



Ministry of Education  
Federal University of Latin American Integration  
Dean's Office for Undergraduate Studies



**CURRICULUM - BIOLOGICAL SCIENCES - ECOLOGY AND BIODIVERSITY**

COURSE COMPONENT	PREREQUISITE (P) / COREQUISITE (C)	CREDITS	CREDIT HOURS				
			THEORETICAL	PRACTICE	MANDATORY INTERNSHIP	COMMUNITY OUTREACH	TOTAL HOURS
SEMESTER 1							
FUNDAMENTALS OF LATIN AMERICA I	None	4	60				60
ADDITIONAL BASIC PORTUGUESE / SPANISH	None	6	90				90
ELEMENTARY MATHEMATICS	None	4	60				60
GENERAL CHEMISTRY	None	4	60				60
PLANT ANATOMY AND MORPHOLOGY	None	4	30	30			60
WORK OF THE BIOLOGIST	None	1	15				15
INTRODUCTION TO TAXONOMY AND BIOLOGICAL SYSTEMATICS	None	3	45				45
TOTAL NUMBERS IN THE SEMESTER		26	360	30			390
SEMESTER 2							
FUNDAMENTALS OF LATIN AMERICA II	None	4	60				60
INTRODUCTION TO SCIENTIFIC THINKING	None	4	60				60
ADDITIONAL INTERMEDIATE PORTUGUESE / SPANISH I	ADDITIONAL BASIC PORTUGUESE / SPANISH (P)	6	90				90
CELL BIOLOGY	None	6	60	30			90
DIVERSITY OF PROTOZOA AND INTRODUCTION TO METAZOA	None	4	45	15			60
DIVERSITY OF ALGAE AND FUNGI	None	4	30	30			60
TOTAL NUMBERS IN THE SEMESTER		28	345	75			420
SEMESTER 3							
FUNDAMENTALS OF LATIN AMERICA III	FUNDAMENTALS OF LATIN AMERICA I AND II (P)	2	30				30
ETHICS AND SCIENCE	None	4	60				60
BIOCHEMISTRY	GENERAL CHEMISTRY (P)	5	60	15			75
DIVERSITY OF ARCHEGONIATE PLANTS	DIVERSITY OF ALGAE AND FUNGI (P)	3	30	15			45
DIVERSITY OF PROTOSTOMIA	DIV. OF PROTOZOA AND INTRODUCTION TO METAZOA (P)	6	45	45			90
PHYSICS A	None	4	60				60
GENETICS	CELL BIOLOGY (P)	6	60	30			90
TOTAL NUMBERS IN THE SEMESTER		30	345	105			450
SEMESTER 4							
MOLECULAR BIOLOGY	GENETICS (P); BIOCHEMISTRY (P)	4	45	15			60
DIVERSITY OF ANGIOSPERMS	DIVERSITY OF ARCHEGONIATE PLANTS (P)	4	30	30			60
DIVERSITY OF DEUTEROSTOMES	DIV. OF PROTOZOA AND INTRODUCTION TO METAZOA (P)	4	45	15			60
ORGANISM AND POPULATION ECOLOGY	None	4	60				60
ETHNOBIOLOGY	None	2	30				30
EVOLUTION	GENETICS ( P)	6	60	30			90
ENGLISH FOR ACADEMIC PURPOSES I	None	4	60				60
TOTAL NUMBERS IN THE SEMESTER		28	330	90			420
SEMESTER 5							
BIOSTATISTICS	ELEMENTARY MATHEMATICS (P)	4	60				60
BIOETHICS AND BIOSAFETY	ETHICS AND SCIENCE (P)	2	30				30
FIELD ECOLOGY I	ORGANISM AND POPULATION ECOLOGY (P)	4		60			60
