

# Clinical Laboratory Science - Bachelor of Science (BS)

## Major requirements

(College of Science and Health)

## Clinical laboratory science admission policy

Admission to the clinical laboratory science major is on a competitive basis. Students apply for admission early in the spring semester of the academic year just prior to the beginning of their professional studies, typically in the sophomore year. Formal acceptance into the major, effective at the beginning of the fall semester, is based on the submission of an application for admission to the major, personal recommendations, review of academic performance, and an interview with the program admission committee. A minimum cumulative grade point average of 2.75 is strongly recommended.

## Admission to clinical requirement

The application process for the clinical year is similar to the process required for acceptance to the clinical laboratory science major. Acceptance into a practicum is not guaranteed by the university. The affiliated practicum sites with UWL are accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

During the clinical component, in an accredited program, students will register for (or be allowed to transfer in from Mayo Clinic or Hennepin Healthcare's MLS program) the equivalent of, at minimum, 31 UWL credits. The clinical phase routinely begins in late August with anticipated graduation the following spring. Graduates of the program are eligible to sit for certification examinations offered by national certification agencies.

NAACLS accredited affiliates of UWL:

- Mayo Clinic, Rochester, Minnesota<sup>1</sup>
- Hennepin Healthcare, Minneapolis, Minnesota<sup>1</sup>
- Ascension St. Elizabeth Hospital, Appleton, Wisconsin
- Aspirus Wausau Hospital, Wausau, Wisconsin
- Marshfield Laboratories, Marshfield, Wisconsin

UWL is affiliated with the University of North Dakota, an accredited program, which provides access to many other hospital affiliates throughout the upper Midwest.

<sup>1</sup> Clinical laboratory science students who select to complete the required clinical at Mayo Clinic or Hennepin Healthcare enroll at the practicum site rather than at UW-La Crosse. The courses taken during the clinical meet UW-La Crosse CLI program requirements. The student must request an official transcript be sent to UW-La Crosse from the clinical site. Upon successful completion of the clinical and all other graduation requirements, the students are awarded a Bachelor of Science degree from UW-La Crosse. Mayo Clinic and Hennepin Healthcare grant a Certificate of Completion for their program.

## Graduation requirements

Core courses in the pre-professional curriculum must be completed with a grade of "C" or above. UWL students must meet all university graduation requirements including those for general education, college core, and university degree requirements. However, students in the clinical laboratory science major are exempt from the College of Science and Health core requirements.

## Curriculum

93-105 credits including clinical phase

### Pre-professional curriculum (39-46 credits)

All pre-clinical lab science program majors are strongly encouraged to take CLI 120 Introduction to Clinical Laboratory Science.

Code	Title	Credits
<b>Biology core:</b>		
BIO 105	General Biology	4
BIO 306	Genetics	4
BIO 312	Human Anatomy and Physiology I	4
BIO 313	Human Anatomy and Physiology II	4
<b>Chemistry core:</b>		
CHM 103	General Chemistry I	5
CHM 104	General Chemistry II	5
Select one of the following:		5-8
CHM 300 & CHM 302	Fundamental Organic Chemistry and Fundamental Organic Chemistry Laboratory	
CHM 303 & CHM 304 & CHM 302	Organic Chemistry Theory I and Organic Chemistry Theory II and Fundamental Organic Chemistry Laboratory	
CHM 303 & CHM 304 & CHM 305	Organic Chemistry Theory I and Organic Chemistry Theory II and Organic Chemistry Laboratory	
<b>Microbiology core:</b>		
MIC 230	Fundamentals of Microbiology	4
<b>Math core:</b>		
		4-8
MTH 150	College Algebra (or placement above MTH 150)	
STAT 145	Elementary Statistics	
<b>Total Credits</b>		<b>39-46</b>

Pre-clinical lab science program students must have completed a substantial portion of these requirements in the semester that they apply for formal admission to the clinical lab science program major. Students who lack only a few credits are encouraged to consult the clinical lab science program advisor to determine when they should apply.

