

# Dual Degree Program in Clinical Laboratory Science and Clinical Microbiology

## Major requirements

The Dual Degree Program in Clinical Laboratory Science and Clinical Microbiology enables a UWL student to earn both a Bachelor of Science degree in clinical laboratory science (CLS) and a Master of Science degree in microbiology with emphasis in clinical microbiology in six years.

After students have been accepted into the CLS Program and completed 90 undergraduate credit hours, they may be accepted into the dual degree program. Students must maintain a 3.00 GPA to remain in the program. The Bachelor of Science degree will be awarded after completion of 120 undergraduate credits, the CLS major requirements, and the general university requirements. Students must have graduate student status before registering for their third graduate course (normally in the second semester of their senior year). The Master of Science degree will be awarded after completion of the B.S. and M.S. requirements.

Contact the Department of Microbiology (<http://www.uwlax.edu/microbiology>) for application information. See the online graduate catalog (<http://catalog.uwlax.edu/graduate/programrequirements/microbiology>) for more information about the program.

### Dual degree timeline:

- Sophomore (spring semester): apply to the CLS Program
- Junior (fall semester): apply to the hospital-sponsored program for clinical year
- Junior (summer after): apply to the dual degree program. Applications due July 1.
- Senior: admitted students apply for graduate special status in order to register for CLI 570 and CLI 580
- Senior (May): students have completed the undergraduate portion of the program upon completion of the clinical internship. After the clinical internship, students register for graduate classes.

## Curriculum

### Required courses for the Bachelor of Science<sup>1</sup>

Students in this dual degree program should complete the following by the end of their junior year:

#### Foundational science courses

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>Microbiology core:</b>		

MIC 230	Fundamentals of Microbiology	4
MIC 310	Immunology	3
MIC 407	Pathogenic Bacteriology	4
MIC 410	Immunology Laboratory	2
<b>Chemistry core:</b>		
CHM 103	General Chemistry I	5
CHM 104	General Chemistry II	5
Select CHM 300 OR CHM 303 and 304 and 305:		5-8
CHM 300	Survey of Organic Chemistry	
CHM 303 & CHM 304 & CHM 305	Organic Chemistry Theory I and Organic Chemistry Theory II and Organic Chemistry Laboratory	
Select CHM 325 OR CHM 417 and 418:		4-7
CHM 325	Fundamental Biochemistry	
CHM 417 & CHM 418	Biochemistry I: Macromolecules and Biochemistry II: Metabolism and Genetic Information	
<b>Math core:</b>		
MTH 150	College Algebra	4
STAT 145	Elementary Statistics	4
Total Credits		56-62

### Junior & senior year courses

Code	Title	Credits
<b>Clinical laboratory science core:</b>		
CLI 395	Urinalysis and Body Fluids	2
CLI 410	Clinical Hematology	3
CLI 420	Immunohematology	3
CLI 461	Capstone in Clinical Laboratory Science	1
CLI 440	Clinical Parasitology	1
<b>At clinical internship site (senior year), including graduate credits:</b>		
CLI 450	Clinical Chemistry	6
CLI 455	Clinical Hematology/Hemostasis	6
CLI 460	Clinical Immunohematology	6
CLI 465	Clinical Immunology	2
Graduate credits: <sup>1</sup>		11
CLI 570	Diagnostic Microbiology	
CLI 580	Laboratory Management and Education	
Total Credits		41

<sup>1</sup> Graduate level credit credits do not count toward the undergraduate degree. Undergraduates will be taking 11 graduate credits total while still undergraduate students.

After completing the coursework listed above, all general education requirements, and all other college and university degree requirements, students in the dual degree program will be awarded the Bachelor of Science with a major in clinical laboratory science. At the start of their final semester of undergraduate work, dual degree students must apply for admission to graduate school at UWL in order to register for the graduate courses required for the Master of Science degree.

