



UNIVERSIDADE FEDERAL DO ESTADO DO RIO DE JANEIRO  
CENTER FOR BIOLOGICAL AND HEALTH SCIENCES  
**Biomedical Institute**

**BIOMEDICINE COURSE DESCRIPTIONS**

TABLE OF CURRICULAR COMPONENTS v2007 (MANDATORY COURSES, OPTIONAL COURSES, SUPERVISED CURRICULAR INTERNSHIP, COMPLEMENTARY ACTIVITIES AND FINAL PAPER

COD SIE	COURSE_NAME	TERM	TOTAL_CL	CREDITS	CREDITS	COURSE DESCRIPTION	PREREQUISITE	Type*
ECB0005	SUPERVISED INTERNSHIP I	7	270	9	0/270 0T/9P	Develop professional knowledge and practice, enabling the student to work in an integrated manner, in which he/she acts cooperatively, achieving previously established goals.	nonexistent	1
ECB0006	SUPERVISED INTERNSHIP II	8	570	19	0/570 0T/19P	Deepen professional knowledge and practice, enabling the student to work in an integrated manner, in which he/she acts cooperatively, achieving previously established goals.	SUPERVISED INTERNSHIP I	1
ECB0007	FINAL PAPER I	7	60	2	00/60 0T/2P	Stimulation of scientific production, improvement of the interpretation capacity and elaboration of a course conclusion work in a specific area.	course area	1
ECB0008	FINAL PAPER II	8	60	2	00/60 0T/2P	Research development. The structure of the monograph. Writing of the monograph. Graphic presentation of the monograph.	FINAL PAPER I	1
HDI0142	BRAZILIAN SIGN LANGUAGE	2	60	4	60/0 4T/0P	Brazilian Sign Language and its linguistic singularities. LIBRAS experience from direct contact with a deaf teacher. Implications of Decree No. 5,526 for school practice and teacher training.	nonexistent	2
HDI0164	AFRO-BRAZILIAN CULTURES IN CLASSROOM	2	30	2	30/0 2T/0P	Ethnic-Racial Diversity in the Elementary School. Black Diaspora. African civilizations. Africans in Brazil: origin and contributions. Black movement. Quilombos: history, organization and culture. Law 10,639/2003: text and context. Africanity and Religiosity. Contemporary Afro-Brazilian cultures. Dimensions of Afro-Brazilian Culture Teaching.	nonexistent	2
HTD0051	ORAL AND WRITTEN EXPRESSION	2	60	3	30/30 2T/1P	General notions of discursive genre. Communication scheme; Oral and written language. Grammatical Standards. Oral expression.	nonexistent	2
SBC0003	PLANT BIOLOGY	2	75	4	45/30 3T/1P	Study of vegetables in their broad form. It comprises morphological, functional aspects (plant physiology), taxonomy, classification, systematics, ecology, and evolution.	nonexistent	2
SBC0013	SCIENTIFIC WRITING SKILLS	3	30	2	30/0 2T/0P	The course aims to present the structure of a research project and report, monograph structure, dissertation and thesis, with a focus on editorial and graphic uniformity.	nonexistent	2
SBC0030	FUNDAMENTALS OF BOTANY	1	60	3	30/30 2T/1P	Study of the morphology, physiology and evolution of plant divisions, their taxonomy and phylogenetic relationships, with emphasis on groups of medical importance.	nonexistent	1
SBC0031	CURRENT TOPICS IN BIOLOGY	6	30	2	30/00 2T/0P	Discussion of theories, hypotheses and classic concepts of Biology.	BASIC ECOLOGY EVOLUTION	2
SBC0063	ADVANCED PLANT BIOTECHNOLOGY	2	45	2	15/30 1T/1P	Plant Biotechnology: definition, object, methods, importance of its study for the economic viability of the production of species and their special metabolites. Study of basic and advanced techniques and commercial applicability of these techniques.	nonexistent	2
