



## Exploring the Clinical Lab

### Course Description

This course provides students with the art and science of the clinical laboratory. The class will explore the global range of career opportunities and traits available in the clinical lab. Students will job shadow in the community to gain real life clinical lab experience. Examination of legal and ethical issues will be covered throughout the class. Participants will have hands on practice with lab techniques, equipment, and record keeping relevant to medical, veterinary, dental, biotechnology, agricultural and food science and multiple other professions.

**Course Code: 077304**

### Program(s) of Study to which this course applies:

- Health Science

Course Content	Crosswalk to Common Core Academic Standards	Crosswalk to Nebraska Academic Standards	Crosswalk to Nebraska Career Readiness Standards	Crosswalk Clarification
<b>Standard 1. Students will explore and experience clinical lab careers.</b>				
Benchmark 1.1 Students will compare and contrast 7-10 clinical lab careers.  <u>Sample performance indicators:</u> <ul style="list-style-type: none"> <li>• Create a presentation for a clinical lab skill of their interest.</li> <li>• Interview clinical lab professional.</li> <li>• Attend a professional presentation.</li> <li>• Explore specific clinical lab professions via online career exploration programs.</li> </ul>	N/A	SS.12.2.6.b-d	CR.1.B.1	
Benchmark 1.2 Students will classify the personal traits and attitudes desirable in a member of a clinical lab.  <u>Sample performance indicators:</u> <ul style="list-style-type: none"> <li>• Interview clinical lab professional or a current clinical lab student.</li> </ul>	N/A	N/A	CR.10.A.1	



Course Content	Crosswalk to Common Core Academic Standards	Crosswalk to Nebraska Academic Standards	Crosswalk to Nebraska Career Readiness Standards	Crosswalk Clarification
<ul style="list-style-type: none"> <li>Explore specific clinical lab professions via online career exploration programs.</li> <li>Analyze job descriptions for clinical lab personnel.</li> </ul>				
<p>Benchmark 1.3 Students will job shadow a clinical lab professional or student for a minimum of 3 hours.</p> <p><u>Sample performance indicators:</u></p> <ul style="list-style-type: none"> <li>Create a questionnaire to accompany them on their job shadow.</li> <li>Contact their job shadow person prior to the experience, be on time, dress appropriately for the specific experience and show appreciation for their host post experience.</li> <li>Reflect on their job shadow experience. (Students can explore multiple job shadow experiences to meet the 3 hour requirement.)</li> </ul>	N/A	N/A	CR.10.D.2	
<p><b>Standard 2. Students will apply good practices for laboratory procedures.</b></p>				
<p>Benchmark 2.1 Students will observe personal and laboratory safety practices.</p> <p><u>Sample performance indicators:</u></p> <ul style="list-style-type: none"> <li>Apply personal safety procedures based on Occupational Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations.</li> <li>Apply safety techniques in the work environment.</li> <li>Comply with safety signs, symbols, and labels.</li> <li>Understand implications of hazardous materials.</li> </ul>	ELA.RST.11-12.3	LA.12.3.2.a LA.12.1.6.k  SC.12.1.1.d	CR.1.A.4 CR.3.B.2	Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: CR.1.A.4, LA.12.1.6.k, LA.12.3.2).
<p>Benchmark 2.2 Students will follow protocol for handling, preparing, and using mixtures, solutions, specimens, and laboratory supplies and equipment.</p>	ELA.RST.11-12.3	LA.12.3.2.a LA. 12.1.6.k  SC.12.1.1.d	CR.1.A.4 CR.3.B.2 CR.3.B.4	Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: CR.1.A.4, LA.12.1.6.k, LA.12.3.2).



