



POLYMERS FOR BIOTECHNOLOGY

Enrollment year	2020/2021
Academic year	2021/2022
Regulations	DM270
Academic discipline	CHIM/06 (ORGANIC CHEMISTRY)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	ADVANCED BIOTECHNOLOGY
Curriculum	PERCORSO COMUNE
Year of study	2°
Period	1st semester (01/10/2021 - 14/01/2022)
ECTS	6
Lesson hours	48 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	PASINI DARIO (titolare) - 6 ECTS
Prerequisites	None at the MSc level
Learning outcomes	The course aims at introducing the students to the chemistry of macromolecules, and to deal with advanced aspects, regarding both synthesis and applications, of natural and artificial macromolecules, particularly as nanostructured materials for biotechnologies.
Course contents	The course will initially focus on the classification and presentation of the different classes of macromolecules, and on the differences between the main polymerization methods (polycondensation and polyaddition). The main methods of analysis and characterization of polymers will be discussed. The main techniques for controlled polymerization will be also presented, with focus on controlled free radical polymerization. Modern bioconjugation strategies for the formation of polymer/protein hybrids for biotechnological applications

	will be presented. The chemical derivatization of microbial polymers for biomedical applications will be discussed.
Teaching methods	Lectures
Reccomended or required readings	Slides and other didactic material presented at letctures
Assessment methods	ORal exam
Further information	
Sustainable development goals - Agenda 2030	<p>The program deals with topics related to two of the goals of the 2030 agenda on sustainability:</p> <p>GOAL 7: AFFORDABLE AND CLEAN ENERGY</p> <p>GOAL 12: RESPONSIBLE CONSUMPTION AND PRODUCTION</p> <p>\$bl legenda sviluppo sostenibile</p>