

## SCHOOL OF ALLIED HEALTH SCIENCES CLINICAL LABORATORY SCIENCE

### FACULTY

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### PROGRAM GOALS

The Clinical Laboratory Science (Medical Technology) Program at Southwestern Oklahoma State University is designed to provide a Bachelor of Science degree in Clinical Laboratory Science. The goals of the program are:

1. To provide students with appropriate prerequisite courses necessary for entry into accredited hospital based programs.
2. To provide students with traditional background and preparation to facilitate performance in the clinical practicum portion of the program.
3. To cooperate in the development of a structured clinical curriculum designed to satisfy entry-level competencies and success on national certification exams.

### PROGRAM OPTIONS

**B.S. Degree in Clinical Laboratory Science ("3 + 1 Program")** - This is a four-year program with three years (90 credit hours) of prescribed college courses and one year of clinical training (30 credit hours) at an accredited hospital. See an advisor in the School of Allied Health Sciences for more information on this program.

**B.S. Degree in Health Science for Clinical Laboratory Science plus the B.S. Degree in Clinical Laboratory Science (Medical Technology) ("4 + 1 Program")** - This five-year program involves completing a B.S. Degree in Health Sciences for Clinical Laboratory Science majors and then completing the one year of clinical training (30 credit hours) at an accredited hospital for a B.S. Degree in Clinical Laboratory Science.

### THE CLINICAL PRACTICUM

The clinical practicum is provided for SWOSU students by the hospitals listed below.

Comanche County Memorial Hospital ..... Lawton, OK  
Muskogee Regional Medical Center..... Muskogee, OK  
St. Francis Hospital ..... Tulsa, OK  
Valley View Regional Hospital ..... Ada, OK  
United Regional Health Care System ..... Wichita Falls, TX

(Other accredited hospitals are available out-of-state. See advisor for information.)

The student must apply to an accredited Clinical Laboratory Science Program for clinical training. The clinical training sites are limited and competitive. It is recommended that

students have a 2.5 GPA in their science courses (biology, chemistry and microbiology) to assure success in the clinical program. All clinical courses taken at the hospital must be completed before any letter grades are awarded. The clinical program consists of the following courses:

*Clinical Practicum .....	30
CLS 4117	Clinical Microbiology
CLS 4125	Clinical Chemistry I
CLS 4236	Clinical Hematology
CLS 4246	Clinical Immunology/Immunohematology
CLS 4325	Clinical Chemistry II
CLS 4351	Topics in Clinical Laboratory Science

\*Clinical Practicum must be performed at an accredited hospital affiliate.

### GENERAL INFORMATION

#### THE PROFESSION

A clinical laboratory scientist is, by virtue of training and education, able to perform required laboratory tests and give skillful assistance to the laboratory of a hospital or a private physician. In general, the duties are to perform the essential chemical, microscopic and bacteriological test procedures necessary for the proper diagnosis and treatment of disease.

Due to a reduction in the number of accredited training programs, there is a tremendous demand for clinical laboratory scientists throughout the nation. There is 100% employment and many students are assured jobs before they complete their clinical training. Opportunities for employment include not only hospitals, but physician labs, reference labs, research and development, sales and industry. Also, many clinical laboratory science students have gone on to pursue M.D. and Ph.D. degrees.

#### ACCREDITATION

The Bachelor of Science degree in Clinical Laboratory Science at SWOSU utilizes only accredited hospitals for clinical training. The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) coordinates accreditation for the teaching hospitals. This accreditation assures SWOSU students the opportunity to sit for national certification exams {ASCP (MT) and/or NCA (CLS)} and upon successful completion, be a certified Clinical Laboratory Scientist.

## BACHELOR OF SCIENCE CLINICAL LABORATORY SCIENCE (3+1)

### GENERAL EDUCATION

Courses that are **required** are in bold type.  
Courses that are *recommended* are in italics.

**TOTAL HOURS**..... **43 - 44**

**Composition** ..... **6**

**ENGL 1113 English Composition I**  
**ENGL 1213 English Composition II**

**Mathematics**..... **3**

**MATH 1143 Math Concepts**  
**MATH 1513 College Algebra OR**  
**higher numbered math course**

**Computer Applications**..... **2**

**COMSC 1022 Computer & Information Access**

**Natural Sciences** ..... **8**

**BIOL 1004 Biological Concepts (required)**  
**SCI 1514 Concepts of Physical Science**  
**ASTRO 1904 Astronomy**  
**GEOL 1934 Physical Geology**  
**CHEM 1004 General Chemistry OR**  
**higher numbered chemistry course**

**Humanities & Fine Arts** ..... **6**

**ART 1223 Art Survey**  
**LIT 2413 Intro to Literature**  
**MUSIC 1013 Intro to Music**  
**PHILO 1453 Intro to Philosophy**  
**COMM 1313 Intro to Public Speaking**

