

Curriculum for the award of the Degree of

Master of Science in Environmental Biology

options:

- **Ecology & Evolution**
- **Plant & Microbial Sciences**
- **Applied Environmental Biology**
- **Teaching**

Provisional

Summary table of the courses.

EE = Ecology & Evolution

PMS = Plant & Microbial Sciences

AEB = Applied Environmental Biology

TE = Teaching

The courses are O (obligatory), R (recommended), E (elective), - not possible

The biennial courses are paired: biennial AX with biennial BX

biennial AX: given for the 1st time during the academic year 2021/2022 and then every two years

biennial BX: given for the 1st time during the academic year 2022/2023 and then every two years

Code	Type	Title of the teaching unit	ECTS	EE	PMS	AEB	TE	Semester	Annual/ Biennial	Prerequisite
Research skills										
<i>Statistics and modelling</i>										
SBL.00501	lecture with exercises	Introduction to data analysis	1	O	O	O	O	Autumn	annual	
SBL.20001	lecture with exercises	Biostatistics I - generalized linear models and mixed effects models	3	O/R	R	O/R	R	Autumn	biennial A1	
SBL.20002	lecture with exercises	Biostatistics II - multivariate analysis	3	O/R	R	O/R	R	Autumn	biennial B1	
SBL.00427	lecture	Visual communication of data	1	R	R	R	R	Autumn	annual	
SBL.06002	lecture	Classical models in biology (lecture)	3	O	R	R	R	Spring	annual	
SBL.06003	exercises	Classical models in biology (exercises)	1	O	R	R	R	Spring	annual	
<i>Experimental</i>										
SBL.20003	practical	Methods in plant pathogen interactions	4	E	O	R	E	Spring	annual	
SBL.20004	lecture with practical	Introduction to metabolomics: data acquisition and processing	2	E	O	R	E	Autumn	annual	
SBL.00125	lecture	Light and fluorescence microscopy for Life Sciences	3	E	O	R	R	Autumn	annual	
SBL.00419	lecture	Advanced imaging	1	E	R	E	E	Spring	annual	SBL.00125
SBL.00451	practical	Introduction to mass spectrometry and proteomics	1	E	O	E	E	Autumn	annual	
SBL.00452	practical	Advanced quantitative proteomics	1	E	R	E	E	Spring	annual	SBL.00451
<i>Bioinformatics</i>										
SBL.30001	lecture with exercises	Introduction to R	2	O	O	O	O	Autumn	annual	
SBC.07110	lecture with exercises	Introduction to UNIX and BASH	2.5	R	R	R	E	Autumn	annual	
SBC.07107	practical	Bioinformatics (practical + in silico)	3	R	R	R	E	Autumn	annual	SBC.07110
SBL.00425	lecture with exercises	Metagenomics data analysis	1	E	R	R	E	Spring	annual	SBC.07110
<i>Soft skills</i>										
SBL.20005	seminar	Critical reading	3	O	O	O	O	All	biennial A2	
SBL.00410	lecture with exercises	Scientific writing	3	O	O	O	O	Autumn	biennial B2	

Curriculum of the Master of Science in Environmental Biology

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Scientific core courses										
<i>Ecology & Evolution</i>										
SBL.20031	lecture	Community ecology	3	O	E	R	R	Spring	biennial A3	
SBL.20032	lecture	Population ecology and evolutionary dynamics	3	O	E	E	E	Spring	biennial B3	
SBL.20033	lecture	Phylogenetics and comparative methods	3	R	E	E	E	Spring	annual	
SBL.20034	lecture	Evolutionary and ecological genomics	3	O	E	E	E	Spring	annual	
SBL.00417	lecture	Evolution on the bench	1	R	R	E	E	Spring	annual	
SBL.20040	internship	Evolution workshop in Guarda	3	E	E	E	E	Summer	annual	
SBL.00205	practical with excursion	Ecological field course	5	O	E	O	R	Summer	annual	
XAF.00001	internship	Tropical Biology Association (TBA) field course	10	E	E	E	E	Summer	annual	
<i>Plant & Microbial Sciences</i>										
SBL.20035	lecture	Structure and functions of host-associated microbiota	3	E	O	R	O / R	Spring	annual	
SBL.00323	lecture	Plant biotechnology	3	E	O	R	O / R	Spring	biennial B6	
SBL.00308	lecture	Plant development: the life of a sessile organism	1.5	E	O	R	E	Spring	biennial A6.1	
SBL.00307	lecture	Symbiosis: how plants and microbes communicate	1.5	E	O	R	E	Spring	biennial A6.2	
SBL.00418	lecture	Microbial metabolism and genetics	1	E	R	E	E	Spring	Annual	
SBL.20039	lecture	In vivo biochemistry: visualization of transport	1.5	E	R	E	E	Autumn	annual	
SBL.00411	lecture	Signalling and Transport	1	E	R	E	E	Autumn	annual	
<i>Applied Environmental Biology</i>										
SBL.20036	lecture	Global change	3	R	R	O	O	Autumn	biennial B5	
SBL.20037	lecture	Invasion biology	3	R	E	O	R	Autumn	biennial A5	
SSE.00433	lecture	Principles of environmental ethics (advanced)	3	R	R	O	O	Autumn	annual	
SSE.00444	seminar	Issues of sustainable development (advanced)	3	R	R	O	R	Spring	annual	
SBL.20038	internship	Research internship	4	R	R	R	-	Summer	annual	
Master thesis related activities										
SBL.20083	seminar	Research group meetings in Environmental Biology (4 sem.)	3	O	O	O	-	All	annual	
SBL.20084	seminar	Research group meetings in Environmental Biology (3 sem.)	2	-	-	-	O	All	annual	
SBL.00431	seminar	Seminars in Biology (4 sem.)	2	O	O	O	-	All	annual	
SBL.00432	seminar	Seminars in Biology (3 sem.)	1.5	-	-	-	O	All	annual	
SBL.20081	seminar	Research Seminars in Environmental Biology (4 sem.)	5	O	O	O	-	All	annual	
SBL.20082	seminar	Research Seminars in Environmental Biology (3 sem.)	4	-	-	-	O	All	annual	
Master Thesis										
SBL.05001	master work	Master Thesis (4 sem)	60	O	O	O	-			
SBL.05002	master work	Master Thesis (3 sem)	45	-	-	-	O			