ECOLOGY OF COMMUNITIES AND ECOSYSTEMS	ORGANISM AND POPULATION ECOLOGY (P)	4	60				60
GEOLOGY AND PALEONTOLOGY	None	5	45	30		15	75
GEOPROCESSING	None	3	15	30			45
IMMUNOLOGY	CELL BIOLOGY (P)	3	30	15			45
TOTAL NUMBERS IN THE SEMESTER		25	240	135		15	375
SEMESTER 6							
HUMAN AND COMPARATIVE ANATOMY	None	4	15	45			60
BIOPHYSICS	PHYSICS A (P)	4	30	30			60
NUMERICAL ECOLOGY	BIOSTATISTICS (P); ECOLOGY OF COMMUN. AND ECOSYST. (P)	4	45	15			60
ENVIRONMENTAL EDUCATION	None	3		45		45	45
HISTOLOGY OF VERTEBRATES	CELL BIOLOGY (P)	4	45	15			60
MICROBIOLOGY	BIOCHEMISTRY (P); CELL BIOLOGY (P)	5	30	45		15	75
TOTAL NUMBERS IN THE SEMESTER		24	165	195		60	360

SEMESTER 7							
MOLECULAR GENETICS	MOLECULAR BIOLOGY (P)	2	15	15			30
BIODIVERSITY	ECOLOGY OF COMMUNITIES AND ECOSYSTEMS (P)	2	30				30
APPLIED ECOLOGY I	ORGANISM AND POPULATION ECOLOGY (P)	2	30				30
HUMAN AND ANIMAL PHYSIOLOGY	HUMAN AND COMPARATIVE ANATOMY (P)	6	75	15			90
BIOGEOGRAFIA	None	4	45	15			60
GENERAL PARASITOLOGY	DIVERSITY OF PROTOSTOMIA (P)	3	30	15			45
BIODIVERSITY FOR THE COMMUNITY I	DIV. OF PROTOZOA AND INTRODUCTION TO METAZOA (P)	2		30		30	30
MOLECULAR BIOLOGY FOR THE COMMUNITY I	GENETICS (P)	2		30		30	30
<b>TOTAL NUMBERS IN THE SEMESTER</b>		<b>23</b>	<b>225</b>	<b>120</b>		<b>60</b>	<b>345</b>
SEMESTER 8							
FINAL PAPER I	GENETICS (P); ECOL. OF COMMUNITIES AND ECOSYSTEMS (P)	4	60				60
APPLIED ECOLOGY II	ECOLOGY OF COMMUNITIES AND ECOSYSTEMS (P)	2	30				30
FIELD ECOLOGY II	ECOLOGY OF COMMUNITIES AND ECOSYSTEMS (P)	4		60			60
DEVELOPMENTAL EMBRYOLOGY AND BIOLOGY FOR BIOTECHNOLOGY	MOLECULAR GENETICS (P); HISTOLOGY OF VERTEBRATES (P)	4	45	15			60
PLANT PHYSIOLOGY	BIOCHEMISTRY (P)	4	30	30			60
GLOBAL MACROECOLOGY AND ECOLOGY	ECOLOGY OF COMMUNITIES AND ECOSYSTEMS (P)	4	60				60
PHYLOGENETIC SYSTEMATICS	EVOLUTION (P)	4	45	15			60
BIODIVERSITY FOR THE COMMUNITY II	BIODIVERSITY FOR THE COMMUNITY I (P)	2		30		30	30
<b>TOTAL NUMBERS IN THE SEMESTER</b>		<b>28</b>	<b>270</b>	<b>150</b>		<b>30</b>	<b>420</b>
SEMESTER 9							
FINAL PAPER II	FINAL PAPER I (P)	4	60				60
CONSERVATION BIOLOGY	ECOLOGY OF COMMUNITIES AND ECOSYSTEMS (P)	4	60				60
ENVIRONMENTAL PLANNING AND MANAGEMENT	FIELD ECOLOGY I (P)	4	45	15		15	60