### Required courses for the Master of Science

Students must complete the following in order to earn the Master of Science in microbiology with emphasis in clinical microbiology:

Code	Title	Credits
CLI 570	Diagnostic Microbiology (applies to both BS and MS)	8
CLI 580	Laboratory Management and Education (applies to both BS and MS)	3
MIC 554	Mechanisms of Microbial Pathogenicity	2
MIC 753	Epidemiology of Infectious Disease	2
MIC 755	Advanced Immunology	2
MIC 751	Graduate Seminar	1
MIC 751	Graduate Seminar	1
MIC 780	Clinical Microbiology Practicum II	2
MIC 790	Clinical Microbiology Practicum III	2
MIC 799	Research: Master's Thesis	6
Electives		4
Total Credits		33

## 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. (No substitutions for graduation may be made in course requirements for a major or minor after the fourth week of the last semester of the senior year.)
4. Earn a minimum of 120 semester credits with at least a 2.00 cumulative GPA.<sup>1</sup> At least 40 credits must be earned in 300/400 (senior college) level courses. Courses earned at the 100/200 level that transferred to UWL as 300/400 level courses do not apply to this requirement nor do courses from two-year schools.
5. Complete major and minor requirements with at least a 2.00 GPA<sup>1</sup> in each major and minor (and concentration or emphasis, if selected).
6. 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>)).
7. 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.

**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/psprod/?cmd=login&languageCd=ENG&>) 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.

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

*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 plan their academic career. Actual degree plans may differ.*

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Two sample plans are provided below. The first plan is for students who have placed into MTH 151 Precalculus, 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

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
Gen Ed Global Studies	3 ENG 110 or 112 (Gen Ed Literacy-Written)	3
	Gen Ed Arts	2-3
	15	15

Year 2		
Fall	Credits Spring	Credits
BIO 312	4 Apply for admission to Clinical Lab Science Program	
MIC 230	4 MIC 310	3
HIS 101, 102, or ARC 200 (Gen Ed World Hist)	3 BIO 313	4
Gen Ed Arts	2-3 CHM 300	5
MTH 151 (Gen Ed Math)	4 Gen Ed Minority Cultures	3
	17	15

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 Hum-Lit	3 CLI 440	1	
Gen Ed Health & Well Being	3 Gen Ed Self & Society	3	
	Gen Ed Elective	3	
	15	17	4

Year 4		
Fall	Credits Spring	Credits
Clinical Education at Hospital Site	Clinical Education at Hospital Site	
Admitted students apply for graduate special status at UWL in order to register for CLI 570 and CLI 580	CLI 460	6
CLI 450	6 CLI 570 <sup>1</sup>	8
CLI 455	6 Upon completion of the clinical internship, students have completed the undergraduate portion of the program. Student registers for graduate classes.	
CLI 465	2	
CLI 580 <sup>1</sup>	3	
	17	14

Additional year		
Fall	Credits Spring	Credits
MIC 554	2 MIC 751	1
MIC 753	2 MIC 780	2-4
MIC 755	2 MIC 790	2
MIC 751	1 MIC 799	6
Electives	4	
	11	11

Total Credits: 151

<sup>1</sup> At the start of the final semester of the undergraduate work, students must file an application for admission to graduate school at UWL in order to register for the graduate level courses required for completion of the Master of Science degree.

## 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
Gen Ed Global Studies	3 ENG 110 or 112 (Gen Ed Literacy-Written)	3
Gen Ed Arts	2-3 Gen Ed Arts	2-3
	16	15

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
HIS 101, 102, or ARC 200 (Gen Ed World Hist)	3 CHM 300	5
	Gen Ed Minority Cultures	3
	16	15

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 Hum-Lit	3 CLI 440	1	
Gen Ed Health & Well Being	3 Gen Ed Self & Society	3	
	Gen Ed Elective	3	
	15	17	4

Year 4		
Fall	Credits Spring	Credits
Clinical Education at Hospital Site	Clinical Education at Hospital Site	
Admitted students apply for graduate special status at UWL in order to register for CLI 570 and CLI 580	CLI 460	6
CLI 450	6 CLI 570 <sup>1</sup>	8
CLI 455	6 Upon completion of the clinical internship, students have completed the undergraduate portion of the program. Student registers for graduate classes.	
CLI 465	2	
CLI 580 <sup>1</sup>	3	
	17	14

Additional year		
Fall	Credits Spring	Credits
MIC 554	2 MIC 751	1
MIC 753	2 MIC 780	2-4
MIC 755	2 MIC 790	2
MIC 751	1 MIC 799	6
Electives	4	
	11	11

Total Credits: 151

<sup>1</sup> At the start of the final semester of the undergraduate work, students must file an application for admission to graduate school at UWL in order to register for the graduate level courses required for completion of the Master of Science degree.