BIOLOGY - MEDICAL LABORATORY SCIENCE, JOINT-DEGREE PROGRAMS, B.S.

The Bachelor of Science joint-degree program in Medical Laboratory Science with Rutgers University School of Health Professions qualifies students for certification examination leading to professional licensure. Medical Laboratory Scientists provide vital data to physicians and other practitioners to assist in the diagnosis, monitoring, and treatment of disease and maintenance of health. Medical Laboratory Scientists employ complex instrumentation and procedures to perform their duties. Major areas included in their work are: Clinical Chemistry, Clinical Microbiology, Hematology, Immunohematology (Blood Banking), Urinalysis and Serology. Students interested in this field should have a strong interest in science, have the capacity to learn technical skills, work accurately and reliably when under pressure, and effectively communicate with others. The program operates on a cohort basis, beginning in late May of each year. The application period opens on November 1 of the prior year, with an application deadline of March 1. Applicants are recommended to apply as early as possible due to the program's competitiveness. Acceptance to the joint-degree program in Medical Laboratory Science requires a minimum CGPA of 2.85.

Code	Title	Credits
Required Biology Courses:		
BIOL 130	Principles Biology I	4
BIOL 131	Principles Biology II	4
BIOL 230	Cell Biology	4
BIOL 236	Anatomy & Physiology I	4
BIOL 237	Anatomy & Physiology II	4
BIOL 303	Microbiology	4
BIOL 304	Genetics	4
BIOL 404	Immunology	3
Required Chemistry Courses:		
CHEM 105	General Chemistry I Lecture	3
CHEM 1105	General Chemistry I Recitation/Laboratory	2
CHEM 106	General Chemistry II Lecture	3
CHEM 1106	General Chemistry II Recitation/Laboratory	2
CHEM 207	Organic Chemistry I	3
CHEM 2207	Organic Chemistry I Laboratory	1
CHEM 307	Biochemistry I	4
Required Math and Computer Science Courses:		
MATH 175	Enhanced Precalculus	4
INTD 180	Computer Tools For Science and Mathematics	3
MATH 140	Statistics I	3
or PSYC 230	Statistics for Social Sciences	
Total Credits of 120 Minimum:		59

1. A minimum cumulative grade point average (CGPA) of 2.0 in BIOL 130 and BIOL 131 must be attained in order to enroll in advanced courses. Both BIOL 236 and BIOL 237 must be successfully completed in order to earn credit toward Biology Department requirements.
2. CHEM 105/CHEM 1105 and CHEM 106/CHEM 1106 are prerequisites for all 300- and 400-level Biology courses.
3. This course sequence is suggested to meet General Education Program requirements that are specific for this program and to facilitate the timely completion of all required courses at NJCU prior to beginning the clinical program at Rutgers, The State University of New Jersey.
4. Some courses are part of the General Education Program and may be used to simultaneously satisfy a General Education Mode of Inquiry requirement.
5. A minimum grade of ""C"" must be earned in each Biology, Chemistry, Physics and Mathematics course to satisfy Biology degree requirements.
6. Application for admission to the Rutgers program should be filed by January 15 of the year in which the clinical training will begin. Acceptance to the Rutgers program requires a minimum 2.85 GPA.
7. Students applying for transfer into the B.S. in Medical Imaging Sciences program are advised that NJCU has a seven-year statute of limitation for course acceptance.

First Year		
Semester 1		**Credits**
BIOL 130	Principles Biology I	4
ENGL 101 or ESL 101	English Composition I or English Composition I for English as a Second Language Students	4
MATH 175	Enhanced Precalculus	4
General Education Tier I Course		3
	Credits	**15**
Semester 2		
BIOL 131	Principles Biology II	4
ENGL 102 or ESL 102	English Composition II or English Composition 2 ESL	4
General Education Tier II Course		3
General Education Tier II Course		3
	Credits	**14**
Second Year		
Semester 1		
BIOL 230	Cell Biology	4
BIOL 236	Anatomy & Physiology I	4
CHEM 105	General Chemistry I Lecture	3
CHEM 1105	General Chemistry I Recitation/Laboratory	2
General Education Tier II 2		3
	Credits	**16**
Semester 2		
BIOL 303	Microbiology	4
BIOL 237	Anatomy & Physiology II	4
CHEM 106	General Chemistry II Lecture	3
CHEM 1106	General Chemistry II Recitation/Laboratory	2
General Education Tier II Course		3
	Credits	**16**
Third Year		
Semester 1		
BIOL 404	Immunology	3
CHEM 207	Organic Chemistry I	3

CHEM 2207	Organic Chemistry I Laboratory	1
INTD 180	Computer Tools For Science and Mathematics	3
General Education Tier II Course		3
	Credits	**13**
Semester 2		
BIOL 304	Genetics	4
CHEM 307	Biochemistry I	4
PHYS 101	Basic Concepts of Physics	3
General Education Capstone Tier III		3
	Credits	**14**
	Total Credits	**88**

Student Learning Outcomes

Upon completion of the Biology Medical Laboratory Science program, students will be able to:

1. Demonstrate knowledge of the factual and theoretical basis of biology including mechanisms on the molecular, cellular, organismal, and systems levels.
2. Demonstrate understanding of scientific inquiry and explain how scientific knowledge is discovered and validated.
3. Apply quantitative knowledge and reasoning to describe or explain phenomena in the natural world.
4. Demonstrate knowledge of basic principles of chemistry and their application to understanding living systems.
5. Demonstrate preparedness to enter the Professional work force.