ENVIRONMENT, CULTURE AND HEALTH	ENVIRONMENTAL EDUCATION (P)	4	45	15		15	60
MOLECULAR BIOLOGY FOR THE COMMUNITY II	MOLECULAR BIOLOGY FOR THE COMMUNITY I (P)	2		30		30	30
<b>TOTAL NUMBERS IN THE SEMESTER</b>		<b>18</b>	<b>210</b>	<b>60</b>		<b>60</b>	<b>270</b>
SEMESTER 10							
MANDATORY INTERNSHIP I	2250 hours taken / 150 credits (P)	13		195	195		195
MANDATORY INTERNSHIP II	MANDATORY INTERNSHIP I (C)	13		195	195		195
<b>TOTAL NUMBERS IN THE SEMESTER</b>		<b>26</b>		<b>390</b>	<b>390</b>		<b>390</b>
COMPLEMENTARY ACADEMIC ACTIVITIES							
COMPLEMENTARY ACADEMIC ACTIVITIES		4					60
COMMUNITY OUTREACH ACTIVITIES							
COMMUNITY OUTREACH ACTIVITIES		13					195
TOTAL NUMBERS OF ELECTIVES							
TOTAL NUMBERS OF ELECTIVES		4					60
TOTAL CREDIT HOURS OF THE COURSE		MINIMUM CLOCK HOURS REQUIRED BY MEC					
<b>4155</b>		<b>3200</b>					
TOTAL HOURS - MANDATORY INTERNSHIP		<b>390</b>					
TOTAL HOURS - COMPLEMENTARY ACADEMIC ACTIVITIES		<b>60</b>					
TOTAL HOURS - INTERNSHIP + COMPLEMENTARY ACADEMIC ACTIVITIES		<b>450</b>	XIMUM CLOCK HOURS ALLOWED BY MEC				<b>831</b>
TOTAL HOURS OF COMMUNITY OUTREACH INCLUDED IN THE CURRICULUM		<b>420</b>	NIMUM CLOCK HOURS REQUIRED BY MEC				<b>416</b>

DISCIPLINES OFFERED BY THE COURSE	PREREQUISITE (P) / COREQUISITE (C)	CREDITS	CREDIT HOURS (CLASS HOURS)				TOTAL
			THEORETICAL	PRACTICE	MANDATORY INTERNSHIP	COMMUNITY OUTREACH	
MOLECULAR BIODIVERSITY	EVOLUTION (P); MOLECULAR BIOL. (P); DIV. OF DEUTEROSTOMES (P); DIV. OF ANGIOSPERMES (P); MICROBIOLOGY (P).	4	45	15			60
BEHAVIORAL ECOLOGY	ORGANISM AND POPULATION ECOLOGY (P); EVOLUTION (P)	4	60				60
GENERAL AND APPLIED ENTOMOLOGY	DIVERSITY OF PROTOSTOMIA (P)	3	30	15			45
EXPERIMENTAL STATISTICS	BIOSTATISTICS (P)	4	30	30			60
FLORISTICS AND PHYTOSOCIOLOGY	DIVERSITY OF ANGIOSPERMES (P)	4	30	30			60
HERPETOLOGY	DIVERSITY OF DEUTEROSTOMES (P)	4	45	15			60
HISTORY OF ECOLOGY	ECOLOGY OF COMMUNITIES AND ECOSYSTEMS (P)	4	60				60
BIOLOGICAL INVASIONS	ORGANISM AND POPULATION ECOLOGY (P)	4	34	34			60
LIMNOLOGY	ORGANISM AND POPULATION ECOLOGY (P)	4	34	34			60
ENVIRONMENTAL MICROBIOLOGY	MICROBIOLOGY (P)	4	68				60
SCIENTIFIC WRITING AND PUBLICATION	None	4	68				60
SCIENTIFIC WRITING AND METHOD	INTRODUCTION TO SCIENTIFIC THINKING (P)	4	45	15			60

