

PRE-CLINICAL LABORATORY SCIENCE

College of Liberal Arts & Sciences Advising Center

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PORTLAND STATE UNIVERSITY

Clinical laboratory scientists work in the clinical laboratory of a hospital or in other medical facilities. They perform the laboratory analyses used in the diagnosis and treatment of disease and the maintenance of health. Clinical laboratory scientists are trained to work in the five areas of the laboratory: blood banking (immunohematology), chemistry, hematology, immunology, and microbiology. They must have the skills to do accurate analysis, be comfortable working with a wide variety of analytical instruments, and enjoy laboratory work. Clinical laboratory scientists have very little direct contact with patients. They have a wide choice of practice settings, including hospitals, independent labs, clinics, forensic crime labs, and more.

A **Bachelor of Science (BS) in Clinical Laboratory Science (CLS)** is offered at **Oregon Health & Science University (OHSU)** in partnership with **Oregon Institute of Technology (OIT)**. In order to apply to the CLS program, students must complete the prerequisite coursework outlined below and have earned either a minimum of 103 transferable quarter hours from an accredited institution(s) or a bachelor's degree.

The prerequisite coursework can be taken at **Portland State University (PSU)** and requires a good background in biology, chemistry, and mathematics. Students who wish to earn a bachelor's degree at PSU before moving on to earn the BS in CLS at OHSU should complete the University Studies program in lieu of OHSU's general education (liberal arts) requirements and may want to consider a major in general science, biology, or chemistry.

Prerequisite Coursework for CLS Program

OHSU/OIT Prerequisite Courses	Equivalent PSU Courses
Math (minimum credit hours not specified)	
Prerequisite math courses for college Physics. (Must complete at least one math course.)	<ul style="list-style-type: none"> • MTH 111 (4) – Introductory College Math I • MTH 112 (4) – Introductory College Math II <p><i>Recommended but not required:</i></p> <ul style="list-style-type: none"> • STAT 243 (4) & 244 (4) – Intro to Prob & Stats
Chemistry (minimum 24 quarter credits)	
24 credits of chemistry, including lecture and lab experience. No required courses. Suggested courses include general chemistry, inorganic chemistry, organic chemistry, biochemistry, quantitative analysis and physical chemistry. Courses must be designed for science majors.	<ul style="list-style-type: none"> • CH 221/227, 222/228, 223/229 (15) – General Chemistry • CH 331/327 & CH 332/328 (12) – Elements of Organic Chem I & II w/ Lab (must take Gen Chem first). This sequence is offered summer term only. The alternative sequence offered fall/winter/spring is CH 334, CH 335/337, CH 336/338 (16) – Organic Chemistry. <p><i>Recommended but not required:</i></p> <ul style="list-style-type: none"> • CH 350 (4) – Biochemistry • CH 320, 321 (6) – Quantitative Analysis & Lab
Biology (minimum 24 quarter credits)	
24 credits of biology, including one course in microbiology/bacteriology. Immunology is required as part of microbiology or as a separate course. Genetics, physiology, and anatomy are recommended. Courses must be designed for science majors.	<ul style="list-style-type: none"> • BI 251, 252, 253 with Lab (15) – Principles of Biology (not required by OHSU, but required in order to take microbiology & immunology, which OHSU requires). • BI 480/488 (6) – Microbiology w/ Lab (the recommended prerequisites for this class are BI 334, Molecular Biology, and BI 336, Cell Biology) • BI 487 (6) – Immunology & Serology (complete BI 480/488 first) <p><i>Recommended but not required:</i></p> <ul style="list-style-type: none"> • BI 336 (4) – Cell Biology • BI 341 (4) – Intro to Genetics • BI 301, 302, 303 (12) – Anatomy & Physiology

