

B.S. Biology: Medical Laboratory Science Requirements

The Medical Laboratory Science track at Kutztown University is designed to give students interested in pursuing a career in the medical field professional hospital experience learning to run laboratory tests essential in medical diagnosis. The track is a 3+1 Biology track in which students complete courses at Kutztown for three years and then complete their degree in cooperation with a Kutztown University affiliated hospital that offers a hospital-based clinical year.

Student Learning Outcomes

1. Students will demonstrate advanced competence in their area of specialization, either organismal biology/ecology, cell biology/ microbiology, pre-medical science, medical lab science, or allied health science.
2. Students will demonstrate proficiency in skills useful in gaining successful employment in biology related positions or admission to graduate or professional programs, including clear articulation of his or her marketable skills in the form of professional-quality resumes and cover letters.
3. Students will be able to research and write a review paper that effectively conveys technical concepts and information in their discipline in a clear and organized fashion, following all of the usual conventions of the discipline.
4. Students will demonstrate oral communication skills such that they can effectively convey concepts and information in their discipline.
5. Students will be able to effectively utilize the scientific method.

Note that all students must achieve 120 undergraduate credits and a minimum 2.0 overall GPA to graduate. The final GPA requirement for Biology: Medical Laboratory Science is 2.0. Students must earn a C or better in BIOL 104.

Required Biology: Medical Laboratory Science Core Courses – 14 credits

BIOL 104 Principles of Biology (4 credits)
BIOL 106 Introduction to Zoology (4 credits)
BIOL 216 Genetics (3 credits)
BIOL 224 Applied Environmental Microbiology (3 credits)

Biology: Medical Laboratory Science Major Elective Courses – 17 credits

BIOL 256 Anatomy & Physiology I (4 credits)
BIOL 257 Anatomy & Physiology II (4 credits)
BIOL 336 Medical Microbiology *or* BIOL 331 Medical Mycology *or* BIOL 334 Medical Parasitology (3 credits)
BIOL 346 Molecular Biology *or* BIOL 350 Cell Biology (3 credits)
BIOL 356 Immunology (3 credits)

Hospital Clinical – 21 credits

MEDT 310 Urinalysis (3 credits)
MEDT 320 Clinical Microbiology (3 credits)
MEDT 330 Clinical Chemistry (3 credits)
MEDT 340 Clinical Hematology/Coagulations (3 credits)
MEDT 350 Clinical Immunohematology (3 credits)

MEDT 360 Clinical Immunology/Serology (3 credits)

MEDT 370 Clinical Seminar (3 credits)

Other Required Courses – 8 credits

These cognate courses reflect requirements not directly in the program of study but required for the completion of the major.

CHEM 204 Fund. of Organic Chemistry or CHEM 214 Organic Chemistry (4 credits)

CHEM 310 Biochemistry I (4 credits)

Directed General Education Courses – 11 credits

While these credits count toward General Education fulfillment, these courses are required for completion of the major.

CHEM 100 General Chemistry I – Category C1 (4 credits)

CHEM 102 General Chemistry II – Category C2 (4 credits)

MATH 140 Applied Statistics or MATH 150 Intro to Biostatistics – Category C3 (3 credits)

Program Plan Code: BS_BIOL_MLSC

Effective Semester: Fall 2025



B.S. Biology: Medical Laboratory Science Major Check Sheet

Student Name:

Student ID Number:

This check sheet provides a mechanism for students and advisors to keep track of a student's progress in the program. Please refer to the program requirements for more details regarding options.

Note that all students must achieve 120 undergraduate credits and a minimum 2.0 overall GPA to graduate. The final GPA requirement for Biology: medical Laboratory Science is 2.0. Students must earn a C or better in BIOL 104.

Required Biology: Medical Laboratory Science Core Courses - 14 credits

BIOL 104 Principles of Biology	4 credits	Grade:
BIOL 106 Introduction to Zoology	4 credits	Grade:
BIOL 216 Genetics	3 credits	Grade:
BIOL 224 Applied Environmental Microbiology	3 credits	Grade:
Total Credits	14 total credits	

Biology: Medical Laboratory Science Major Electives - 17 credits

BIOL 256 Anatomy & Physiology I	4 credits	Grade:
BIOL 257 Anatomy & Physiology II	4 credits	Grade:
BIOL 336 Medical Microbiology, or BIOL 331 Medical Mycology, or BIOL 334 Medical Parasitology	3 credits	Grade:
BIOL 346 Molecular Biology or BIOL 350 Cell Biology	3 credits	Grade:
BIOL 356 Immunology	3 credits	Grade:
Total Credits	17 total credits	