### Professional curriculum (54-59 credits)

Code	Title	Credits
<b>Preclinical phase (on campus):</b>		
CLI 395	Urinalysis and Body Fluids	2
CLI 410	Clinical Hematology	3
CLI 420	Immunochemistry	3
CLI 440	Clinical Parasitology	1-4
or BIO 406	Parasitology	
CLI 461	Capstone in Clinical Laboratory Science	1
MIC 310	Immunology	3

MIC 407	Pathogenic Bacteriology	4
MIC 410	Immunology Laboratory	2
Select one of the following:		4-6
CHM 325	Fundamental Biochemistry	
CHM 417 & CHM 418	Biochemistry I: Macromolecules and Biochemistry II: Metabolism and Genetic Information	
<b>Clinical phase (at an accredited hospital):</b>		
CLI 450	Clinical Chemistry	6
CLI 455	Clinical Hematology/Hemostasis	6
CLI 460	Clinical Immunohematology	6
CLI 465	Clinical Immunology	2
CLI 470	Diagnostic Microbiology	8
CLI 480	Laboratory Management and Education	3
<b>Total Credits</b>		<b>54-59</b>

The following courses are recommended to complement the clinical laboratory science major:

Code	Title	Credits
CLI 484	Laboratory Management	2
MIC 420	Introductory Virology	3
MIC 421	Virology Laboratory	2
BIO 413	Medical Mycology	3
BIO 435	Molecular Biology	3
BIO 436	Molecular Biology Laboratory	1
BIO 466	Human Molecular Genetics	3
BIO 424	Human Endocrinology	3
CLI 495	Independent Study in Medical Laboratory Science	1-3
CLI 496	Special Topics in Clinical Laboratory Science	1-3
MIC 416	Prokaryotic Molecular Genetics	4
MIC 454	Mechanisms of Microbial Pathogenicity	2
ECO 110	Microeconomics and Public Policy	3
PHL 201	Ethical Theory and Practice	3

## Degree requirements

All students must complete the general education, college core (waived for clinical laboratory science majors), major/minor, and university degree requirements in order to qualify for a degree. The easiest way to track all of these requirements is to refer to the Advisement Report (AR) found in the Student Information System (WINGS) Student Center. All enrolled students have access to the AR.

- General education (<http://catalog.uwlax.edu/undergraduate/generaleducation/>)
- Baccalaureate degree requirements (p. 2)

## Baccalaureate degree requirements

Candidates for the Bachelor of Arts or the Bachelor of Science degrees must accomplish the following:

1. Fulfill the general education requirements.
2. Complete at least one ethnic studies (diversity) course.
3. Complete the courses prescribed by the Undergraduate Curriculum Committee for the degree desired in the respective school or college.
4. Earn a minimum of 120 semester credits with at least a 2.00 cumulative GPA.<sup>1,2</sup>

5. At least 40 credits must be earned in 300/400 level courses. Transfer courses earned or transferred at the 300/400 level apply to this requirement.
6. Complete major and minor requirements with at least a 2.00 GPA<sup>1, 2</sup> in each major and minor (and concentration or emphasis, if selected).
7. A minimum of 30 semester credits in residence at UWL is required for graduation. (See undergraduate resident requirement (<http://catalog.uwlax.edu/undergraduate/academicpolicies/graduation/#undergraduate-residence-requirement>.)
8. Submit an application for graduation via the "Apply for Graduation" link in the WINGS Student Center as soon as the student has registered for his or her final semester or summer term in residence. December and winter intersession graduates should apply by May 1. May and summer graduates should apply by December 1.

<sup>1</sup> Grade point average requirements for some programs will be considerably higher than 2.00. Re-entering students may be required to earn credits in excess of the 120 needed for graduation in any curriculum in order to replace credits earned in courses in which the content has changed substantially in recent years. Each case will be judged on its own merit.

<sup>2</sup> The grade point average recorded at the time the degree is awarded will not be affected by future enrollment.

**No degree will be awarded unless all requirements are fulfilled and recorded within 30 days after the official ending date of each term.**

## Sample degree plan

Below is a sample degree plan that can be used as a guide to identify courses required to fulfill the major and other requirements needed for degree completion. A student's actual degree plan may differ depending on the course of study selected (second major, minor, etc.). Also, this sample plan assumes readiness for each course and/or major plan, and some courses may not be offered every term. Review the course descriptions or the class timetable (<http://www.uwlax.edu/records/registration/>) for course offering information.

The sample degree plans represented in this catalog are intended for first-year students entering UWL in the fall term. Students should use the Advisement Report (AR) in WINGS (<https://wings.uwlax.edu>) and work closely with their faculty advisor(s) and college dean's office to ensure declaration and completion of all requirements in a timely manner.

### General Education Program

The general education curriculum (Gen Ed) is the common educational experience for all undergraduates at UWL. Sample degree plans include Gen Ed placeholders to ensure completion of the general education requirements. Courses may be rearranged to fit the needs or recommendations of the student's program of study. Gen Ed courses may be taken during winter term (January between the semesters) and summer to reduce the course load during regular terms (fall and spring). Students should consult with their advisor and/or the college academic services director in their college/school for assistance with course and schedule planning. Refer to the general education requirements (<http://catalog.uwlax.edu/undergraduate/generaleducation/>) for more specific details.

