

# Medical Laboratory Science (MLS) Major

## Curriculum for 2021-2022 Academic Year

124 Credits & ≥2.0 Cumulative GPA Required for Graduation

### University Requirements:

- ENGL110 Seminar in Composition\*
- First Year Seminar (FYS) 0-4 cr (UNIV101)
- Discovery Learning Experience (DLE) 3 cr (satisfied by MMSC473)
- Multicultural Requirement 3 cr \_\_\_\_\_ (may simultaneously satisfy breadth or 2<sup>nd</sup> 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\* 3 cr \_\_\_\_\_
- 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 (after 45 credits completed; must be designated in term taken; may also be breadth)
- Mathematics (one of the following; MATH114, 115, 117, 221 or 241)
- Additional Breadth
  - Either Creative Arts & Humanities or History & Cultural Change 3 cr \_\_\_\_\_
  - Social & Behavioral Sciences 3 cr \_\_\_\_\_

### Core \* (66 credits; minimum grade of C- required in all MMSC courses):

- |  |  |
|--|--|
| <input type="checkbox"/> MMSC100 Intro to Med Lab Sciences: 1            | <input type="checkbox"/> MMSC429 Medical Microbiology Lab: 2               |
| <input type="checkbox"/> MMSC200 The Language of Medicine: 3             | <input type="checkbox"/> MMSC433 Hematology II: 2                          |
| <input type="checkbox"/> MMSC250 Comm, Ed & Ethics in Healthcare: 1      | <input type="checkbox"/> MMSC434 Hematology II Lab: 2                      |
| <input type="checkbox"/> MMSC360 Clinical Immun & Medical Virology: 3    | <input type="checkbox"/> MMSC436 Clin Physiological Chem II: 3             |
| <input type="checkbox"/> MMSC362 Clinical Immun & Medical Vir Lab: 1     | <input type="checkbox"/> MMSC437 Clinical Laboratory Instrumentation: 2    |
| <input type="checkbox"/> MMSC370 Phlebotomy Practicum: 1                 | <input type="checkbox"/> MMSC438 Diag Bacteriology & Med Mycology: 2       |
| <input type="checkbox"/> MMSC375 Stats & Rsrch for Med Lab Scientists: 2 | <input type="checkbox"/> MMSC439 Diag Bact & Med Mycology Lab: 2           |
| <input type="checkbox"/> MMSC402 Body Fluid Analysis: 1                  | <input type="checkbox"/> MMSC461 Laboratory Practice & Leadership I: 1     |
| <input type="checkbox"/> MMSC 412 Body Fluid Analysis Lab: 1             | <input type="checkbox"/> MMSC471 Laboratory Practice & Leadership II: 1    |
| <input type="checkbox"/> MMSC407 Clin Physiological Chem I: 3            | <input type="checkbox"/> MMSC472 Clinical Urinalysis Practicum: 1          |
| <input type="checkbox"/> MMSC417 Clin Physiological Chem Lab I: 1        | <input type="checkbox"/> MMSC473 Clinical Chemistry Practicum: 3           |
| <input type="checkbox"/> MMSC409 Immunohematology I: 2                   | <input type="checkbox"/> MMSC475 Clinical Hematology Practicum: 3          |
| <input type="checkbox"/> MMSC419 Immunohematology I Lab: 1               | <input type="checkbox"/> MMSC477 Clinical Microbio & Immun Practicum: 3    |
| <input type="checkbox"/> MMSC418 Senior Seminar: 0                       | <input type="checkbox"/> MMSC479 Clinical Immunochem Practicum: 3          |
| <input type="checkbox"/> MMSC420 Immunohematology II: 2                  | <input type="checkbox"/> MMSC480 Senior Seminar II: 1                      |
| <input type="checkbox"/> MMSC421 Immunohematology II Lab: 1              | <input type="checkbox"/> MMSC491 Human Molecular Genetics: 3               |
| <input type="checkbox"/> MMSC423 Hematology I: 2                         | <input type="checkbox"/> MMSC493 Cellular & Molecular Diagnostic           |
| <input type="checkbox"/> MMSC424 Hematology I Lab: 1                     | Techniques: 2  |
| <input type="checkbox"/> MMSC428 Medical Microbiology: 3                 | <input type="checkbox"/> ≥ 124 credits/2.0 Cum GPA required for graduation |

### Science Requirements (32 credits):

- |  |  |
|--|--|
| <input type="checkbox"/> BISC207 Introductory Biology I:4              | <input type="checkbox"/> CHEM104/134 or 108 Gen Chem/for Life Sci II:4 |
| <input type="checkbox"/> BISC208 Introductory Biology II: 4            | <input type="checkbox"/> CHEM213 Elementary Organic Chem: 3**          |
| <input type="checkbox"/> BISC276 Human Physiology: 4                   | <input type="checkbox"/> CHEM215 Elem Organic Chem Lab: 1**            |
| <input type="checkbox"/> BISC300 Introduction to Microbiology: 4       | <input type="checkbox"/> CHEM214 Elementary Biochem: 3**               |
| <input type="checkbox"/> CHEM103/133 or 107 Gen Chem/for Life Sci I: 4 | <input type="checkbox"/> 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.**

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## Curriculum for 2021-2022 Academic Year

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### 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 2020-21 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 or 107 Gen Chemistry: 4  
Mathematics: 3  
MMSC100 Intro to Med Lab Science: 1  
UNIV101 First Year Experience: 1  
Breadth Requirement \_\_\_\_\_ / \_\_\_\_\_: 3

##### SPRING – 14 credits

BISC208 Intro Biology II: 4  
CHEM104/134 or 108 Gen Chemistry: 4  
ENGL110 Seminar in Composition: 3  
MMSC200 The Language of Medicine: 3

#### Second Year

30 credits

##### FALL – 15 credits

BISC276 Human Physiology: 4  
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  
Breadth Requirement \_\_\_\_\_ / \_\_\_\_\_: 3

#### Third Year

32 credits

##### FALL – 15 credits; MMSC courses below Fall only

MMSC360/362 Clin Immun & Med Virology Lecture/Lab: 4  
MMSC370 Phlebotomy Practicum: 1  
MMSC375 Research & Stat for Med Lab Scientist: 2  
MMSC402/412 Body Fluid Analysis Lecture/Lab: 2  
MMSC491 Human Molecular Genetics: 3  
Second writing course: 3

##### SPRING – 17 credits; MMSC courses below Spring only

MMSC493 Cellular & Molecular Diagnostic Techniques: 2  
MMSC407/417 Clinical Physio Chem Lecture/Lab: 4  
MMSC409/419 Immunohematology I Lecture/Lab : 3  
MMSC423/424 Hematology I Lecture/Lab: 3  
MMSC428/429 Medical Microbiology Lecture/Lab: 5

#### Fourth Year

32 credits

##### FALL – 17 credits; MMSC courses below Fall only

MMSC418 Senior Seminar: 0  
MMSC420/421 Immunohematology II Lecture/Lab: 3  
MMSC433/434 Hematology II Lecture/Lab: 4  
MMSC436 Clinical Physiological Chemistry II: 3  
MMSC437 Clinical Laboratory Instrumentation: 2  
MMSC438/439 Diagnostic Bacteriology & Med Mycology Lecture and Lab: 4  
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

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**Total of 124 credits**

\*\* 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. Medical Laboratory Science 21-22 program requirements can be found at [https://catalog.udel.edu/preview\\_program.php?catoid=47&pooid=34736&returnto=8860](https://catalog.udel.edu/preview_program.php?catoid=47&pooid=34736&returnto=8860) . 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.