

Medical Laboratory Science (MLS) Major

Curriculum for 2023-2024 Academic Year

124 Credits & ≥2.0 Cumulative GPA Required for Graduation

University Requirements:

- ___ ENGL110 First Year Writing*
- ___ First Year Experience I, 1 cr (UNIV101)
- ✓ Discovery Learning Experience (DLE) 3 cr (satisfied by MMSC473)
- ___ Multicultural Requirement 3 cr _____ (may simultaneously satisfy breadth or 2nd writing)
- ___ University Breadth Requirements* (these must be from **four different areas of study**/course rubrics)
 - ___ Creative Arts & Humanities* 3 cr _____
 - ___ History & Cultural Change* 3 cr _____
 - ___ Social & Behavioral Sciences* 3cr _____
- ✓ Math, Natural Science & Technology* 3 cr (satisfied by ≥ C- in BISC207 or 208, CHEM103 or 104)
- ✓ Capstone Experience (satisfied by MMSC473)

MAJOR REQUIREMENTS:

- ___ Second Writing Requirement (must be designated in term taken; may also be breadth)
- ___ Mathematics (one of the following; MATH114, 115, 117, 221 or 241)
- ___ Additional Breadth
 - ___ Choose Creative Arts & Humanities, History & Cultural Change or Social & Behavioral Sciences 3 cr _____

Core * (68 credits; minimum grade of C- required in all MMSC courses):

- | | |
|--|---|
| ___ MMSC100 Intro to Med & Molec Sciences (P/F): 1 | ___ MMSC429 Medical Microbiology Lab: 2 |
| ___ MMSC200 The Language of Medicine: 3 | ___ MMSC433 Hematology II: 2 |
| ___ MMSC250 Comm, Ed & Ethics in Healthcare: 1 | ___ MMSC434 Hematology II Lab: 2 |
| ___ MMSC370 Phlebotomy & Specimen Processing: 1 | ___ MMSC436 Clin Physiological Chem II: 3 |
| ___ MMSC375 Biostats for Biolog & Health Sciences: 2 | ___ MMSC437 Clinical Laboratory Instrumentation: 2 |
| ___ MMSC402 Body Fluid Analysis: 2 | ___ MMSC438 Diag Bacteriology & Med Mycology: 3 |
| ___ MMSC 412 Body Fluid Analysis Lab: 1 | ___ MMSC439 Diag Bact & Med Mycology Lab: 2 |
| ___ MMSC407 Clin Physiological Chem I: 3 | ___ MMSC461 Laboratory Practice & Leadership I: 1 |
| ___ MMSC417 Clin Physiological Chem Lab I: 1 | ___ MMSC471 Laboratory Practice & Leadership II: 1 |
| ___ MMSC409 Immunohematology I: 2 | ___ MMSC472 Clinical Urinalysis Practicum: 1 |
| ___ MMSC415 Clinical Immun & Medical Virology: 3 | ___ MMSC473 Clinical Chemistry Practicum: 3 |
| ___ MMSC416 Clinical Immun & Medical Vir Lab: 1 | ___ MMSC475 Clinical Hematology Practicum: 3 |
| ___ MMSC419 Immunohematology I Lab: 1 | ___ MMSC477 Clinical Microbio & Immun Practicum: 3 |
| ___ MMSC418 Senior Seminar: 0 | ___ MMSC479 Clinical Immunohem Practicum: 3 |
| ___ MMSC420 Immunohematology II: 2 | ___ MMSC480 Senior Seminar II: 1 |
| ___ MMSC421 Immunohematology II Lab: 1 | ___ MMSC491 Human Molecular Genetics: 3 |
| ___ MMSC423 Hematology I: 2 | ___ MMSC493 Cellular & Molecular Diagnostic Techniques: 2 |
| ___ MMSC424 Hematology I Lab: 1 | |
| ___ MMSC428 Medical Microbiology & Parasitology: 3 | ___ ≥ 124 credits/2.0 Cum GPA required for graduation |

Science Requirements (31 credits):

- | | |
|---|--|
| ___ BISC207 Introductory Biology I:4 | ___ CHEM104/134 Gen Chem/for Life Sci II:4 |
| ___ BISC208 Introductory Biology II: 4 | ___ CHEM213 Elementary Organic Chem: 3** |
| ___ BISC300 Introduction to Microbiology: 4 | ___ CHEM215 Elem Organic Chem Lab: 1** |
| ___ BISC306 General Physiology: 3 | ___ CHEM214 Elementary Biochem: 3** |
| ___ CHEM103/133 Gen Chem/for Life Sci I: 4 | ___ CHEM216 Elementary Biochem Lab: 1** |

✓ - indicates that this requirement will be satisfied by a course within the required major/core courses

* ≥ C- required

** may substitute CHEM321/325 and 322/326 Organic Chem I and II lecture and lab for 213/215 and 214/216 listed above

Students are admitted to the MLS Interest major and apply for the MLS-BS major typically at the end of the sophomore year. Preferred Criteria for Admission to the MLS-BS Major, typically end of sophomore year: ≥ 2.0 GPA in first 4 semesters both cumulative and in these courses: BISC207, BISC208, BISC276, BISC300, CHEM103/133 OR 107, CHEM104/134 OR 108, CHEM213/215 AND CHEM214/216; completion of 60 credits.

