



# PRE-MEDICAL LABORATORY SCIENCE CONCENTRATION

2021-22 through 2023-24 catalogs

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## Advisor:

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The Medical Laboratory Sciences or Medical Technology concentration prepares the student for application and entry to a one-year internship program at a hospital. A student must have a bachelor's degree plus internship training to be allowed to sit for the state licensing exam. The student will obtain their bachelor's degree in biology from CSU Pueblo upon the successful completion of all CSU Pueblo coursework.

The three Medical Lab Science (Medical Technology) programs based in Colorado include UC Health Parkview School of Medical Laboratory Science in Pueblo, Colorado Center for Medical Lab Science in Denver (operated through Metro State University), and Denver Health School of Medical Lab Science.

<https://careers.uchealth.org/pages/uchealth-parkview>

<https://www.msudenver.edu/medical-laboratory-science/>

<https://www.denverhealth.org/for-professionals/office-of-education/health-professions-and-pre-health-programs/school-of-medical-laboratory-science>

There are two different options of study for CSU Pueblo students:

- **4 + 1 Option-** Internship is applied for during the student's senior year and a bachelor's degree in biology is completed and awarded before beginning the internship.
- **3 + 1 Option-** CSU Pueblo on-campus required courses are completed in the first three years. Internship is applied for during the student's third year with the internship serving as the senior year. Student continues enrollment at CSU Pueblo and eligibility for financial aid during internship. Bachelor's degree is conferred upon successful completion of internship.

## **Specific requirements for the Biology degree 4 + 1 Med Lab Science concentration**

<b>Biology Courses</b>	<b>Course Name</b>	<b>Cr.</b>	<b>Semester</b>
BIOL 171	First Year Seminar	1	
BIOL 181/L	College Biology I-Organismal/Lab	4	
BIOL 182/L	College Biology II-Cellular/Lab	4	
BIOL 201/L or 202/L	Botany or Zoology/Lab	4	
BIOL 301/L	General Microbiology/Lab	5	
BIOL 302/L	Medical Microbiology/Lab	4	
BIOL 350	Mendelian and Population Genetics	2	
BIOL 351/L	Molecular Biology and Genetics/Lab	5	
BIOL 352	Evolutionary Biology and Ecology	3	
BIOL 402	Immunology	3	
BIOL 414/L OR BIOL 412/L	Vertebrate Physiology/Lab OR Cellular Biology/Lab	4	
BIOL 493	Seminar	1	
Biology UD Electives	See Department Electives Sheet	2	
	Biology Total	42	
<b>Chemistry Courses</b>			
CHEM 121/L	General Chemistry I/Lab	5	
CHEM 122/L	General Chemistry II/Lab	5	
CHEM 301/L	Organic Chemistry I/Lab	5	
CHEM 302/L	Organic Chemistry II/Lab	5	
CHEM 311 or 411	Biochemistry	3	
	Chemistry Total	23	
<b>Math and Physics</b>			
MATH 221	Applied Calculus	4	
MATH 156	Intro to Statistics	3	
PHYS 201/L	Principles of Physics I/Lab	4	
PHYS 202/L	Principles of Physics II/Lab	4	
	Total	15	
<b>General Education</b>			
ENG 101/102	English Composition I and II	6	
CID 103	Speaking and Listening	3	
General Education	Humanities, Social Science, History	15	
University-Wide Electives	(Human Anatomy & Physiology recommended)	16	
	Total	40	
	<b>Overall Total</b>	<b>120</b>	

### **Note:**

UC Health Parkview program requires Human Anatomy & Physiology BIOL 223/L & 224/L (8 credits)

### **Suggested University Electives**

Course	Course Name	Cr.	√
BIOL 223/L & 224/L	Human Anatomy and Physiology I& II/Labs	8	
BIOL 321/L	Comparative Vertebrate Anatomy/Lab	5	
BIOL 421/L	Histology/Lab	4	
CHEM 317/L	Quantitative Analysis/Lab	5	
CHEM 412/L	Biochemistry II/Lab	5	
CHEM 419/L	Instrumental Analysis/Lab	5	
MGMT 201	Principles of Management	3	

**Specific requirements for the Biology degree with  
3 + 1 Med Lab Science concentration:**

<b>Biology Courses</b>	<b>Course Name</b>	<b>Cr.</b>	<b>Semester</b>
BIOL 171	First Year Seminar	1	
BIOL 181/L	College Biology I-Organismal/Lab	4	
BIOL 182/L	College Biology II-Cellular/Lab	4	
BIOL 201/L or 202/L	Botany or Zoology/Lab	4	
BIOL 301/L	General Microbiology/Lab	5	
BIOL 302/L	Medical Microbiology/Lab	4	
BIOL 350	Mendelian and Population Genetics	2	
BIOL 351/L	Molecular Biology and Genetics/Lab	4-5	
BIOL 352	Evolutionary Biology and Ecology	3	
BIOL 402	Immunology	3	
BIOL 414/L OR BIOL 412/L	Vertebrate Physiology/Lab OR Cellular Biology/Lab	4	
BIOL 493	Seminar	1	
	Biology Total	39-40	
<b>Chemistry Courses</b>			
CHEM 121/L	General Chemistry I/Lab	5	
CHEM 122/L	General Chemistry II/Lab	5	
CHEM 301/L	Organic Chemistry I/Lab	5	
CHEM 302/L	Organic Chemistry II/Lab	5	
CHEM 311 or 411	Biochemistry	3	
	Chemistry Total	23	
<b>Math and Physics</b>			
MATH 221	Applied Calculus	4	
PHYS 201/L	Principles of Physics I/Lab	4	
PHYS 202/L	Principles of Physics II/Lab	4	
	Total	12-13	
<b>General Education</b>			
ENG 101/102	English Composition I and II	6	
CID 103	Speaking and Listening	3	
General Education	Humanities, Social Science, History	15	
	Gen Ed Total	24	
<b>Hospital Internship Training (year 4)</b>			
BIOL 473, 474 & 475	Med Tech Clinical Rotation I, II & III	30	
	<b>Overall Total</b>	<b>129</b>	

**Note:** UC Health Parkview program requires Human Anatomy & Physiology: BIOL 223/L & 224/L (8 credits) and requires Intro to Statistics: MATH 156 (3 credits)