

Medical Laboratory Science Degree Planning Guide



Students must complete all core classes and the courses from the upper level baskets: All students must complete a minimum of 42 credits under the BIOL prefix to earn a degree

3+1 BS MLS – Designed for transfers or incoming students entering with credits.

BS Biology with MLS Concentration – Designed for students that are not accepted into an MLS Internship.

4+1 BS Biology/MLS Double major – Complete 128 total hours to earn a Biology degree PLUS the MLS Internship

In order to graduate 128 credit hours must be completed. Last 30 credit hours must be completed in residency. 2/21

BIOLOGY CORE REQUIREMENTS

BIOL 117 General Biology I (4)
 BIOL 118 General Biology II (4)
 BIOL 260 General Genetics (4) @
 BIOL 270 Evolution (4)

BIOL 499 - MLS Internship (36) - Students must be accepted into an affiliated AND accredited program

If students choosing a concentration in MLS are NOT entering an internship then either SCI 498 - Advanced Topics (2) or BIOL 401 Research 1 (3) must be completed.

GENERAL EDUCATION: 33 CREDITS

I. Skills/Processes for Literacy (3 courses)

- A. INTD 101 University Seminar
- B. ENGL 101 Composition: Theme Writing
- C. ENGL 104 Composition: The Essay

II. Humanities (5 courses)

- A. Fine Arts (1 course): Art Music, Performance
- B. Literature/Language (1 course): ENGL or Foreign Language
- C. Philosophy (1 course)
- D. Humanities Electives (2 courses)
 - 1. HUM 101/301 or HIST 131
 - 2. One additional elective from ENGL, The Arts/Aesthetics, Foreign Language, HUM, PHIL, REL

III. Social Science (3 courses)

- A. American History or Government
- B. Social Science Electives (2 courses from ECON, GEOG, HIST, PSCI, PSYC, SOC)

IV. Natural Science/Quantitative Reasoning (met through major)

V. General Education Electives (2 courses): From the College of Arts and Sciences

TIMING - * denotes that the course is offered every other year

PREREQUISITES F=Fall S=Spring
 @=117/118 # = 260 \$ = 270
 & = 316 > = 101/102 !=394

COREQUISITES

% = 260 ^ = 270 a = 394

Ω - Transfer students may substitute BIOL 115 or BIOL 350 with permission of MLS Director
 β - Transfer students may substitute BIOL 104 with permission of MLS Director

ALTERNATE COURSE OFFERINGS

Fall Even Years: Conservation Biology, Comparative Vertebrate Anatomy

Fall Odd Years: Ecology, Zoology, Physical Chemistry 1, Microbial Genetics

Spring Even Years: Pathophys, Ex Science, Plants and People, Ornithology, Physical Chemistry 2, Inorganic Chemistry, Microbiology, Applied Microbiology

Spring Odd Years: Intro to Gross, Molecular Genetics, Botany

UPPER LEVEL BASKETS: REQUIRED FOR ALL MLS MAJORS

Fall

BIOL 101 Anatomy and Physiology (4) Ω
 BIOL 394 Advanced Physiology (3) F @ or >
 BIOL 316 General Microbiology (4) # β
 Plus 1 class (CHEM 320 strongly suggested)

3+1 MLS Majors must complete 46 credits in Biology and the 36 hour internship for a BS MLS degree completion

BIOL 115 may be substituted for BIOL 101 or BIOL 102 and may be taken in either the Fall or Spring semester

Spring

BIOL 102 Anatomy and Physiology 2 (4) S Ω
 BIOL 351 Cell Biology (4) @
 BIOL 354 Immunology (3) * &
 One other course (BIOL 100 strongly suggested)

Application to MLS Internship may occur up to one year prior to anticipated start of internship at the permission of the MLS Director

RECOMMENDED ADDITIONAL COURSES FOR STUDENTS IN THE 4+1 BIOL/MLS DOUBLE MAJOR

Suggested choices for the 4+1 BS Biology and MLS Double Major

Optional choices for BS Biology with MLS Concentration

Students may take other courses offered in the Biology or Chemistry programs rather than suggested or optional choices after discussion with advisor.

Math, Biology and Chemistry courses must include a minimum of 84 credits.

BIOL 390 Biotechnology (4) F #
 CHEM 320 Biochemistry
 CHEM 353 Quantitative Analysis (4) F
 CHEM 410 Instrumental Analysis (4) S

BIOL 395 Pathophysiology (3) W*! (optional but strongly recommended)
 BIOL 100 Intro to Clinical Lab Science (2) S (optional but strongly recommended)
 BIOL 391 Molecular Genetics (4) S * ^
 CHEM 321 Biochemistry II (3) S *

NON-BIOLOGY SCIENCE AND MATH REQUIREMENTS

MATH 151 Calculus I (4) F (recommended) OR
 MATH 125 College Algebra & Trigonometry (3) F/S

CHEM 103 General Chemistry I (4)
 CHEM 104 General Chemistry II (4)
 CHEM 203 Organic Chemistry I (4)
 CHEM 204 Organic Chemistry II (4)

MATH 141 Elementary Stats (3)
 F/S OR BIOL/MATH 420: Experimental Design for Life Science OR PSYC 341 Understanding Statistical Inference

PHYS 153 Calculus-Based Physics I (4) S (recommended) OR PHYS 103 Gen. Physics I (4) F

PHYS 154 Calculus-Based Physics II (4) S (recommended) OR PHYS 104 Gen. Physics II (4) S

POPULAR MINORS

Chemistry Minor
 Psychology Minor
 Coaching Minor
 Computational Science Minor

Education Minor
 Business Administration Minor
 Management Information Systems Minor