OREGON TECH - OHSU CLINICAL LABORATORY SCIENCE PROGRAM

2014-2015

Annual Assessment Report

Submitted by
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CLS Program Director and Assessment Coordinator

ABSTRACT: An illustrated report of the assessment activities carried out by the faculty of Department of Clinical Laboratory Science, Wilsonville, Oregon during the 2014-2015 academic year. Every attempt has been made to report objective, accurate information. Any errors in reporting are not intentional, and the author welcomes correction when merited.

Clinical Laboratory Science (CLS) Program Assessment Report
2014-2015

I. Introduction

a. HISTORY & LOCATION: Established in 1933 by the Oregon Health and Science University (OHSU) in Portland, Oregon, the nationally accredited* Clinical Laboratory Science program is a university-based, 3+1 program of study culminating in a BS in Clinical Laboratory Science. In 2001, administrative responsibilities for the program transferred to Oregon Tech through a master collaboration agreement between the two universities. Student diplomas identify both Oregon Tech and OHSU as the degree-granting institutions. In brief, Oregon's only baccalaureate CLS program retains the brand identity of OHSU with the administrative support of Oregon Tech.
Today, the program is administered through the Department of CLS which resides on the Oregon Tech Wilsonville, Oregon campus. Here, students admitted to the last year of the degree program (professional year) take coursework that combines a rigorous competency-based science curriculum with community-sponsored clinical training. During the first four terms of the professional year, students complete course work in state-of-the-art-classrooms that include two well-equipped laboratory classrooms and an instrumentation room.

Upon successful completion of the on-campus coursework, students are assigned to one or more program-affiliated laboratories to complete clinical training. During the 16-week clinical training period, students spend 40 hours per week applying knowledge and skills to perform a wide variety of testing in an accredited medical laboratory and to further develop discipline-specific competency under supervision of clinical instructors. Currently, the Department of CLS maintains affiliations with accredited laboratories in Oregon, Washington, Nevada, Idaho, and Arizona (new as of April 2014). Program graduates are eligible to take the *American Society for Clinical Pathology (ASCP) Medical Laboratory Scientist (MLS)* national board certification examination* and to pursue career opportunities in various laboratory settings including but not limited to medical, research, and public health.
The Clinical Laboratory Science professional program is accredited by the *National Accrediting Agency for Clinical Laboratory Science (NAACLS)*, 5600 North River Road, Suite 720, Rosemont, Illinois 60018-5119. (773) 714-8880.

b. ENROLLMENT TRENDS: Applications to the program have decreased over the last two years, from a high 125 in 2013 to 93 received by January of 2015. The number of admitted students remains steady at 50.

c. RETENTION RATES: The numbers of admitted students graduating (retention rate) from the CLS program is excellent over the last seven years for which records are available (2007 – 2014). During this time, 204 students graduated of the 214 that were admitted for a retention rate of 95.3%.

d. RECENT NUMBER OF GRADUATES: **26** graduated 12/8/2012; **35** graduated 12/14/2013; **49** graduated 12/13/2014.

e. EMPLOYMENT RATES & SALARIES: Based on results of the last three years' graduate exit surveys (2012-2014) employment rates for program graduates are very good. Of the 41 total number of respondents to graduate exit survey for the years 2012 – 2014, 36 or 87.8 % indicated they secured employment as Medical Laboratory Scientists (MLS) at the time of graduation. Reported salary ranges: $25 - $27.00/ hour with shift differential ranges of $1.60 - $3.40.

f. PASS RATES ON NATIONAL BOARD EXAM*: The three year (2012 – 2014) average pass rate for program first time examinees is **96.3%.** The exam includes the following seven subtest areas: 1) Transfusion Medicine and Blood Banking (BBNK); 2) Chemistry (CHEM); 3) Hematology and Hemostasis (HEMA); 4) Immunology (IMMU); 5) Laboratory Operations (LO);6) Microbiology (MICR); and, 7) Urinalysis (UA).

II. Program Purpose, Objectives, and Student Learning Outcomes

SUMMARY:

Department and Advisory Board Review: Due to scheduling conflicts, the program advisory committee did not meet during 2014.

