

**Medical Laboratory Scientist**

BACHELOR OF APPLIED SCIENCE (BAS)

REQUIRED CREDITS: 120

**LIMITED ENTRY**  
DEGREE CODE: MLS-BAS

This is a limited-entry program. Some of these courses are program prerequisites and MUST be completed before a student is considered eligible for entry into the Program. Students MUST attend a Health Programs orientation and meet with a Health Programs advisor for additional advisement.

**DESCRIPTION**

The Medical Laboratory Scientist (MLS) is an important member of the health care team in hospitals, clinics, medical research and teaching centers, and is an indispensable participant with physicians in providing critical diagnostic information. The MLS functions as a dependable, ambitious and highly motivated professional capable of handling high stress situations with ease and confidence.

The Medical Laboratory Scientist performs and interprets diagnostic laboratory procedures using state-of-the-art instrumentation to aid in the detection, diagnosis, and treatment of disease; monitors the standards of accuracy and precision in the performance of tests; performs routine maintenance; analyzes and corrects instrument problems; researches, evaluates, and implements new procedures; and may be responsible for fiscal/personnel management of laboratory.

The Bachelor of Applied Science degree in Medical Laboratory Scientist combines academic and laboratory courses on campus with practical experience at clinical affiliate sites. The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018-5119, (877) 939-3597. Students successfully completing the program are eligible to take a national certifying examination.

**STUDENT LEARNING OUTCOMES**

- Select appropriate courses of action in accordance with established laboratory procedures.
- Assess and correlate clinical and/or laboratory data through application of theory and principles.
- Evaluate and perform full range of clinical laboratory procedures, including quality assurance and quality control.
- Differentiate and resolve technical, instrument, and/or physiologic causes of unexpected or abnormal data.

**PLEASE NOTE** - The courses listed below may require a prerequisite or corequisite. Read course descriptions before registering for classes. All MATH and ENG courses numbered 01-99 must be completed before reaching 30 total college-level credits. No course under 100-level counts toward degree completion.

**GENERAL EDUCATION REQUIREMENTS (51 CREDITS)**

**MATHEMATICS (3 credits)**

MATH 124 or above

**ENGLISH COMPOSITION (3-5 credits)**

ENG 100 or 101 or 113

**COMMUNICATIONS (3-5 credits)**

ENG 102 or 114; or COM 101; and ENG 333

**HUMAN RELATIONS (3 credits)**

ALS 101; ANTH 101, 112, 201, 205; HIST 105, 106, 107, 150, 151, 210, 247, 260; HMS 130; MGT 100B, 283; PHIL 135; PSC 201; PSY 101, 102, 207, 208, 261; SOC

**NATURAL SCIENCE (23 credits)**

BIOL 196, 197, 325; or BIOL 223, 224, 325 and CHEM 110, 111, 220; or CHEM 121, 122, 220

**FINE ARTS/HUMANITIES/SOCIAL SCIENCES (9 credits)**

PHIL 302 and PHIL 311 and 3 credits from the following: AM; ANTH; ART; COM; ECON; ENG 223 or above; GEOG 106 or above; HIST; World Languages; Music; PHIL; PSC; PSY; SOC; THTR; WMST 113

**U.S. AND NEVADA CONSTITUTIONS (4-6 credits)**

PSC 101; or HIST 101 and HIST 102; or HIST 101 and HIST 217

**SPECIAL PROGRAM REQUIREMENTS (69 CREDITS)**

**CORE REQUIREMENTS (66 credits)**

CLS 151	Phlebotomy	2
CLS 152	Applied Phlebotomy	2
CLS 161	Urinalysis and Body Fluids	1
CLS 162	Applied Urinalysis and Body Fluids	1
CLS 241	Clinical Chemistry I	3
CLS 242	Applied Clinical Chemistry I	2

