

# Medical Laboratory Science Option

- Plan A (p. 1)
- Plan B (p. 2)

## Plan A

Freshman Year	Credits	
	Fall	Spring
BIOM 101 - Careers in Microbiology	1	
CHMY 141 - College Chemistry I & CHMY 142 - College Chemistry I Lab	4	
University Core and Electives	10	
CHMY 143 - College Chemistry II & CHMY 144 - College Chemistry II Lab		4
BIOB 160 - Principles of Living Systems		4
BIOH 201 - Human Anatomy and Physiology I		5
University Core and Electives		2
Year Total:	15	15
Sophomore Year	Credits	
	Fall	Spring
CHMY 211 - Elements of Organic Chemistry & CHMY 212 - Elements of Organic Chemistry Lab	5	
BIOH 211 - Human Anatomy and Physiology II	4	
University Core and Electives	6	
BCH 380 - Biochemistry & BCH 381 - Biochemistry Lab		5
BIOM 360 - General Microbiology		5
STAT 216Q - Introduction to Statistics		3
University Core and Electives		2
Year Total:	15	15
Junior Year	Credits	
	Fall	Spring
BIOM 494 - Seminar/Workshop (two semesters) or BIOM 497 - Educational Methods: Microbiology	2	
BIOH 406 - Hematology Laboratory	1	
BIOM 363 - Eukaryotic Cell Biology or BIOM 450 - Microbial Physiology or BIOH 303 - Global Diseases and Health Disparities	3	
BIOB 410 - Immunology	3	
BIOM 435 - Virology or BIOM 400 - Medical Microbiology	3	
BIOH 405 - Hematology	3	
BIOM 410 - Microbial Genetics or BIOB 375 - General Genetics		3
BIOM 431 - Medical Bacteriology		3
BIOM 432 - Med Bacteriology Lab		2
BIOM 441 - Eukaryotic Pathogens		4
University Core and Electives		3
Year Total:	15	15
<b>Total Program Credits:</b>	<b>90</b>	

## Senior Professional Year Medical Laboratory Science - Plan A

Students with a 2.5 GPA or higher can apply for a senior year of professional training. They will obtain a degree in Microbiology/Medical Laboratory Science option from MSU-Bozeman. Total credits for graduation are 124-128; 42 of these credits must be in courses numbered 300 and above, and 32 of those credits must be in the distributed University Core. Note: Additional credits are required for this option because students take an additional summer session of courses. This additional semester is necessary because it meets the professional standards and is approved by the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Rd., Suite 720, Rosemont IL 60018-5119; (773) 714-8880.

## Courses for Montana Medical Laboratory Science (MMLS) Training Program

If student attends the Montana Medical Laboratory Science Training Program:	Credits		
	Fall	Spring	Summer
BIOH 476 - Clinical Microbiology II	3		
BIOH 477 - Clinical Chemistry and Urinalysis II	3		
BIOH 478 - Clinic Immunohematology II	2		
BIOH 479 - Clinical Immunology/Serology	1		
BIOH 473 - Laboratory Practice II	1		
BIOH 474 - Clinical Hematology II	2		
BIOH 475 - Clinical Hemostasis	1		
BIOH 482 - Laboratory Practice III		2	
BIOH 484 - Clinical Hematology III		2	
BIOH 486 - Clinical Microbiology III and Molecular Diagnostics		2	
BIOH 487 - Clinical Chemistry III		2	
BIOH 488 - Clinical Immunohematology		3	
BIOH 489 - Laboratory Management		1	
BIOH 464 - Clinical Hematology and Body Fluids			2
BIOH 466 - Clinical Microbiology I			3
BIOH 467 - Clinical Chemistry I			3
BIOH 468 - Clinical Immunohematology I			3
BIOH 469 - Essentials of Clinical Lab Practice			1
<b>Total Program Credits:</b>			<b>37</b>

## Suggested Electives for Plan A

BIOM 405	Host-Associated Microbiomes	3
BIOM 425	Toxicology: Science of Poisons	3
BIOM 430	Applied and Environmental Microbiology	4
or BIOM 415	Microbial Diversity, Ecology, and Evolution	
BIOM 455R	Research Mthds in Microbiology	4
BIOM 457R	Research Methods in Immunology	4

**Plan B****Freshman Year**

	Credits	
	Fall	Spring
CHMY 141 - College Chemistry I & CHMY 142 - College Chemistry I Lab	4	
STAT 216Q - Introduction to Statistics	3	
BIOM 101 - Careers in Microbiology	1	
University Core and Electives	7	
CHMY 143 - College Chemistry II & CHMY 144 - College Chemistry II Lab		4
BIOB 160 - Principles of Living Systems		4
University Core and Electives		7
Year Total:	15	15

**Sophomore Year**

	Credits	
	Fall	Spring
BIOM 360 - General Microbiology	5	
CHMY 211 - Elements of Organic Chemistry & CHMY 212 - Elements of Organic Chemistry Lab	5	
BIOH 201 - Human Anatomy and Physiology I	5	
PHSX 205 - College Physics I		4
BIOH 211 - Human Anatomy and Physiology II		4
BCH 380 - Biochemistry & BCH 381 - Biochemistry Lab		5
University Core and Electives		2
Year Total:	15	15

**Junior Year**

	Credits	
	Fall	Spring
BIOH 405 - Hematology	3	
BIOH 406 - Hematology Laboratory	1	
University Core and Electives	11	
BIOM 432 - Med Bacteriology Lab		2
BIOM 431 - Medical Bacteriology		3
University Core and Electives		10
Year Total:	15	15

**Senior Year**

	Credits	
	Fall	Spring
BIOM 494 - Seminar/Workshop <sup>two semesters</sup> or BIOM 497 - Educational Methods: Microbiology	2	
BIOB 410 - Immunology	3	
University Core and Electives	10	
BIOM 410 - Microbial Genetics or BIOB 375 - General Genetics		3
BIOM 425 - Toxicology: Science of Poisons		3
BIOM 441 - Eukaryotic Pathogens		4
University Core and Electives		5
Year Total:	15	15

**Total Program Credits:****120**

BIOM 427	General Parasitology <sup>not rec. if already took BIOM441</sup>	4
BIOM 430	Applied and Environmental Microbiology	4
BIOM 435	Virology	3
BIOM 455R	Research Mthds in Microbiology	4
BIOM 457R	Research Methods in Immunology	4

**Required Electives for Plan B**

Take 3 additional courses from these choices:

BIOH 303	Global Diseases and Health Disparities	3
BIOM 363	Eukaryotic Cell Biology	3
BIOM 400	Medical Microbiology	3
BIOM 405	Host-Associated Microbiomes	3