The CLS program faculty reviewed the program purpose, objectives, and student learning outcomes during the October, 2014 CLS Department Meeting and affirmed the following:

Faculty & Staff Commitment
We, the faculty and staff of the Oregon Tech • OHSU CLS program, as professionals and educators, are committed to providing our students with experiences that prepare them to practice as scholastically accomplished and competent Medical Laboratory Scientists. To that end, we acknowledge our responsibility and pledge our commitment to:

- Demonstrate professionalism through our words and actions
- Provide knowledge-building, skill-developing experiences for all our students
- Create equal opportunity learning environments within which all our students are educated in an atmosphere of fairness and impartiality
- Foster students' commitment to lifelong learning
- Endorse student participation in professional organizations
- Promote student scholarship and professional achievement
- Contribute to the ongoing development and growth of medical laboratory science pedagogy through faculty participation in scholarship, service, and outreach

Program purpose, mission, objectives, and student learning outcomes (SLOs)

Program Vision
Our vision is that the Oregon Tech • OHSU CLS program continue as a center of excellence in medical laboratory science education, graduating a Medical Laboratory Science workforce in demand.

Program Mission
The mission of the Oregon Tech • OHSU Clinical Laboratory Science Program is to educate, train, and graduate professionally competent and ethical individuals, committed to life-long learning, and who are prepared to meet current and future workplace challenges in medical laboratory science.

Program Goals
The goals of the Oregon Tech • OHSU CLS program are to:

1. Advance an innovative curriculum that meets current and emergent pedagogical and professional development needs of students
2. Identify, establish, and maintain partnerships with community medical laboratories that provide exceptional educational experiences
3. Provide learning experiences rich in opportunities that maximize every student's potential to achieve MLS career entry-level competencies
4. Graduate competent MLS that meet the workforce needs of Oregon and underserved regions of the nation
5. Contribute to the advancement of MLS pedagogy and growth of the profession

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Student Learning Outcomes

Upon completion of the Oregon Tech • OHSU CLS a student will have had opportunity to acquire knowledge and skills, and develop professional attributes of a Medical Laboratory Scientist. Consequently, at the time of graduation, students will be able to demonstrate:

1) Competency to perform a full range of testing in the contemporary medical laboratory encompassing pre-analytical, analytical, and post-analytical components of laboratory services, including hematology, chemistry, microbiology, urinalysis, body fluids, molecular diagnostics, phlebotomy, and immunohematology;
2) Proficiency to problem-solve, troubleshoot, and interpret results, and to use statistical approaches when evaluating data;
3) Professional conduct, respecting the feelings and needs of others, protecting the confidence of patient information, and not allowing personal concerns and biases to interfere with the welfare of patients.
4) Administrative skills consistent with philosophies of quality assurance, continuous quality improvement, laboratory education, fiscal resource management, and appropriate composure under stressful conditions.
5) Application of safety and governmental regulations and standards as applied to medical laboratory practice.
6) Effective communication skill to ensure accurate and appropriate information transfer.

c. ***Noted assessment changes 2014-2015:***

Regarding Program Accreditation:

In 2012, the National Accrediting for Clinical Laboratory Sciences (NAACLS) adopted new Standards for accredited and approved programs. The new standards were subsequently revised in 2014 and included the establishment of outcome measures and associated benchmarks of performance for all programs.

The Oregon Tech • OHSU Clinical Laboratory Science Program underwent a continuing accreditation assessment during 2014-2015. The primary aspects of program national accreditation process included: (1) the self-study process – completed July 22, 2014; (2) the site visit process – completed October 23, 2014; (3) assessment by the review committee for accredited programs (RCAP) and of RCAP recommendations by the Quality Assurance Committee - completed February 5, 2015, and (4) evaluation by the NAACLS Board of Directors – completed April 9, 2015.

As a consequence of the changes in NAACLS accreditation standards and to document the outcome of the Oregon Tech • OHSU program's achievement of continued accreditation, the CLS Program faculty decided that this year's assessment report comprise the NAACLS continuing accreditation report and that the Program's 2014-15 assessment report reflect outcome measures and benchmarks specified in the new NAACLS standards.

III. Two-Year Cycle for Assessment of Student Learning Outcomes (SLO)

The CLS faculty/staff confirmed the assessment plan listed in Table 1. Until the program advisory board meets and the program faculty have a chance to review the new NAACLS accreditation standards and fully integrate them into the program assessment plan, a final decision on definitive assessment SLO cycle is pending further discussion during the 2015-2016 year.