**SPECIAL PROGRAM REQUIREMENTS CONTINUED**

CLS 251	Immunology/Immunochemistry I	2
CLS 252	Applied Immunology/Immunochemistry I	2
CLS 265	Laboratory Operations I	1
CLS 271	Clinical Microbiology I	3
CLS 272	Applied Clinical Microbiology I	2
CLS 291	Hematology I	2
CLS 292	Applied Hematology I	2
CLS 361	Urinalysis and Body Fluids II	2
CLS 365	Laboratory Operations II	1.5
CLS 446	Clinical Chemistry II	2
CLS 447	Applied Clinical Chemistry II	1
CLS 448	Hematology II	2
CLS 449	Applied Hematology II	1
CLS 456	Immunology/Immunochemistry II	2
CLS 457	Applied Immunology/ Immunochemistry II	1
CLS 476	Clinical Microbiology II	2
CLS 477	Applied Clinical Microbiology II	1
CLS 478	Research Methods	2
CLS 486	CLS Clinical Chemistry Review	1.5
CLS 487	CLS Hematology Review	1.5
CLS 488	CLS Immunology/Immunochemistry Review	1.5
CLS 489	CLS Clinical Microbiology Review	1.5
CLS 490	CLS General Laboratory & Urinalysis Review	1.5
CLS 491	Clinical Practicum - Chemistry	4
CLS 493	Clinical Practicum - Immunology/ Immunochemistry	4
CLS 495	Clinical Practicum - Microbiology	4
CLS 497	Clinical Practicum - Hematology	4

**Statistics Elective (3-4 credits)**

STAT 152	Introduction to Statistics	3
ECON 261	Principles of Statistics I	3
PSY 210	Introduction to Statistical Methods	4
SOC 210	Introduction to Statistical Methods	4

- NOTE**
- Course numbers with the “B” suffix may be non-transferable for a NSHE baccalaureate degree.
  - Course numbers with the “H” suffix are designated Honors-level courses and can be used to fulfill equivalent general education requirements. For more information visit [www.csn.edu/honors](http://www.csn.edu/honors).
  - In no case, may one course be used to meet more than one requirement except for the Values and Diversity general education requirement (only AA, AS, and AB degrees) which may be used to fulfill the corresponding general education or emphasis requirement.
  - Students may elect to graduate using the degree requirements in effect at the time of matriculation, or when they declared or changed major or the current catalog. If a program is official after a student has matriculated, the student may choose the degree requirements of the new program. In no case may a student use a catalog which is more than six years old at the time of graduation.



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**FULL-TIME STUDENT DEGREE PLAN**

*Add more semesters to modify this plan to fit part-time student needs.*

**PLEASE NOTE:**

- Due to the high rigor of the MLS program, it is highly recommended that students complete all general education requirements before applying to the program.
- CLS courses must be taken in the order indicated.

<b>FIRST SEMESTER (Summer)</b>	<b>Credits</b>
MATH 124 or above <sup>1</sup>	3
<b>TOTAL CREDITS</b> .....	<b>3</b>

<b>SECOND SEMESTER (Fall)</b>	<b>Credits</b>
Complete English Composition (see courses previous page)	3-5
Complete Human Relations (see courses previous page)	3
CHEM 110 or 121 <sup>2</sup>	4
Complete Statistics Elective	3-4
<b>TOTAL CREDITS</b> .....	<b>13-16</b>

<b>THIRD SEMESTER (Spring)</b>	<b>Credits</b>
BIOL 196 <sup>3</sup> or 223	4
CHEM 111 or 122	4
Complete US/Nevada Constitutions <sup>4</sup> (see courses previous page)	4-6
<b>TOTAL CREDITS</b> .....	<b>12-14</b>

<b>FOURTH SEMESTER (Summer)</b>	<b>Credits</b>
CHEM 220 Introductory Organic Chemistry	4
<b>TOTAL CREDITS</b> .....	<b>4</b>

<b>FIFTH SEMESTER (Fall)</b>	<b>Credits</b>
Complete Communications (see courses previous page)	6
PHIL 302 Intermediate Reasoning and Critical Thinking	3
Complete Fine Arts/Humanities/Social Science <sup>5</sup> (see courses previous page)	3
<b>TOTAL CREDITS</b> .....	<b>12</b>