SBQ0001	ADVANCED TOPICS IN BIOSCIENCES	2	30	2	30/0 2T/0P	Weekly seminars with the results of researches developed by UNIRIO's research professors and graduate students and guests from other strictu sensu programs.	nonexistent	2
SBQ0025	BIOCHEMISTRY OF LIPIDS	5	30	2	30/0 2T/0P	Classify fat-soluble and water-soluble vitamins and understand their main	BIOCHEMISTRY II	2
SBQ0026	BIOCHEMISTRY OF DIABETES	5	60	3	30/30 2T/1P	Study of the basic anatomical characteristics of the pancreas. Description of the	BIOCHEMISTRY II	2
SBQ0027	SEMINARS IN BIOCHEMISTRY	5	30	2	30/0 2T/0P	Learn how to prepare a seminar. Discuss scientific articles. Present articles in the	BIOCHEMISTRY II	2
SCA0018	ENVIRONMENTAL MICROBIOLOGY	2	45	2	15/30 1T/1P	The history of life. Microbial Diversity. Biogeochemical cycles. Microbial ecology in	nonexistent	2
SCF0001	BIOCHEMISTRY I	3	90	5	60/30 4T/1P	Biochemical study of the cell. Macromolecule chemistry and metabolism.	nonexistent	1
SCF0004	PHYSIOLOGY II (Human)	6	45	3	45/0 3T/0P	Transmission of messages in the nervous system. Elements of neural networks.	PHYSIOLOGY I (GENERAL)	1
SCF0006	RADIOBIOLOGY	6	60	3	30/30 2T/1P	Structure of matter; Radioactivity; Radioisotope sources and production; Interaction	MOLECULAR BIOLOGY I	1
SCF0007	PHYSIOLOGY I (GENERAL)	5	60	3	30/30 2T/1P	Introduction to physiology. Cellular and systemic homeostasis. Bioelectrogenesis.	HISTOLOGY II	1
SCF0009	PHARMACOLOGY I	6	60	3	30/30 2T/1P	Discuss the general objectives of Pharmacology I, conceptualize and classify drugs	PHYSIOLOGY I (GENERAL)	1
SCF0010	PHARMACOLOGY II	7	120	6	60/60 4T/2P	Pharmacology of the central nervous system; Cardiovascular and blood	PHARMACOLOGY I	1
SCF0011	BIOCHEMISTRY II	4	90	5	60/30 4T/1P	Biochemical study of digestion. Blood biochemistry. Biochemistry of the liver.	BIOCHEMISTRY I	1
SCF0013	BIOPHYSICS	4	120	6	60/60 4T/2P	The importance of Biophysics and fields of interest. Water and its biological	nonexistent	1
SCF0021	TOXICOLOGY	5	60	3	30/30 2T/1P	Toxicology history; Toxic agent; Toxicity and intoxication. Characteristics of	BIOCHEMISTRY II	1
SCF0024	BIOMEDICAL PHYSICS AND IMAGING	2	60	3	30/30 2T/1P	Structure of matter. Characterization of ionizing radiation sources. Production of	nonexistent	2
SCM0001	CYTOLOGY	1	30	2	30/0 2T/0P	Historical evolution of knowledge. The cell, general aspects and properties. Cell	nonexistent	1
SCM0002	HISTOLOGY I	2	60	3	30/30 2T/1P	General tissue classification; Epithelial lining tissue; Glandular epithelial tissue;	CYTOLOGY	1
SCM0003	HISTOLOGY II	3	60	3	30/30 2T/1P	Lymphoid formation and organ; Circulatory system; Respiratory system; Urinary	HISTOLOGY I	1
SCM0005	EMBRYOLOGY	1	30	2	30/00 2T/0P	Male genital tract; Female genital tract; Ovulation; Egg segmentation; Yolk and	nonexistent	1
SCM0006	GENERAL GENETICS	4	90	5	60/30 4T/1P	Cell divisions (mitosis and meiosis). Mechanisms of inheritance of hereditary	BIOCHEMISTRY I	1
SCM0009	HUMAN GENETICS	7	60	3	30/30 2T/1P	The course deals with the causes of the main syndromes and other diseases of	GENERAL GENETICS	2