**U.S. History & Government**..... **6**

**POLSC 1103 American Government & Politics**  
**HIST 1063 U.S. History**

**Economic & International Studies** ..... **6**

**HIST 1033 World History**  
**GEOG 1103 World Cultural Geography**  
**ECONO 2263 Intro to Macroeconomics OR**  
**ECONO 2363 Intro to Microeconomics**

**Behavioral, Social, & Cultural Studies** ..... **6 - 7**

**PSYCH 1003 General Psychology**  
**SOCIO 1003 Intro to Sociology**  
**4 World Languages**  
**TECH 1223 Technology and Society**  
**KINES 1133 Wellness Concepts & Exercise Appl.**

\* Required/suggested for admission to medical technology program and/or completion of degree.

### REGULATIONS PERTAINING TO GRADUATION

Minimum credit hours for graduation ..... 120-122  
Minimum credit hours in the liberal arts & sciences ..... 55  
Minimum credit hours in upper-division  
(3000/4000 courses) ..... 40  
Minimum credit hours (3000/4000 courses) in major  
completed at SWOSU ..... 8  
Minimum credit hours at SWOSU (15 of the last 30) ..... 30  
Minimum Grade Point Average in all coursework ..... 2.25  
Minimum Grade Point Average in major ..... 2.25

### Clinical Laboratory Science Code No. 552

**Required Courses** ..... **16**

**ALHLT 4213 Immunology**  
**ALHLT 4355 Microbiology**  
**BIOL 3704 Human Anatomy**  
**BIOL 3904 Human Physiology**

**Electives** ..... **13-14**

#### Suggested Electives

**\*BIOL 3254 Genetics**  
**\*ALHLT 3043 Health Statistics**  
**\*ALHLT 4404 Pathogenic Microbiology**  
**\*ALHLT 3193 Health Care Delivery**  
**ALHLT 3933 Management of Health Care Inst**  
**ALHLT 3963 Health Care Administration**  
**ALHLT 4074 Pathophysiology**  
**ALHLT 4093 Epidemiology**  
**ALHLT 4313 Medical Parasitology**  
**ALHLT 4453 Virology**  
**ALHLT 4523 Environmental Microbiology**  
**\*Recommended electives**

#### Other Electives

**ALHLT 1401 Allied Health Careers**  
**ALHLT 2453 Medical Terminology**  
**ALHLT 3972 Allied Health Internship**  
**ALHLT 4043 Medicolegal Concepts**  
**ALHLT 4802 History of Medicine**  
**ALHLT 4872 Hominology**  
**BIOL 4284 Animal Parasitology**  
**BIOL 4933 Cell Physiology**

**Minor: Chemistry Total** ..... **18**

**CHEM 1203 General Chemistry I (lecture)**  
**CHEM 1252 General Chemistry I (lab)**  
**CHEM 1303 General Chemistry II (lecture)**  
**CHEM 1352 General Chemistry II (lab)**  
**CHEM 3013 Organic Chemistry I (lecture)**  
**CHEM 3111 Organic Chemistry I (lab)**  
**CHEM 4113 Organic Chemistry II (lecture)**  
**CHEM 4021 Organic Chemistry II (lab)**

May be taken instead of Org. Chem. I and II:

**CHEM 2114 Organic/Biochem. (w/lab)**  
**CHEM 3124 Quant. Analysis (w/lab)**

#### **OR**

**CHEM 2114 Organic/Biochem. (w/lab)**  
**CHEM 4124 Biochemistry (w/lab)**

**Clinical** (must be performed at an accredited  
hospital affiliate) ..... **30**

**CLS 4117 Clinical Microbiology**  
**CLS 4125 Clinical Chemistry I**  
**CLS 4236 Clinical Hematology**  
**CLS 4246 Clinical Immunology**  
**CLS 4325 Clinical Chemistry II**  
**CLS 4351 Topics in Clinical Laboratory Science**

**Total** ..... **120-122**

## BACHELOR OF SCIENCE HEALTH SCIENCE MAJOR FOR CLINICAL LABORATORY SCIENCE (4+1)

*(Includes all Pre-Clinical Laboratory Science prerequisites in Health Sciences major.)*

### GENERAL EDUCATION

Courses that are **required** are in bold type.  
Courses that are *recommended* are in italics.