Hospital Clinic - 21 credits

MEDT 310 Urinalysis	3 credits	Grade:
MEDT 320 Clinical Microbiology	3 credits	Grade:
MEDT 330 Clinical Chemistry	3 credits	Grade:
MEDT 340 Clinical Hematology/Coagulations	3 credits	Grade:
MEDT 350 Clinical Immunohematology	3 credits	Grade:
MEDT 360 Clinical Immunology/Serology	3 credits	Grade:
MEDT 370 Clinical Seminar	3 credits	Grade:
Total Credits	21 total credits	

Other Required Courses - 8 credits

CHEM 204 Fund. of Organic Chemistry or CHEM 214 Organic Chemistry	4 credits	Grade:
CHEM 310 Biochemistry I	4 credits	Grade:
Total Credits	8 total credits	

Directed General Education Courses

CHEM 100 General Chemistry I	4 credits	Grade:
CHEM 102 General Chemistry II	4 credits	Grade:
MATH 140 Applied Statistics or MATH 150 Intro to Biostatistics	3 credits	Grade:

University Elective Courses - 16 credits

Course 1:	1-4 credits	Grade:
Course 2:	1-4 credits	Grade:
Course 3:	1-4 credits	Grade:
Course 4:	1-4 credits	Grade:
Course 5:	1-4 credits	Grade:
Course 6:	1-4 credits	Grade:
Total Credits	16 total credits	

Summary of Graduation Requirements

Total credits from major courses	60
Total credits from general education program	42-45
Total credits from university electives	16
Minimum total credits to graduate	120
Comprehensive Exam (ETS)	PASS
Minimum overall GPA	2.0
Minimum GPA in major program	2.0
Major Program Courses 300- or 400-Level	3

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B.S. Biology: Medical Laboratory Science

8-Semester Planner

Student Name:

Student ID Number:

Each semester listed below provides information including course categories, typical credit hours (CH.), and space to add specific course selections. This planner is a suggested path. Consult with your advisor regarding your unique plans and interests as you make choices about your schedule.

First Semester Plan

Gen Ed	CHEM 100 (C1)	4 CH.	Selection:
Gen Ed	MATH 140 (C2)	3 CH.	Selection:
Gen Ed	FYSM 100	3 CH.	Selection: FYSM100 -
Gen Ed	Category D	3 CH.	Selection:
Major	BIOL 104	4 CH.	Selection:
Total		17 CH.	

Second Semester Plan

Gen Ed	Category A1	3 CH.	Selection:
Gen Ed	Category A3, Speaking	3 CH.	Selection:
Gen Ed	Category B	3 CH.	Selection:
Gen Ed	CHEM 102 (C3)	4 CH.	Selection:
Major	BIOL 106	4 CH.	Selection:
Total		17 CH.	

Third Semester Plan

Gen Ed	Category A2	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Major	BIOL 256	4 CH.	Selection:
Major	BIOL 224	3 CH.	Selection:
Major	CHEM 204 or 214	4 CH.	Selection:
Total		17 CH.	

Fourth Semester Plan

Gen Ed	Category A4	3 CH.	Selection:
Gen Ed	Category B	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Major	BIOL 257	4 CH.	Selection:
Major	BIOL 216	3 CH.	Selection:
Total		16 CH.	

Fifth Semester Plan

Gen Ed	Category B	3 CH.	Selection:
Gen Ed	Category D	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Major	BIOL 346	3 CH.	Selection:
Major	CHEM 310	4 CH.	Selection:
Total		16 CH.	

Sixth Semester Plan

Elective	University Elective	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Major	BIOL 336	3 CH.	Selection:
Major	BIOL 356	3 CH.	Selection:
Total		18 CH.	

Senior Year (Hospital Clinic)

Major	MEDT 310	3 CH.	Selection:
Major	MEDT 320	3 CH.	Selection:
Major	MEDT 330	3 CH.	Selection:
Major	MEDT 340	3 CH.	Selection:
Major	MEDT 350	3 CH.	Selection:
Major	MEDT 360	3 CH.	Selection:
Major	MEDT 370	3 CH.	Selection:
Total		21 CH.	

Additional Notes:

1. MATH 105 or ALEKS Math placement score greater than 60 is a prerequisite for MATH 140 or MATH 150.
2. Elective Courses (University Electives) should be chosen in consultation with the student's academic advisor.
3. No single course can count toward more than one category. At least three BIOL courses must be at 300-400 level.

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Effective Date: Fall 2025