SCM0011	ANATOMY	3	90	4	30/60 2T/2P	The course aims to inform the morphological aspects of the human body,	nonexistent	1
SCM0012	HUMAN ANATOMY I	4	120	5	30/90 2T/3P	Necessary knowledge of Anatomy, aiming to associate them at the macroscopic level with the knowledge acquired in histology, relating to the four fundamental tissues and some organs and systems, seeking to relate to the maximum with the courses of the professional program.	ANATOMY	2
SCM0013	HUMAN ANATOMY II	5	120	5	30/90 2T/3P	The course aims to inform the morphological aspects of the human body,	HUMAN ANATOMY I	2
SCM0021	ADVANCED BIOINFORMATICS	7	45	3	45/00 3T/0P	Introduction to Programming Logic, PERL and Python Applications, Introduction to	BIOINFORMATICS	2

SCM0029	MOLECULAR BIOLOGY I	5	90	5	60/30 4T/1P	Cell organization. Chromosomes, genes and gene expression control. The cell cycle	GENERAL GENETICS	1
SCM0030	MOLECULAR BIOLOGY II	6	60	3	30/30 2T/1P	The internal organization of the cell and the signal transduction pathways. The cell	MOLECULAR BIOLOGY I	2
SCM0031	BIOINFORMATICS	6	45	2	15/30 1T/1P	Introduction to Computational Molecular Biology. Analysis of databases. Simple	MOLECULAR BIOLOGY I	2
SCN0003	GENERAL AND INORGANIC CHEMISTRY	1	75	4	45/30 3T/1P	Atomic theories. Periodic classification of elements. Stoichiometry Chemical bonds.	nonexistent	1
SCN0004	ORGANIC CHEMISTRY	2	75	4	45/30 3T/1P	Introduction; Hydrocarbons; Stereochemistry; Reaction mechanisms and chemical	GENERAL AND INORGANIC CHEMISTRY	1
SCN0007	ANALYTICAL CHEMISTRY II	3	90	4	30/60 2T/2P	Chemical balance. Volumetric analysis methods and techniques. Theory of	GENERAL AND INORGANIC CHEMISTRY	1
SCN0024	APPLIED CHEMISTRY	5	60	2	0/60 0T/2P	Purity criteria. Methods for separation and purification of chemical compounds. Characterization reactions of organic compounds. Synthesis reactions.	Organic Chemistry and Biochemistry I	2
SCN0036	ASTROBIOLOGY	4	60	4	60/0 4T/0P	Notions of Fundamental Astronomy, Astrophysics Notions, Notions of Cosmology,	GENERAL PHYSICS	2
SCN0047	PALEOBIOLOGY	2	90	5	60/30 4T/1P	The origin and development of life (chemical evolution and the origin and	nonexistent	2
SCN0128	GENERAL PHYSICS	3	60	4	60/00 4T/0P	Newton's laws. Work and Energy. Conservation of energy. Thermodynamic	nonexistent	1
SCN0129	APPLIED PHYSICS	4	90	5	60/30 4T/1P	Theory of errors. Conventional and non-conventional sources of energy. Fusion and	GENERAL PHYSICS	2
SEH0012	AGING AND HEALTH	2	30	2	30/0 2T/0P	The course addresses the demographic and political characteristics of the	nonexistent	2
SER0006	BASIC ECOLOGY	2	90	5	60/30 4T/1P	Population dynamics. Population characteristics and fluctuations. Biocenoses.	ECOLOGY ELEMENTS	1
SER0012	ENVIRONMENTAL EDUCATION AND	2	45	2	15/30 1T/1P	Study of educational issues related to the environment, considering the	ECOLOGY ELEMENTS	1
SER0013	ECOLOGY ELEMENTS	1	60	4	30/30 2T/1P	Introduction to Ecology; ecosystems; energy in ecosystems. Biogeochemical cycle;	nonexistent	1