SPECIAL TOPICS IN BIOLOGICAL SCIENCES I	None	2	30				30
SPECIAL TOPICS IN BIOLOGICAL SCIENCES II	None	4	60				60
SPECIAL TOPICS IN ECOLOGY AND BIODIVERSITY I	None	2	30				30
SPECIAL TOPICS IN ECOLOGY AND BIODIVERSITY II	None	4	60				60
GENERAL TOXICOLOGY	BIOCHEMISTRY (P); ECOLOGY OF COMMUNITIES AND ECOSYSTEMS (P)	4	45	15			60
ELECTIVE DISCIPLINES OFFERED BY OTHER COURSES	PREREQUISITE (P) / COREQUISITE (C)	CREDITS	CREDIT HOURS (CLASS HOURS)				TOTAL
			THEORETICAL	PRACTICE	MANDATORY INTERNSHIP	COMMUNITY OUTREACH	
ADMINISTRATION, MANAGEMENT AND ENTREPRENEURSHIP FOR BIOTECHNOLOGY	None	4	60				60
AGROECOLOGY	None	4	45	15			60
FOOD, NUTRITION AND HEALTH	None	4	45	15			60
ENVIRONMENTAL ISSUES AND INTERNATIONAL RELATIONS	None	4	60				60
ENVIRONMENTAL BIOTECHNOLOGY	GENETICS OF MICROORGANISMS (P)	6	60	30			90
BIOTECHNOLOGY AND ANIMAL ENHANCEMENT	MOLECULAR BIOLOGY (P); HUMAN AND ANIMAL PHYSIOLOGY (P); BIostatISTICS (P)	4	45	15			60
BIOTECHNOLOGY AND PLANT ENHANCEMENT	PLANT PHYSIOLOGY (P); MOLECULAR BIOLOGY (P); BIostatISTICS (P)	4	45	15			60
PHARMACEUTICAL BIOTECHNOLOGY	PRINCIPLES OF PHARMACOLOGY AND PHARMACOTECHNICS (P)	3	30	15			45
MEDICAL BIOTECHNOLOGY	MOLECULAR BIOLOGY (P); HUMAN AND ANIMAL PHYSIOLOGY (P); MICROBIOLOGY (P)	4	45	15			60
BIOTECHNOLOGY IN PEST CONTROL	GENERAL AND APPLIED ENTOMOLOGY (P)	4	45	15			60
CIÊNCIAS ÔMICAS	GENETIC ENGINEERING AND GENE THERAPY (P)	2	30				30
COMMUNICATION AND EDUCATION IN HEALTH I	None	2	30				30
GENETICS ENGINEERING AND GENE THERAPY	MOLECULAR BIOLOGY (P); EXPERIMENTAL GENETIC ENGINEERING AND GENE THERAPY (C)	2	30				30
EXPERIMENTAL GENETIC ENGINEERING AND GENE THERAPY	MOLECULAR BIOLOGY (P); GENETIC ENGINEERING AND GENE THERAPY (C)	2		30			30
EPIDEMIOLOGY OF INFECTIOUS DISEASES AND NON INFECTIOUS DISEASES	None	4	60				60
PHOTOGRAPHY	None	4	30	30			60
FUNDAMENTALS OF EPIDEMIOLOGY	None	4	60				60
GENETICS OF MICROORGANISMS	MICROBIOLOGY (P); MOLECULAR BIOLOGY (P)	2	15	15			30
IMMUNOLOGY APPLIED TO BIOTECHNOLOGY	IMMUNOLOGY (P); CELL AND TISSUE ENGINEERING (P)	3	15	30			45
COMPUTING APPLIED TO HEALTH	None	2	30				30
BRAZILIAN SIGN LANGUAGE – LIBRAS	None	4	60				60
INTELLECTUAL PROPERTY	None	2	30				30
GEOGRAPHIC INFORMATION SYSTEM IN HEALTH	None	2	15	15			30