Medical Laboratory Science (MLS) Major

Curriculum for 2023-2024 Academic Year

124 Credits & ≥2.0 Cumulative GPA Required for Graduation

Suggested MLS Academic Program Sequence (see note below)

Consult with your advisor for possible alternative sequencing and term availability of courses. MMSC course term availability listed below is proposed for the 2023-24 academic year but is subject to change. Refer to Course Descriptions at <https://udapps.nss.udel.edu/CourseDescription/> for associated course Prerequisites and Corequisites.

First Year

30 credits

FALL – 16 credits

BISC207 Intro Biology I: 4
CHEM103/133 Gen Chemistry: 4
Mathematics: 3
MMSC100 Intro to Medical & Molecular Sciences (P/F): 1
UNIV101 First Year Experience I: 1
Breadth Requirement _____: 3

SPRING – 14 credits

BISC208 Intro Biology II: 4
CHEM104/134 Gen Chemistry: 4
ENGL110 First Year Writing: 3
MMSC200 The Language of Medicine: 3

Second Year

29 credits

FALL – 14 credits

BISC306 General Physiology: 3
CHEM213 Elementary Organic Chemistry: 3**
CHEM215 Elem Organic Chem Lab: 1**
MMSC250 Comm., Educ & Ethics in Hlthcare: 1 (fall only)
Breadth Requirement _____: 3
Breadth Requirement _____: 3

SPRING – 15 credits

BISC300 Intro to Microbiology: 4
CHEM214 Elementary Biochemistry: 3**
CHEM216 Elem Biochemistry Lab: 1**
Elective 1
Breadth Requirement/Multicultural _____: 3
Second writing course (designated each term): 3

Third Year

30 credits

FALL – 13 credits; MMSC courses below Fall only

MMSC370 Phlebotomy & Specimen Processing: 1
MMSC375 Biostatistics for Bio & Health Sciences: 2
MMSC402/412 Body Fluid Analysis Lecture/Lab: 2/1
MMSC415/416 Clin Immun & Med Virology Lecture/Lab: 3/1
MMSC491 Human Molecular Genetics: 3

SPRING – 17 credits; MMSC courses below Spring only

MMSC407/417 Clinical Physio Chem Lecture/Lab: 3/1
MMSC409/419 Immunohematology I Lecture/Lab: 2/1
MMSC423/424 Hematology I Lecture/Lab: 2/1
MMSC428/429 Medical Microbio & Parasitology Lec/Lab: 3/2
MMSC493 Cellular & Molecular Diagnostic Techniques: 2

Fourth Year

33 credits

FALL – 18 credits; MMSC courses below Fall only

MMSC418 Senior Seminar: 0
MMSC420/421 Immunohematology II Lecture/Lab: 2/1
MMSC433/434 Hematology II Lecture/Lab: 2/2
MMSC436 Clinical Physiological Chemistry II: 3
MMSC437 Clinical Laboratory Instrumentation: 2
MMSC438/439 Diagnostic Bacteriology & Med Mycology Lecture and Lab: 3/2
MMSC461 Laboratory Practice & Leadership I: 1

WINTER (off campus – 1 credit (offered winter only)

MMSC472 Clinical Urinalysis Practicum: 1

SPRING – 14 credits; MMSC courses below Spring only

MMSC471 Laboratory Practice & Leadership II: 1
MMSC473 Clinical Chemistry Practicum: 3
MMSC475 Clinical Hematology Practicum: 3
MMSC477 Clinical Microbiology Practicum: 3
MMSC479 Clinical Immunohematology Practicum: 3
MMSC480 Senior Seminar II: 1

Total of 122 credits

4+1 BS/MS Program students substitute: 1) MMSC603 Research Design for MMSC375, and 2) MMSC691 Human Molecular Genetics for MMSC491

** may substitute [CHEM321/325](#) and [322/326](#) Organic Chem I and II lecture and lab for [213/215](#) and [214/216](#) listed above

Students are strongly advised to refer to their **Degree Audit** regularly (accessed via UDSIS) to confirm progressive completion of graduation requirements as designated in the UD online Undergraduate Catalog. Although every effort is made to accurately reflect curriculum requirements here, students are responsible for utilizing the Degree Audit for official confirmation of the status of degree requirement completion. Medical Laboratory Science 23-24 program requirements can be found at www.udel.edu/catalog > Programs > Medical Laboratory Science (BS). Please be sure to select the correct academic year for your program requirements.

Note: Licensure criteria in New York and California may entail additional requirements. See your advisor for details.