



# UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

## MICROBIOLOGY

Enrollment year	2020/2021
Academic year	2021/2022
Regulations	DM270
Academic discipline	BIO/19 (GENERAL MICROBIOLOGY)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	BIOLOGICAL SCIENCES
Curriculum	PERCORSO COMUNE
Year of study	2°
Period	2nd semester (01/03/2022 - 14/06/2022)
ECTS	9
Lesson hours	72 lesson hours
Language	Italian
Activity type	WRITTEN TEST
Teacher	DE ROSSI EDDA (titolare) - 9 ECTS
Prerequisites	Basic knowledge of Biochemistry and Genetics
Learning outcomes	<p>To offer basic knowledges of the microbial world necessary to study several aspects of applied microbiology in other courses. In particular, to offer knowledge and skills in areas of structure, physiology, biochemistry, genetics, metabolic strategies and ecology of microorganisms.</p> <p>Some of the topics covered in the course are in line with the UN 2030 Agenda for sustainable development - Objective 3. Ensuring health and well-being for all and for all ages.</p>
Course contents	The history and scope of Microbiology. Prokaryotic cell structure and function. The study of microbial structure: microscopy and specimen preparation. Microbial nutrition, growth and control. Microbial metabolism: energy, enzymes and regulation; energy release and

	<p>conservation; fermentation, aerobic and anaerobic respiration, bacterial photosynthesis. Microbial molecular biology and genetics: gene expression and regulation; microbial recombination and transduction; plasmids. The viruses: introduction and general characteristics; bacteriophages; viruses of eukaryotes. Control of microorganisms: sterilization and disinfection; antimicrobial chemotherapy. Microbial taxonomy. The most important prokaryotic groups. The Archaea. Some of the topics covered in the course are in line with the UN 2030 Agenda for sustainable development - Objective 3. Ensuring health and well-being for all and for all ages.</p>
<b>Teaching methods</b>	Lectures
<b>Reccomended or required readings</b>	<p>- Dehò G, Galli E - Biologia dei microrganismi - Casa Editrice Ambrosiana, 2014, 2018</p> <p>- Madigan MT, Martinko JM, DA Stahl, DP Clark - Brock Biologia dei Microrganismi – vol. 1 Microbiologia generale. Pearson Italia, 2012.</p>
<b>Assessment methods</b>	Written examination
<b>Further information</b>	Written examination
<b>Sustainable development goals - Agenda 2030</b>	<a href="#">\$lbl legenda sviluppo sostenibile</a>