SER0014	EVOLUTION	5	60	4	60/00 4T/0P	The origin and impact of evolutionary thinking, the ecological context of evolutionary change, population structure and genetic drift, effects of natural selection, speciation and adaptation, applied methodologies, biogeography, human evolution.	GENERAL GENETICS	1
SMG0025	HEMATOLOGY	6	60	3	30/30 2T/1P	The course aims, within the professional area, to prepare the student, from a theoretical and practical point of view, for the exercise of Clinical Analyzes with regard to the field of Hematology.	HISTOLOGY II (MICROSCOPIC ANATOMY)	2
SMG0124	INTRODUCTION TO CLINICAL RESEARCH	8	30	2	30/0 2T/0P	The syllabus of the optional course Introduction to Clinical Research aims to provide	Biostatistics Immunology	2
SMP0024	GENERAL AND EXPERIMENTAL PATHOLOGY	6	120	5	30/90 2T/3P	Knowledge of the basic mechanisms of diseases; Macro and microscopic morphological study of general pathological processes; Notions of Immunopathology, Genetic Pathology, Nutritional Pathology and Environmental Pathology; Knowledge of laboratory techniques and Histopathology.	IMMUNOLOGY HISTOLOGY II (MICROSCOPIC ANATOMY) MOLECULAR BIOLOGY I	1
SMP0025	IMMUNOLOGY	5	90	4	30/60 2T/2P	General and host-specific defense mechanisms in the interrelationships with the	BIOCHEMISTRY I	1
SMP0026	MICROBIOLOGY	6	150	7	60/90 4T/3P	Study of the morphological and physiological characteristics of the bacterial cell;	IMMUNOLOGY	1
SMP0027	PARASITOLOGY	6	120	6	60/60 4T/2P	Concept of parasitism; Biological associations; Taxonomy notions; Parasitic actions	IMMUNOLOGY ANATOMY	1
SMP0058	CLINICAL PARASITOLOGY	7	60	3	30/30 2T/1P	Laboratory diagnosis of parasitic agents. Protocols, procedures and indications of	Parasitology	2
SSC0001	ENVIRONMENT AND HEALTH	4	60	3	30/30 2T/1P	It studies the health and the health-disease process of populations and individuals,	nonexistent	1
SSC0006	PHYSICAL EDUCATION I	1	30	1	00/30 0T/1P	Set of exercises, postures and skills developed, aiming at maintaining physical	nonexistent	3
SSC0007	PHYSICAL EDUCATION II	2	30	1	00/30 0T/1P	Set of exercises, postures and skills developed, aiming at maintaining physical	PHYSICAL EDUCATION I	3
SSC0016	EPIDEMIOLOGY	7	60	4	60/00 4T/0P	Study the health-disease process in human communities, analyzing the distribution and determining factors of illnesses, health problems and events associated with collective health, proposing specific measures for the preservation, control, or eradication of diseases and indicators that support planning, administration, and evaluation of health actions.	PARASITOLOGY MICROBIOLOGY BIostatistics	1
SSC0020	HYGIENE AND PUBLIC HEALTH	7	45	3	45/00 3T/0P	The course analyzes the importance of the social component in the emergence,	PARASITOLOGY	1
SSC0030	SCIENTIFIC RESEARCH METHODOLOGY	5	45	3	45/0 3T/0P	The course analyzes the scientific method in its historical-philosophical evolution and	nonexistent	1
SSC0046	THEORY OF KNOWLEDGE IN EPIDEMIOLOGY	6	45	3	45/00 3T/0P	The course analyzes the disease as a historical construct determined by the conceptions of time and space. Such conceptions make up the religious, philosophical, and scientific thinking of each era, while their historical remains are consolidated on common sense. It starts from the premise that this whole set structures the disease category and that radical changes in time and space engender radical changes in its constitutive elements - cause, contagion, transmission and control. As a case study, we discuss the contradictory coexistence of Ancient and Modern conceptions, exemplified in the case of syphilis and AIDS.	IMMUNOLOGY	2