<b>SIXTH SEMESTER (Spring)</b>	<b>Credits</b>
CLS 161 Urinalysis and Body Fluids	1
CLS 162 Applied Urinalysis and Body Fluids	1
CLS 265 Laboratory Operations I	1
CLS 271 Clinical Microbiology I	3
CLS 272 Applied Clinical Microbiology I	2
<b>TOTAL CREDITS</b> .....	<b>8</b>

<b>SEVENTH SEMESTER (Fall)</b>	<b>Credits</b>
BIOL 197 or 224	4
CLS 151 Phlebotomy	2
CLS 152 Applied Phlebotomy	2
CLS 241 Clinical Chemistry I	3
CLS 242 Applied Clinical Chemistry I	2
<b>TOTAL CREDITS</b> .....	<b>13</b>

<b>EIGHTH SEMESTER (Spring)</b>	<b>Credits</b>
BIOL 325 Molecular Diagnostics	3
CLS 251 Immunology/Immunohematology	2
CLS 252 Applied Immunology/Immunohematology	2
CLS 291 Hematology I	2
CLS 292 Applied Hematology I	2
<b>TOTAL CREDITS</b> .....	<b>11</b>

<b>NINTH SEMESTER (Fall)</b>	<b>Credits</b>
CLS 476 Clinical Microbiology II	2
CLS 477 Applied Clinical Microbiology II	1
CLS 448 Hematology II	2
CLS 449 Applied Hematology II	1
CLS 478 Research Methods	2
CLS 361 Urinalysis and Body Fluids II	2
<b>TOTAL CREDITS</b> .....	<b>10</b>

<b>TENTH SEMESTER (Spring)</b>	<b>Credits</b>
PHIL 311 Professional Ethics	3
CLS 365 Laboratory Operations II	1.5
CLS 446 Clinical Chemistry II	2
CLS 447 Applied Clinical Chemistry II	1
CLS 456 Immunology/Immunohematology II	2
CLS 457 Applied Immunology/Immunohematology II	1
<b>TOTAL CREDITS</b> .....	<b>10.5</b>

<b>ELEVENTH SEMESTER (Fall)</b>	<b>Credits</b>
CLS 491 Clinical Practicum - Chemistry	4
CLS 493 Clinical Practicum - Immunology/Immunohematology	4
CLS 495 Clinical Practicum - Microbiology	4
CLS 497 Clinical Practicum - Hematology	4
<b>TOTAL CREDITS</b> .....	<b>16</b>

<b>TWELFTH SEMESTER (Spring)</b>	<b>Credits</b>
CLS 486 CLS Clinical Chemistry Review	1.5
CLS 487 CLS Hematology Review	1.5
CLS 488 CLS Immunology/Immunohematology Review	1.5
CLS 489 CLS Clinical Microbiology Review	1.5
CLS 490 CLS General Laboratory & Urinalysis Review	1.5
<b>TOTAL CREDITS</b> .....	<b>7.5</b>

**DEGREE PLAN TOTAL CREDITS**..... **120-125**

<sup>1</sup>The prerequisite for MATH 124 includes MATH 096 or 097 with a grade of C or better; or a satisfactory ACT/SAT/Placement test score.

<sup>2</sup>CHEM 121 requires CHEM 103 or CHEM 110 or a passing score on the Chemistry Placement Exam.

<sup>3</sup>Students planning to apply to the BAS MLS program should take BIOL 196.

<sup>4</sup>PSC 101 completes this requirement at 4 credits. If choosing the HIST option, take HIST 101 in the second semester and see a counselor for when to take either HIST 102 or 217 in a different semester.

<sup>5</sup>Under the "Fine Arts/Humanities/Social Science" heading on the General Education Requirements side, select from the choices that follow the sentence fragment "Plus 3 credits from the following..."

