Faculty of ENVIRONMENTAL ENGINEERING AND FOOD SCIENCE
Domain: Environmental Engineering
Study program: Systems of Control and Evaluation of Environmental Quality
Duration of studies: 2 years
Education form: continuous (M.Sc.)
Code: FMA-MIM

MASTER Programme Syllabus - Systems of Control and Evaluation of Environmental Quality

First year
Semester 1

ode	Discipline	No. of hours				Evaluation form E/C/P*	ECTS (credits)
		Course	Seminary	Applications	Project		
MIM1BS01	***Bioremediation*** The discipline provides the knowledge of the main features of the biosystems used in clean environmental biotechnologies, the types of clean biotechnologies and the conditions of implementation, study of the advantages and disadvantages of each bioremediation activity.	1	-	1	-	E	3
MIM1BS02	***Global Climate Changes and the Impact on the Ecosystems*** The discipline provides information regarding the ecological concept to think and act in order to achieve the ecological equilibrium between the ecosphere and the anthropic activities knowing the meteorological processes.	1	1	-	-	C	3
MIM1BA03	***Air Pollution Control and Prevention*** The mission of the discipline is to assimilate the knowledge about atmospheric monitoring and modelling techniques and technologies applied in regional and local air quality surveillance and forecasting	2	1	-	-	E	4
MIM1BA04	***Biodiversity of Anthropic Ecosystems*** The content of the discipline is meant to explain and interpret various types of concepts, situations, processes, projects, etc. in the field of biodiversity conservation of anthropogenic and natural ecosystems	1	-	2	-	C	4
MIM1BC05	***Ethics and academic integrity***	1	1	-	-	C	4
MIM1BC06	***Scientific Research and Practice 1 (partial assisted)***	-	-	-	-	C	10
MIM1OA07/08	***Biological Methods for Evaluating the State of Environment/ Physicochemical Methods for Evaluating the State of Environment (optional)***	1	-	1	-	E	3

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First year

Semester 2

Code	Discipline	No. of hours				Evaluation form E/C/P*	ECTS (credits)
		Course	Seminary	Applications	Project		
MIM1BS09	***Advanced Systems for Environmental Monitoring*** The discipline aims the assimilation of advanced information solutions for monitoring environmental processes, knowledge of hardware-sensors and dedicated software, collection and processing of data on which environmental indicators are estimated, focusing on the use of hydrological modeling at hydrographic basin level for estimating the water quality on different sections of a river system	1	-	2	-	E	4
MIM1BS10	***Advanced Treating and Recycling Techniques and Methods of Wastes*** The discipline helps the training of graduates able to explain and interpret various types of concepts, processes, techniques associated with the field, as well as the superior recycling of wastes	2	-	1	-	E	4
MIM1BA11	***Transport and Dispersion of Pollutants*** The mission of the discipline is to give the environmental specialist the necessary skills on the mechanisms and processes that lead to the transport and dispersion of pollutants into the air, surface and ground waters, soil and subsoil, as well as modern mathematical methods of simulating the movement of pollutants based on relationships calculus of fluid mechanics	2	1	-	-	E	4
MIM1BA12	***Sustainable Management of Agro-ecosystems*** The content of the discipline takes into account the systematic and managerial approach that allows for optimal strategic and operational decisions, taking into account the aspects that lead to the efficient functioning of an organization, both in terms of quality and environment	2	-	-	1	C	4
MIM1BC13	***Scientific Research and Practice 2 (partial assisted)***	-	-	-	-	C	10
MIM10OA14/OA15	***Ecophysiology/Technics for experimental data processing (optional)***	1	-	1	-	C	4

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MASTER Programme Syllabus

Second year

Semester 1

Code	Discipline	No. of hours				Evaluation form E/C/P*	ECTS (credits)
		Course	Seminary	Applications	Project		
MIM2BA01	***Automatic Control of Wastewater Treatment Processes*** The content is oriented towards knowing the general principles of control of industrial processes and the characteristics of wastewater treatment plants that impose specific considerations in the design of automated control systems due to the complexity of physico-chemical-biological processes.	2	-	1	-	E	4
MIM2BS02	***Advanced Technologies for Decontamination of Polluted Territories*** The discipline leads to the formation of professional skills specific to the advanced technologies for decontamination of soils, subsoil, surface water and groundwater, as well as of flora and fauna specific to a territory that is subject of natural or anthropogenic pollution processes	2	1	-	-	C	4
MIM2BS03	***Methodology of Scientific Research*** refers to the stages of scientific, theoretical and experimental research specific to each research theme, materialized by the knowledge of the current state of research in the field, the collection of basic data or the analyzes performed, the research and/or calculation methods, the interpretation of the results and the final conclusions	2	1	-	-	C	4
MIM2BS04	***Integrated Management Systems (Quality-Environment)*** Utilization of basic knowledge to explain and interpret various types of concepts, processes, techniques associated with the field of the environmental protection management	2	-	1	-	E	4
MIM1BC13	***Scientific Research and Practice 3 (partial assisted)***	-	-	-	-	C	10
MIM2OS05	***Sustainable Management of Forest Ecosystems/Sustainable management of natural resources (optional)*** Knowledge of the main aspect of the phytocoenotic forest system as well as the awareness of the forest polyfunctionality	1	-	1	-	E	4

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Second year

Semester 2

Code	Discipline	No. of hours				Evaluation form E/C/P*	ECTS (credits)
		Course	Seminary	Applications	Project		
MIM2BS08	***Research practice*** scientific, theoretical and experimental research	10 weeks x 9 hours/week = 90 hours				C	10
MIM2BS09	***Practice for the elaboration of dissertation thesis*** scientific, theoretical and experimental research specific to each research theme required for the elaboration of Dissertation Thesis	14 weeks x 5 hours/week = 70 hours				E	10
MIM2BS10	***Preparation of Dissertation Thesis*** For the elaboration of the dissertation thesis, the master students, based on the individual research plan and guided by the scientific coordinators, go through the specific stages of a research work in the complex field of environmental protection.	4 weeks x 9 hours/week = 36 hours				C	10

* E – exam; C – colloquy; P – project.

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