At least 40 credits of the 120 credits required must be earned at the 300/400-level.

**Note:** New students and transfer students with less than 12 credits earned are required to take FYS 100 First-Year Seminar (3 cr.) during one of their first two semesters at UWL.

*This sample degree plan does not establish a contractual agreement. It identifies the minimum requirements a student must successfully complete, to qualify for a degree, in a format intended to assist the student in planning their academic career. Actual degree plans may differ.*

Two sample plans are provided below. The first plan is for students who have placed into MTH 151 Precalculus or higher, and the second example is for students who need MTH 150 College Algebra in their first semester.

### Sample Plan 1 - students who placed into MTH 151 or higher

Year 1			
Fall	Credits	Spring	Credits
CHM 103 (if math placement>MTH 150; Gen Ed Natural Lab Science)	5	CHM 104	5
STAT 145 (Gen Ed Math)	4	BIO 105 (Gen Ed Natural Lab Science)	4
CST 110 (Gen Ed Literacy-Oral)	3	CLI 120	1
FYS 100 (Gen Ed First-Year Seminar)	3	ENG 110 or 112 (Gen Ed Literacy-Written)	3
		Gen Ed Arts	2-3
	<b>15</b>		<b>15</b>

Year 2			
Fall	Credits	Spring	Credits
BIO 312	4	Apply for admission to Clinical Lab Science Program	
MIC 230	4	MIC 310	3
Gen Ed Arts	2-3	BIO 313	4
MTH 151 (Gen Ed Math)	4	CHM 300	4
Gen Ed World History	3	CHM 302	1
		Gen Ed Minority Cultures	3
	<b>17</b>		<b>15</b>

Year 3					
Fall	Credits	Spring	Credits	Summer	Credits
MIC 410	2	MIC 407	4	CLI 461	1
CLI 410	3	CLI 395	2	CLI 420	3
CHM 325	4	BIO 306	4		
Gen Ed Humanistic Studies	3	CLI 440	1		
Gen Ed Health & Well Being	3	Gen Ed Self & Society	3		
		Gen Ed Global Studies	3		
	<b>15</b>		<b>17</b>		<b>4</b>

Year 4			
Fall	Credits	Spring	Credits
Clinical Education at Hospital Site	6	Clinical Education at Hospital Site	6
CLI 450	6	CLI 460	6
CLI 455	6	CLI 470	8
CLI 465	2		
CLI 480	3		
	<b>17</b>		<b>14</b>

Total Credits: 129

### Sample Plan 2 - students taking MTH 150 in first semester

Year 1			
Fall	Credits	Spring	Credits
BIO 105 (Gen Ed Natural Lab Science)	4	CHM 103 (Gen Ed Natural Lab Science)	5
MTH 150 (Gen Ed Math)	4	STAT 145 (Gen Ed Math)	4
CST 110 (Gen Ed Literacy-Oral)	3	CLI 120	1
FYS 100 (Gen Ed First-Year Seminar)	3	ENG 110 or 112 (Gen Ed Literacy-Written)	3
Gen Ed Arts	2-3	Gen Ed Arts	2-3
	<b>16</b>		<b>15</b>

Year 2			
Fall	Credits	Spring	Credits
CHM 104	5	Apply for admission to Clinical Lab Science Program	
BIO 312	4	MIC 310	3
MIC 230	4	BIO 313	4
Gen Ed World History	3	CHM 300	4
		CHM 302	1
		Gen Ed Minority Cultures	3
	<b>16</b>		<b>15</b>

Year 3					
Fall	Credits	Spring	Credits	Summer	Credits
MIC 410	2	MIC 407	4	CLI 461	1
CLI 410	3	CLI 395	2	CLI 420	3
CHM 325	4	BIO 306	4		
Gen Ed Humanistic Studies	3	CLI 440	1		
Gen Ed Health & Well Being	3	Gen Ed Self & Society	3		
		Gen Ed Global Studies	3		
	<b>15</b>		<b>17</b>		<b>4</b>

Year 4			
Fall	Credits	Spring	Credits
Clinical Education at Hospital Site	6	Clinical Education at Hospital Site	6
CLI 450	6	CLI 460	6
CLI 455	6	CLI 470	8
CLI 465	2		

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CLI 480	3	
	17	14
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<b>Total Credits: 129</b>		