Table 1 Assessment of Clinical Laboratory Science Program SLO by Year

Student Learning Outcomes	**Assessment of SLO by Year**	
	2013-2014	2014-2015
1. Competency to perform a full range of testing in the contemporary medical laboratory encompassing pre-analytical, analytical, and post-analytical components of laboratory services	**Direct**	• Direct ○ ASCP Board Examination Scores • Indirect ○ NAACLS Accreditation Summary Report ○ NAACLS Outcome Measures: ▪ Graduation Rates ▪ Graduate Placement Rates ▪ Attrition
2. Proficiency to problem-solve, troubleshoot, and interpret results, and to use statistical approaches when evaluating data	**Direct**	
3. Professional conduct and ethical behavior, respecting the feelings and needs of others, protecting the confidence of patient information, never allowing personal concerns and biases to interfere with the welfare of patients	**Not Assessed**	
4. Administrative skills consistent with philosophies of quality assurance, continuous quality improvement, laboratory education, fiscal resource management, and appropriate composure under stressful conditions	**Direct & Indirect**	
5. Application of safety and governmental regulations and standards as applied to medical laboratory practice	**Not Assessed**	
6. Effective communication skill to ensure accurate and appropriate information transfer	**Direct**	

IV. Summary of 2014-2015 Assessment Activities

1. DIRECT MEASURE: National Board Exam - *NAACLS Standard IIB1: A review of the results of the external certification or licensure results from at least the last three active years must be documented, analyzed and used in program assessment*
   - ***NAACLS Benchmark*** for accredited programs: three years consecutive results of graduate certification rates demonstrate an average at least 75% pass rate on the ASCP-BOC examinations, for those who take the exam within the first year of graduation as calculated by the most recent three year period. Three year averages should be calculated using raw student numbers.
   - ***Program action:*** At the end of spring term 2015, program faculty assessed professional program graduates using results from the American Society for Clinical Pathology (ASCP) Board of Certification (BOC) Medical Laboratory Scientist (MLS) exam.
   - ***Strengths and Weakness in Student Learning***: Results of graduate certification rates for the most recent three years demonstrate an average pass rate on the ASCP BOC MLS exam well above the NAACLS bench mark of at least 75% for those who take the exam within the first year of graduation.
   - ***Recommendations for Improvements:*** Faculty made no recommendations for improvements to the program curriculum (see map on page at this time. Records on assessment activities are kept in the Office of the CLS Department Chair and may be found in individual student records maintained in the CLS program office.

Oregon Tech • OHSU CLS Program Examinees ASCP Board Examination Outcomes (MLS) 2012- 2014			
CYCLE: Class 2012	**Program**	**Universities**	**National**
Number of Examinees	25	891	1209
Mean Scaled Score	629	498	487.5
Number Passing (Percent)	25 (100%)	730 (81.9%)	949 (78.7%)
Number Failing (Percent)	0 (0%)	161 (18.1%)	260 (21.5%)
CYCLE: Class 2013	**Program**	**Universities**	**National**
Number of Examinees	34	2760	3892
Mean Scaled Score	553	502.5	503.5
Number Passing (Percent)	33 (97.1%)	2352 (85.2%)	3301 (84.8%)
Number Failing (Percent)	1 (2.9%)	408 (14.8%)	591 (15.2%)
CYCLE: Class 2014	**Program**	**Universities**	**National**
Number of Examinees	48	2871	3994
Mean Scaled Score	530.5	496	495
Number Passing (Percent)	44 (91.7%)	2336 (81.4%)	3249 (81.3%)
Number Failing (Percent)	4 (8.3%)	535 (18.6%)	745 (18.7%)

2. *INDIRECT MEASURE :*

   A. ***NAACLS Continuing Accreditation Site Visit Summary Report***

   - ***Program action***: following the CLS program's continuing accreditation site visit in October 2014, the faculty reviewed the summary report attached to this report.
   - ***Strengths and Weakness in Student Learning***: none noted
   - ***Recommendations for Improvements:*** Faculty made no recommendations for improvements to the program curriculum (Table 2). Records on assessment activities are kept in the Office of the CLS Program Director.