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<p><u>Sample performance indicators:</u></p> <ul style="list-style-type: none"> <li>Follow the scientific method while performing laboratory tests.</li> <li>Conduct microscopic identification and propagation of cells.</li> <li>Use selective media to identify microorganisms and to test for pathogens.</li> <li>Perform quantitative and qualitative biochemical assays.</li> </ul>				
<p>Benchmark 2.3 Students will follow professional procedures for recording and reporting of data.</p> <p><u>Sample performance indicators:</u></p> <ul style="list-style-type: none"> <li>Use appropriate record keeping and filing common to the clinical lab setting.</li> <li>Communicate using technology (fax, e-mail, and Internet) to access and distribute data and other information.</li> <li>Use medical terminology while recording and reporting.</li> <li>Apply the HIPPA standards.</li> <li>Communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.</li> <li>Keep a log of experiences throughout the course.</li> </ul>	<p>ELA.RST.11-12.3 ELA.WHST.4</p>	<p>LA.12.3.2.a LA. 12.1.6.k LA.12.2.2.b</p> <p>SC.12.1.1.f SC.12.1.1.j</p>	<p>CR.1.A.4 CR.3.B.2 CR.9.A.3</p>	<p>Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: CR.1.A.4, LA.12.1.6.k, LA.12.3.2).</p> <p>Alignment presumes that students will collect data and communicate conclusions supported by data (NE: SCI.12.1.1.f, SCI.12.1.1.j).</p>
<p>Benchmark 2.4 Students will thoroughly analyze results.</p> <p><u>Sample performance indicators:</u></p> <ul style="list-style-type: none"> <li>Analyze diagrams, charts, graphs, and tables to interpret healthcare results.</li> <li>Analyze, evaluate, make inferences, and predict trends from data.</li> <li>Infer that all tests have limitations, including but not limited to human error, contamination, faulty equipment, and environmental issues.</li> <li>Compare and contrast test results within normal ranges per the test.</li> <li>Use critical thinking to evaluate best test practices and monetary constraints.</li> </ul>	<p>ELA.RST.11-12.7</p> <p>MTH.S.ID.3 MTH.S.IC.6</p>	<p>LA.12.1.6.f</p> <p>MA.12.1.3.a MA.12.4.1.a MA.12.4.2.a MA.12.4.2.b</p> <p>SC.12.1.1.g SC.12.1.1.l</p>	<p>CR.1.A.4 CR.1.C.2 CR.5.A.1</p>	



Course Content	Crosswalk to Common Core Academic Standards	Crosswalk to Nebraska Academic Standards	Crosswalk to Nebraska Career Readiness Standards	Crosswalk Clarification
<p><b>Standard 3. Students will appreciate the legal and ethical application in the clinical laboratory setting.</b></p>				
<p>Benchmark 3.1 Students will understand the legal responsibilities, limitations, and implications of their actions.</p> <p><u>Sample performance indicators:</u></p> <ul style="list-style-type: none"> <li>Analyze their legal responsibilities in a professional setting.</li> <li>Apply procedures for accurate documentation and record keeping.</li> <li>Understand informed consent and its application.</li> <li>Participate in a mock trial dealing with a medical legal situation.</li> <li>Have an experience with a professional specializing in medical law.</li> </ul>	N/A	N/A	CR.3.B.4 CR.3.C.3	
<p>Benchmark 3.2 Students will appreciate the ethical situations in the clinical laboratory setting.</p> <p><u>Sample performance indicators:</u></p> <ul style="list-style-type: none"> <li>Explore different ethical situations that could occur in the professional setting.</li> <li>Create a case study dealing with a current ethical event.</li> <li>Role play ethical situations in a thorough manner.</li> <li>Review NE laws dealing with issues such as reportable diseases, organ and tissue donation, and newborn screening.</li> </ul>	N/A	N/A	CR.7.B.1-3	



*Reference Standards Sources*

- NHFSAC = National Healthcare Foundation Standards and Accountability Criteria
- AES = Agriculture and Environmental Systems : Career Field Technical Content Standards, Ohio Board of Regents Sept. 2008
- TEKS = Texas Essential Knowledge and Skills for Career and Technical Education Subchapter H. Health Science

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