Prerequisite Coursework for CLS Program, Continued

General Education (Liberal Arts) Requirements (minimum 24 quarter credits)	
Note: These general education (liberal arts) courses are *not required* for applicants who already have a bachelor's degree or will have earned one by the time they matriculate to OHSU	
Two terms writing, including Wr 121 (6)	<ul style="list-style-type: none"> • WR 121 (4) – College Writing <i>and either</i> • WR 222 (4) – Writing Research Papers <i>or</i> • WR 323 (4) – Writing as Critical Inquiry
Minimum 9 quarter hours humanities (9): <ul style="list-style-type: none"> • History of art or art appreciation • History of music or music appreciation • English (excluding Eng Comp – e.g. Wr 121 & Wr 323) • Linguistics • Philosophy • Speech • Theater arts • Foreign Language 	Choose minimum 9 credits from any of the following: <ul style="list-style-type: none"> • ARH or ART (must be art history or appreciation) • MUS (must be history of music or music appreciation) • ENG (excluding writing/comp classes) • LING • PHL • SP • TA • Foreign Language courses
Minimum 9 quarter hour credits in social science (9): <ul style="list-style-type: none"> • General Social Science • Anthropology • Economics • History • Political Science • Psychology • Religion • Sociology 	Choose minimum 9 credits from any of the following: <ul style="list-style-type: none"> • ANTH • EC • HST • PS • PSY • SOC
Additional Courses (Recommended but Not Required)	
Physics	PH 201/214, 202/215, 203/216 (15) – General Physics w/ Lab
Medical terminology	Not offered at PSU – see area community colleges
Seven-Year Limitation	
Individuals who have met the math, chemistry, and biology requirements seven or more years prior to application must 1) complete a course for majors in biochemistry and in microbiology with a C or better, or 2) receive credit by exam in biochemistry and in microbiology, or 3) achieve a CLEP score at or above the 50th percentile on both the biology and chemistry exams.	

Portland State recommends completion of Mth 111 before or concurrently with Ch 221. It is also recommended that Ch 221 be completed before or concurrently with Bi 251.

Completion of the prerequisite coursework does not guarantee acceptance into the CLS program.

Admission is limited and competitive. Prerequisite courses must be completed with a grade of C- or higher (though C and C- grades in prerequisite courses are not looked upon favorably). The average grade point average for matriculants to the OHSU CLS program is between approximately a 3.2 and 3.3.

Additional OHSU Clinical Laboratory Science Admissions Requirements:

- Applicants must have a minimum of **103 transferable quarter hours** from an accredited institution(s) **or a bachelor's degree** by the time they matriculate to the CLS program.
- A minimum of **8 hours of observation** of a clinical laboratory scientist is strongly recommended prior to application. Informational interviews and job shadowing with clinical lab scientists will help to deepen your understanding of the profession. Contact lab supervisors at various hospitals to inquire about informational interviews and shadowing.
- A total **GPA of 2.5 or higher** is required in order to be considered for an interview. Total GPA and science GPA (all science courses, not just prerequisite courses) are considered by the admissions committee. Interviews are panel-style and typically last 15-20 minutes.

OHSU Clinical Laboratory Science Application Information:

- **Applications are available starting in June** and accepted until December 31. Interviews typically take place in January. Decisions are generally made by the end of February.
- **Applicants must submit application, transcripts, letter of intent, and three letters of recommendation.** Two of the recommendations should be from professors of biology and/or chemistry. The third can be from another professor or an employer. Visit the OHSU CLS Web site (<http://www.oit.edu/portland/cls/apply>) to obtain the application and the confidential recommendation form.
- Approximately **26 applicants are accepted** into the OHSU CLS program each year.
- **The CLS program begins in early September.**
- **The CLS program is 15 months long** – four consecutive terms of technical instruction and practical student laboratory experience, followed by an extended fifth term, which is a 16 week clinical laboratory internship conducted at an accredited clinical laboratory.

Tips & Recommendations:

- **Check periodically with the adviser** for recent changes, remaining University and pre-professional requirements, and application procedures.
- **Apply early.** Applications are reviewed until spaces are filled. Submit all materials, including letters, at the same time.
- **Personally review the Web site of the professional program(s)** to which you plan to apply.
- **Request letters of evaluation from professors ahead of time**, while their experience with you is fresh. Make sure that evaluators attach a letter to the evaluation form (as opposed to only completing the evaluation form). You can hold onto the evaluation forms and letters (which should be in sealed envelopes with the letter writer's signature across the seal) and then submit them with the application materials.
- **Consider taking University Studies courses** along with Clinical Laboratory Science prerequisites, as admission to OHSU's Clinical Laboratory Science program is limited and competitive. Speak with a pre-health adviser (503-725-3822) in order to make this decision.
- **Complete a FAFSA form in January.** To obtain a financial aid packet, call 503-494-7800.

OHSU Clinical Laboratory Science Program Contact:

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