<b>TOTAL HOURS</b> .....	<b>43 - 44</b>
<b>Composition</b> .....	<b>6</b>
<b>ENGL 1113 English Composition I</b>	
<b>ENGL 1213 English Composition II</b>	
<b>Mathematics</b> .....	<b>3</b>
MATH 1143 Math Concepts	
<b>MATH 1513 College Algebra OR</b>	
<b>higher numbered math course</b>	
<b>Computer Applications</b> .....	<b>2</b>
<b>COMSC 1022 Computer &amp; Information Access</b>	
<b>Natural Sciences</b> .....	<b>8</b>
<b>BIOL 1004 Biological Concepts (required)</b>	
SCI 1514 Concepts of Physical Science	
ASTRO 1904 Astronomy	
GEOL 1934 Physical Geology	
<b>CHEM 1004 General Chemistry OR</b>	
<b>higher numbered chemistry course</b>	
<b>Humanities &amp; Fine Arts</b> .....	<b>6</b>
ART 1223 Art Survey	
LIT 2413 Intro to Literature	
MUSIC 1013 Intro to Music I	
PHILO 1453 Intro to Philosophy	
<b>COMM 1313 Intro to Public Speaking</b>	
<b>U.S. History &amp; Government</b> .....	<b>6</b>
<b>POLSC 1103 American Government &amp; Politics</b>	
<b>HIST 1063 U.S. History</b>	
<b>Economic &amp; International Studies</b> .....	<b>6</b>
<b>HIST 1033 World History</b>	
GEOG 1103 World Cultural Geography	
ECONO 2263 Intro to Macroeconomics <b>OR</b>	
ECONO 2363 Intro to Microeconomics	
<b>Behavioral, Social, &amp; Cultural Studies</b> .....	<b>6 - 7</b>
<b>PSYCH 1003 General Psychology</b>	
SOCIO 1003 Intro to Sociology	
4 World Languages	
TECH 1223 Technology and Society	
KINES 1133 Wellness Concepts & Exercise Appl	

### REGULATIONS PERTAINING TO GRADUATION

Minimum credit hours for graduation.....	131-136
Minimum credit hours in the liberal arts & sciences.....	55
Minimum credit hours in upper-division (3000/4000 courses).....	40
Minimum credit hours (3000/4000 courses) in major completed at SWOSU .....	8
Minimum credit hours at SWOSU (15 of the last 30).....	30
Minimum Grade Point Average in all coursework.....	2.25
Minimum Grade Point Average in major .....	2.25

### Dual Degree

**Health Science Major – Code No. 553**  
**Clinical Laboratory Science – Code No. 552**

<b>Required Courses</b> .....	<b>33</b>
ALHLT 3193 Health Care Delivery	
ALHLT 3933 Management of Health Care Inst	
ALHLT 3963 Health Care Administration	
ALHLT 3972 Allied Health Internship	
ALHLT 4043 Medicolegal Concepts	
ALHLT 4093 Epidemiology	
*ALHLT 4213 Immunology	
*ALHLT 4355 Microbiology	
*BIOL 3704 Human Anatomy	
*BIOL 3904 Human Physiology	
*Required for admission to medical technology program	
<b>Electives</b> .....	<b>7-11</b>
ALHLT 1401 Allied Health Careers	
ALHLT 2453 Medical Terminology	
**ALHLT 3043 Health Statistics	
ALHLT 4074 Pathophysiology	
ALHLT 4313 Medical Parasitology	
**ALHLT 4404 Pathogenic Microbiology	
ALHLT 4453 Virology	
ALHLT 4523 Environmental Microbiology	
ALHLT 4802 History of Medicine	
ALHLT 4872 Hominology	
**BIOL 3254 Genetics	
BIOL 4284 Animal Parasitology	
BIOL 4933 Cell Physiology	
**Suggested elective for admission to medical technology program and/or completion of degree	
<b>Minor: Chemistry Total</b> .....	<b>18</b>
CHEM 1203 General Chemistry I (lecture)	
CHEM 1252 General Chemistry I (lab)	
CHEM 1303 General Chemistry II (lecture)	
CHEM 1352 General Chemistry II (lab)	
CHEM 3013 Organic Chemistry I (lecture)	
CHEM 3111 Organic Chemistry I (lab)	
CHEM 4113 Organic Chemistry II (lecture)	
CHEM 4021 Organic Chemistry II (lab)	
May be taken instead of Org. Chem. I and II:	
CHEM 2114 Organic/Biochem. (w/lab)	
CHEM 3124 Quant. Analysis (w/lab)	
<b>OR</b>	
CHEM 2114 Organic/Biochem. (w/lab)	
CHEM 4124 Biochemistry (w/lab)	
<b>Clinical</b> (must be performed at an accredited hospital affiliate) .....	<b>30</b>
CLS 4117 Clinical Microbiology	
CLS 4125 Clinical Chemistry I	
CLS 4236 Clinical Hematology	
CLS 4246 Clinical Immunology	
CLS 4325 Clinical Chemistry II	
CLS 4351 Topics in Clinical Laboratory Science	
<b>Total</b> .....	<b>131-136</b>