SSC0058	INTRODUCTION TO MEDICAL ANTHROPOLOGY	4	30	2	30/0 2T/0P	Introduction to the history, concept, and main schools of Anthropology. Medical	nonexistent	2
SSC0059	BIO SIGNALING	2	60	4	60/0 4T/0P	Identification of the main receptors and molecular mechanism of biosignalization.	nonexistent	2
SSC0060	SPORTS AND HEALTH	2	30	2	30/0 2T/0P	The Sport and Health course intends to discuss the chemical and biological bases	nonexistent	2
SSC0061	DIABETES MELLITUS	2	60	4	60/0 4T/0P	Study of Molecular Aspects related to the stimulation of beta cells by incretin	nonexistent	2
SSC0062	SEMINARS ON SCIENCES APPLIED TO HEALTH	2	30	2	30/0 2T/0P	Identification of deacetylases involved in the longevity process. Action of	nonexistent	2
STA0001	BROMATOLOGY	4	120	5	30/90 2T/3P	Introduction to Bromatology. Importance of analytical chemistry in the study of food	ANALYTICAL CHEMISTRY II	2
SZO0001	ANIMAL BIOLOGY	2	75	4	45/30 3T/1P	It is the study of animal diversity at its various levels, including its functional biology,	nonexistent	2
SZO0005	INTRODUCTION TO COMPARATIVE ANIMAL PHYSIOLOGY	3	75	4	45/30 3T/1P	Comparative study of the manifestations of organic functions in animal phyla. It	ANIMAL BIOLOGY	2
SZO0018	APPLIED ZOOLOGY	1	60	3	30/30 2T/1P	Study of the morphology, physiology, ecology and evolution of animal phyla, their	nonexistent	1
SZO0026	EPISTEMOLOGY AND HISTORY OF SCIENCE	2	60	4	60/0 4T/0P	Encompassing the philosophy of science and the theory of knowledge, Epistemology	nonexistent	2
TIN0001	INTRODUCTION TO COMPUTER SCIENCE	6	60	3	30/30 2T/1P	Notions of computer architecture; operating systems, database, networks,	nonexistent	3
TIN0001	DATABASE	7	60	3	30/30 2T/1P	Notions of information systems and their implementation through the use of relational	INTRODUCTION TO COMPUTER SCIENCE	3
TME0001	BIOMATEMATICS	6	60	3	30/30 2T/1P	Integration methods. Definite integral. Definite integral applications. Differential	MATH SUPPLEMENTS II	2
TME0006	BIOSTATISTICS	3	90	5	60/30 4T/1P	The role of statistics in Biomedicine, exploratory data analysis, notions of probability,	MATH SUPPLEMENTS I	1
TME0011	STATISTICAL ANALYSIS	7	60	3	30/30 2T/1P	Detailed discussion of the design and analysis of some studies that used statistical methodology. Exploratory data analysis with emphasis on the discussion of variability and statistical distributions. Single factor experiment design. Two-factor experiment design. Multiple Comparisons. Multivariate analysis emphasizing the types of studies that can use these techniques to reduce their size or to form clusters	BIOSTATISTICS	2
TME0016	MATH SUPPLEMENTS I	1	75	4	45/30 3T/1P	Lead the student to master techniques and strategies, from a mathematical point of	nonexistent	1
TME0017	MATH SUPPLEMENTS II	2	75	4	45/30 3T/1P	It studies problems involving rates of change and movement.	MATH SUPPLEMENTS I	1






