics, with particular reference to modern study methods, thanks to the frequency of lectures and exercises.
<i>Applying knowledge and understanding</i>	Application of broad-spectrum methodologies for biochemistry 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 biochemistry.
<i>Communicating knowledge and understanding</i>	Acquisition of the vocabulary and terminology of biochemistry 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, with particular reference to the consultation of bibliographic material, databases and other information available in the web.

Syllabus	
Course content	The hierarchical structure of proteins The molecular dynamics of proteins: Folding, misfolding and amyloid pathologies

	<p>(amyloidosis)</p> <p>The co- and post-biosynthetic modifications of proteins and some related human diseases. The cellular interactome. Strategies and methodologies in proteome resolution and interactome. Mass spectrometry. Affinity purifications. Proximity labeling. Biophysical methods for the study of the 3D structure of proteins. Elements of protein engineering. Protein redesign (how to improve existing proteins)</p>
Course books/Bibliography	<p>Introduzione allo studio delle proteine, Marcello Duranti, Zanichelli. Introduzione alla biochimica di Lehninger (sesta edizione), Nelson e Cox, Zanichelli Metodologia biochimica, a cura di K. Wilson e J. Walker, Raffaello Cortina editore</p>
Notes	<p>Integrate with lesson notes. Images of PowerPoint slides projected during the lessons are available</p>
Teaching methods	<p>Frontal lessons with the use of the computer (PowerPoint slides) and the blackboard</p>
Assessment methods (indicate at least the type written, oral, other)	<p>Oral interview. Since the course refers to biochemical reactions and metabolic patterns, recourse to writing is also required where appropriate.</p>
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)	<p>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.</p>
Further information	