



# Winona State University Four-Year Program Map

Created on 12/10/2019  
Effective Fall 2019

**Program:** Medical Laboratory Science Major (BS MLS)  
**Emphasis (optional):**

Fall Semester				Spring Semester		
	Course	Requirement Met	SH	Course	Requirement Met	SH
<b>Year 1</b>	ENG 111 College Reading & Writing	GE Goal 1	4	CMST 191 Intro to Public Speaking	GE Goal 1	3
	BIOL 241 Basics of Life (either semester)	GE Goal 3/Major	4	CHEM 213 Principles of Chemistry II	GE Goal 3/Major	4
	CHEM 212 Principles of Chemistry I	GE Goal 3/Major	4	MATH 120 Precalculus	GE Goal 4/Major	4
	General Education Course	GE Goal 5-10	3	General Education Elective	GE Goal 5-10	3
	Physical Development/Wellness Elective	PDW	1	General Education Elective	GE Goal 5-10	3
				Physical Development/Wellness Elective	PDW	1
	<i>NOTE: A minimum GPA of 2.75 is required overall and in the major.</i>			<i>NOTE: To remain under 120 credits, take courses that meet two goal areas within GOALS 5-10.</i>		
<b>First-Year Fall Semester Credit Hour Total</b>			<b>16</b>	<b>First-Year Spring Semester Credit Hour Total</b>		
<b>Year 2</b>	BIOL 322 Human Anatomy	Major	4	BIOL 323 General Physiology	Major	4
	BIOL 333 Clinical Laboratory Techniques	Major	1	BIOL 324 General Physiology Laboratory	Major	2
	BIOL 308 Cell Biology	Major/WI	3	CHEM 340 Organic Chemistry Survey	Major	4
	BIOL 307 Cell Biology Laboratory	Major/OI	1	BIOL 444 Hematology	Major	2
	STAT 301 Statistical Thinking for Healthcare of STAT 305 Biometry	Major	3	General Education Elective	GE Goal 5-10	6
	General Education Elective	GE Goal 5-10	5			
	<i>NOTE: Students must earn a minimum of 40 S.H. from Goals 1-10.</i>			<i>NOTE: Students must earn a minimum 40 S.H. credits of 300 &amp; 400 Level Courses.</i>		
<b>Second-Year Fall Semester Credit Hour Total</b>			<b>17</b>	<b>Second-Year Spring Semester Credit Hour Total</b>		
<b>Year 3</b>	CHEM 375 Clinical Biochemistry (Fall only)	Major	4	BIOL 462 Parasitology (recommended) – Spring only	Major Elective	4
	BIOL 310 Genetics	Major/CAI	3	BIOL 443 Urinalysis and Immunohematology Spring only	Major	3
	BIOL 409 General Microbiology <i>Prerequisite for BIOL 457</i>	Major/OI	4	BIOL 442 Clinical Laboratory Management Spring only	Major	1
	BIOL 445 Immunology	Major/WI	3	BIOL 457 Clinical Microbiology Spring only	Major	3
	BIOL 446 Immunology Lab (Fall only) Must be concurrent or taken after BIOL 445	Major	1	General Education Course	GE Goal 5-10	3
	Recommended: BIOL 440 Clinical Physiology (for students pursuing HCMC) (Fall only)	Major	3	General Education Course	GE Goal 5-10	3
	<i>NOTE: *Chemistry Elective can choose between CHEM 375, 405 or 406.</i>			<i>NOTE:</i>		
<b>Third-Year Fall Semester Credit Hour Total</b>			<b>18</b>	<b>Third-Year Spring Semester Credit Hour Total</b>		
<b>Year 4</b>	BIOL 450 Medical Technology I	Major	12	BIOL 453 Medical Technology IV	Major	4
<i>NOTE:</i>			<i>NOTE: 120 Credits are needed in order to graduate.</i>			
<b>Fourth-Year Fall Semester Credit Hour Total</b>			<b>12</b>	<b>Fourth-Year Spring Semester Credit Hour Total</b>		

Total Credit Hours (SH): 120

Guide to 4 Year Major Maps

- 4 Year Major Maps are intended to show a recommended four-year pathway to a degree. Students must be fulltime, college ready, and ready to declare a major to follow the map exactly as shown. Maps are only a sample; there may be other pathways that lead to completion of the degree in four years.
- Major Maps are NOT intended to take the place of meetings with advisors.
- Major Maps are NOT intended to take the place of the Degree Audit System (DARs).

All courses listed on a major map will be labelled as one or more of the following:

GE Goal	General Education Goal Area	Indicates that the course meets one of the 10 General Education Goals
Gen Elec	General Elective	Indicates that the course does not meet a General Education, Major or Minor requirement but does count toward the degree
Major	Major Requirement	Indicates that the course meets a Major requirement
Major Elec	Major Elective	Indicates that the course counts toward the major as an elective, must be chosen from list of approved courses
Minor	Minor Requirement	Indicates that the course meets a Minor requirement
CAI	Critical Analysis Intensive	Indicates that the course counts as a Critical Analysis Intensive
OI	Oral Intensive	Indicates that the course counts as an Oral Intensive
WI	Written Intensive	Indicates that the course counts as a Written Intensive
PDW	Personal Development and Wellness	Indicates that the course counts as a Personal Development and Wellness Requirement

General Education Goal Areas:

		Minimum credits required
Goal 1	Communication	7 credits
Goal 2	Critical Thinking (Met with completion of all other goal areas)	--
Goal 3	Natural Science	7 credits
Goal 4	Mathematics	3-4 credits
Goal 5	History, Social/Behavioral Sciences	9 credits
Goal 6	Humanities and Fine Arts	9 credits
Goal 7	Human Diversity	3 credits
Goal 8	Global Perspective	3 credits
Goal 9	Ethic and Civic Responsibility	3 credits
Goal 10	People and the Environment	3 credits

Graduation Requirements:

- Minimum of 120 total credits (semester hours) required for Bachelors' Degree
- Minimum of 40 General Education credits required
- Minimum of 40 Upper Division credits required
- Minimum of 30 Residence credits required in Junior/Senior years
- Minimum WSU cumulative grade point average of 2.00; some programs require higher grade point averages

Major Maps are not contracts. Winona State University reserves the right to make changes at any time, without prior notice, to programs, policies, procedures and information described in this major map. Students should consult the appropriate academic department or college for currently accurate program information.