Summary of 2014-2015 Assessment Activities: Indirect measures - continued

B. *Graduation rates, placement rates, and attrition rates from the last three active years*

- ***NAACLS Benchmark for graduation rates:*** three years consecutive results of graduation rates demonstrating an average at least 70% of students who have begun the final half of the program go on to successfully graduate from the program as calculated by the most recent three year period.
    - ***NOTE:*** Our program consists of 5 consecutive quarter-terms. Students start in the fall and complete the program at the end of the following fall term. Accordingly, the program determine the final half of the program to be when students begin the spring or third term of the five terms of the program.

	Class of 2012	**Class of 2013**	**Class of 2014**
No. starting third term of program	26	35	49
No. graduates	26	35	49
Graduation Rate (%)	100	100	100

- ***NAACLS Benchmark for placement rates***: three years consecutive results of graduate placement rates demonstrating that an average of at least 70% of respondent graduates either find employment in the field or a closely related field, or continue their education within one year of graduation.

	Class of 2012	**Class of 2013**	**Class of 2014**
No. Graduates	26	35	49
No. Respondent graduates indicating employment in the field	26	34	44
Placement Rate (%)	100	97.1	89.7
3-year average: ≥ 96%			

- **Attrition** (last three consecutive years)

	Class of 2012	**Class of 2013**	**Class of 2014**
No. of students admitted	26	36	50
No. of students who did not graduate	0	35	1
Attrition (%)	0	2.8	2.0

Recommendations for Improvements: Faculty made no recommendations to make changes to the program at this time. Records on assessment activities are kept in the Office of the CLS Program Director.

Table 2 – Clinical Laboratory Science Curriculum Map: 2014-2015

Term	Course Number	Course Title	Credits
FALL	*CLS 420*	*Clinical Immunology*	4
	CLS 432	*Foundations of CLS I*	4
	CLS 424	*Hemostasis*	3
	CLS 444	*Microbiology I*	6
Term	**Course Number**	**Course Title**	**Credits**
WINTER	CLS 415	Clinical Chemistry I	6
	CLS 447	*Clinical Chemistry Lab*	6
	CLS 445	*Microbiology II*	4
	CLS 449	*Principles of Urinalysis*	3
Term	***Course Number***	***Course Title***	**Credits**
SPRING	CLS 416	*Clinical Chemistry II*	2
	CLS 442	*Hematology I*	6
	CLS 443	*Immunohematology I*	4
	CLS 446	*Microbiology III*	4
Term	**Course Number**	**Course Title**	**Credits**
SUMMER	*CLS 422*	*Molecular Diagnostic Methods*	3
	CLS 448	*Infectious Serology*	1
	CLS 452	*Hematology II*	5
	CLS 453	*Immunohematology II*	2
	CLS 457	*Adv. Chem/Immunology Concepts*	2
	CLS 462	*Foundations of CLS II*	2
Term	***Course Number***	***Course Title***	**Credits**
FALL (2nd year)	*CLS 470*	*Chemistry and Immunology Externship*	4
	CLS 471	*Hematology Externship*	4
	CLS 472	*Microbiology Externship*	4
	CLS 473	*Immunohematology Externship*	3
	CLS 463	*Foundations of CLS III*	1
		Total Credits	83

Summary Page

Important Notice:
The site visit team does not have the authority to speak on behalf of nor bind NAACLS regarding a program's compliance with the Standards, nor can they predict accreditation actions. These responsibilities rest solely with the NAACLS Board of Directors, which has the exclusive right to determine whether or not accreditation is to be granted or continued.

NOTE: This page is compiled on the basis of information supplied to the site visit team by the program director and other officials. **NAACLS makes no representation as to its accuracy. The responsibility for accuracy of the information provided to the team rests solely with the program director and other officials.**

Areas of Strength:

1. Performance of the graduates on the ASCP BOC Exam. The Site Visit Team requested and reviewed the program's ASCP BOC Program Performance Report for the years spanning 2010 to 2014. In all of these years, the class average pass rate exceeded the national pass rate. The class average composite scores far exceeded the national average composite scores with impressively high individual categorical scores. In fact, the top student in the 2010 class achieved a composite score of 820 on the ASCP BOC Exam and according to the ASCP Program Performance Report, this was the highest composite score in the nation among the 2,276 examinees.

2. Exceptionally high retention rate of students in the program. This program's retention rate from the years of 2007 to 2012 was 93.8%.

3. Strong employment rate (100%) within one year of graduation as indicated by the 2013 Oregon Tech Institutional Research graduate survey and strong employee satisification of the graduates of this program as indicated by interviewes with representatives of regional hospitals conducted by the Site Visit Team.

