

Master's degree in **Biology of Extreme Environment** A.Y. 2025/2026

Curriculum “Biological Resources “				Curriculum “Astrobiology”			
FIRST YEAR SCHEDULE				FIRST YEAR SCHEDULE			
1 st semester				1 st semester			
Course	CFU	Scientific-disciplinary sector	Lecturer	Course	CFU	Scientific-disciplinary sector	Lecturer
Introduction to Earth System Sciences	6	GEO/02	Mariano Parente	Introduction to Earth System Sciences	6	GEO/02	Mariano Parente
Microbiology of extreme environments	8	BIO/19	Donato Giovannelli	Microbiology of extreme environments	8	BIO/19	Donato Giovannelli
Biodiversity and primary productivity in extreme environments	6	BIO/01	Antonino Pollio	Extreme environments: Earth and Space	6	BIO/07	Carmen Arena
Chemistry of Biopolymers and metabolites from Extreme Environments	6	CHIM/06	Michela Corsaro	Astrochemistry and prebiotic process	6	CHEM/06	Paola Manini
2 nd semester				2 nd semester			
Course	CFU	Scientific-disciplinary sector	Lecturer	Course	CFU	Scientific-disciplinary sector	Lecturer
Biochemistry and molecular adaptation to extreme environments	8	BIO/10	Marco Moracci	Biochemistry and molecular adaptation to extreme environments	8	BIO/10	Marco Moracci
Ecology of extreme environments	6	BIO/07	Francesco Bolinesi	Astrobotany	6	BIO/03	Valeria Spagnuolo
Applied microbiology of extremophiles	6	BIO/19	Angelina Cordone	Physiology and Nutrition in Space Conditions	6	BIO/09	Arianna Mazzoli
Optional course	6			Optional course	6		
Total CFU first year	52			Total CFU first year	52		

SECOND YEAR SCHEDULE				SECOND YEAR SCHEDULE			
1 st semester				1 st semester			
Course	CFU	Scientific-disciplinary sector	Lecturer	Course	CFU	Scientific-disciplinary sector	Lecturer
Discovery and applications of extremophilic enzymes	6	BIO/10	Andrea Strazzulli	Microbial metabolism and planetary habitability	6	BIO/19	Donato Giovannelli
Extreme Environments and Public Health	6	MED/42	Giovanni Libralato	Emergence of life and exobiology	6	BIO/10	Patrizia Contursi
Omics data analysis	6	BIO/18	Giovanni Scala	Omics data analysis	6	BIO/18	Giovanni Scala
Optional course	6			Optional course	6		
2 nd semester				2 nd semester			
	CFU	Scientific-disciplinary sector	Lecturer		CFU	Scientific-disciplinary sector	Lecturer
Thesis	38			Thesis	38		
Other activity / Italian language (for international student)	6			Other activity / Italian language (for international student)	6		
Total CFU second year	68			Total CFU second year	68		

Optional Courses:

- **Astrophysics of life – SSD FIS/05 – 6 CFU – I sem – prof. Giovanni Covone**
- **Advanced methodologies for biosignature detection and analysis in space environment – SSD CHIM/06 - 6 CFU – II sem– prof.ssa Maria Laura Alfieri**