4. Impressive program recruitment and expansion while maintaining exceptional quality. In 2007 the program had 55 applicants and in 2013 the program had 125 applicants competing for 50 positions.

5. Caring, highly dedicated, highly specialized faculty. During the visit, the Site Visit Team conducted interviews with the current students and graduates of this program and all of these individuals expressed that they were thankful for the caring attitude of the faculty in this program. The graduates of this program all expressed the fact that they felt very well prepared for both the ASCP BOC Exam and their new careers as medical laboratory scientists. All interviewees spoke very highly of this program and its faculty.

6. Strong administrative support for this program. The newly appointed Dean, Ms. LeAnn Maupin, has extensive experience in accreditation process and an appreciation of the effort involved in accreditation maintainance. The Associate Provost, Dr. Mateo Aboy, emphasized the important instruction in all program in his institution and expressed his unwaivering support of this program during interviews with the Site Visit Team.

7. **Impressive facilities including student laboratories.**

Concerns noted by the Paper Reviewer: (List and detail by the appropriate Standards number)

Standard #		Concern	Action Taken by the site visit team
STD 1		"All information for each site appears complete but a few of the affiliation agreements have expired or will expire soon. It appears that the Bay Area Hospital affiliation agreement expired 6/12. Interpath will expire 6/30/14 Kaiser expired 8/13. The agreement states that the contract can be renewed by mutual agreement but should there be paperwork stating that it has been renewed? The Legacy contract is scheduled to expire 7/31/14 but can be renewed. The Mid-Columbia MC will need to be renewed 6/30/14. It appears that the Santiam Hospital agreement expired 10/12. Is there an amendment extending this? It looks like the contract with Southern Coos hospital will expire 6/30/14. It is not clear if the VAMC: Portland agreement has been extended."	The Site Visit Team reviewed all of the clinical contracts and all contracts are current with valid expiration dates and all meet the requirements of STD 1. All contracts contain the following termination clause: "In case of termination for any reason, trainees already in training at the facility shall be allowed by the facility to complete their current clincial experience."
STD 7M		"I may not be reading this clearly. It looks like the number of sites available is greater than the number of students accepted but the students are not guaranteed an interview or placement to a clinical training site?"	The Site Visit Team confirmed the fact that the program maintains a number of clinical training sites that is greater than the number of students admitted into the program so that clinical placement is reasonably guaranteed for each student.
STD 22B		"It is not clear where the students gain experience or training in human resource management or financial management."	The Site Visit Team carefully reviewed all of the course materials for the program and confirmed the fact that each MLS student does gain training in human resource management and financial management.

Concerns of the Site Visit Team: (List and detail by the appropriate Standards number)

Standard #		Concern
		The Site Visit Team has no concerns whatsoever about this program.

SIGNATURE PAGE

*****Please complete and attach as the last page of the Site Visit Report*****

Please print or type the following information.

Name of Program: **Oregon Tech / Oregon Health & Science University**
City, State: **Wilsonville, Oregon**

Program Level: **MLS** Date: **10/23/14**

I. **Team Coordinator:**			
Name/Title:	**Dr. Bill Engle, Chair, Medical Laboratory Science Department**		
Institution:	Lincoln Memorial University		
Address:	6965 Cumberland Gap Parkway		
City/State/Zip:	Harrogate, Tennessee 37752		
Telephone:	423-869-6471	Email: billy.engle@LMUnet.edu	
Signature:	Dr Bill Engle	Date: 10/22/14	
II. **Team Member:**	I concur with the Site Visit Report	☒ Yes	☐ No
Name/Title:	**Dr. Cheryl L. Conley, Program Director, Clinical Laboratory Science**		
Institution:	Wright State University		
Address:	3640 Colonel Glenn Highway		
City/State/Zip:	Dayton, OH 45435		
Telephone:	937-775-2306	Email: cheryl.conley@wright.edu	
Signature:	Dr. Cheryl L. Conley	Date: 10/22/14	
III. **Educator Generalist:**	I concur with the Site Visit Report	☒ Yes	☐ No
Name/Title:			
Institution:			
Address:			
City/State/Zip:			
Telephone:		Email:	
Signature:		Date:	

If a team member does not concur with the report, a minority report describing disagreements is needed.(See Volunteer Manual)