Oregon Tech
Dental Hygiene Bachelor of Science, Klamath Falls Campus
2011-2012 Assessment Report

I.   Introduction

The Oregon Tech Dental Hygiene program began in 1970 as an Associate of Applied Science (AAS) program. Beginning in 1985, students had the option of completing a Bachelor of Science (BS) degree and in 2003 the program began awarding the BS degree only

All students must complete prerequisite courses to be eligible for application to the program. Acceptance to the program is selective and limited to no more than 27 students at Klamath Falls. Students enter the program each year in fall term.

The five-year retention and graduation rate is presented in the Table 1 below.

TABLE 1: 5-YEAR GRADUATION RATE				
Class 2008	**Class 2009**	**Class 2010**	**Class 2011**	**Class 2012**
23/27 (85%)	24/25 (96%)	25/27 (93%)	26/26 (100%)	21/25 (84%)

II.   Program Purpose, Objectives, and Student Learning Outcomes

The dental hygiene faculty reviewed the programs' purpose, objectives, and learning outcomes during the fall faculty retreat September 6-8, 2012. The faculty affirmed the statements below:

Dental Hygiene Program Purpose
The purpose of the Bachelor of Science in Dental Hygiene program is to prepare students for entry into the dental hygiene profession and additional careers such as public health, administration, education, research, and marketing. The graduate will be prepared to enter master degree programs in dental hygiene and related programs.

Program Educational Objectives
1. Provide the dental hygiene student the opportunity to gain the necessary knowledge, skills, and values to enter the registered practice of dental hygiene
2. Prepare the student to sit for the National Board Dental Hygiene Examination
3. Prepare the student to take the WREB examination in dental hygiene, anesthesia, and restorative.

Expected Student Learning Outcomes
1. The dental hygiene graduate will be competent in applying ethical, legal and regulatory concepts in the provision and/or support of oral health care services.
2. The dental hygiene graduate will be competent in critical thinking and problem solving related to comprehensive care and management of patients.
3. The dental hygiene graduate will be competent in interpersonal and communication skills to effectively interact with diverse population groups.
4. The dental hygiene graduate will be competent in assessing, planning, implementing and evaluating community-based oral health programs including health promotion and disease prevention activities.
5. The dental hygiene graduate will be competent in providing oral health care to individuals at all stages of life and for all periodontal classifications.

6. The dental hygiene graduate will demonstrate competent knowledge and self-assessment skills necessary for life-long learning.

The program also offers students experiential learning opportunities including:
- Membership in the Student American Dental Hygienists' Association (SADHA) and representation at state and national levels
- Professional meetings: Oregon Dental Conference, Oregon Dental Hygienists' House of Delegates Meeting, and American Dental Hygienists' Association Annual Meeting.
- Assessment, implementation, and evaluation of community health projects.
- International trips to provide dental hygiene care to persons in third world countries
- Off campus experience: school-based screenings and presentations, health fairs, and dental clinics/offices.

III. Six-Year Cycle for Assessment and Student Learning Outcomes

The assessment schedule for OIT student learning outcomes follows in Table 2A below:

TABLE 2A: Assessment Cycle for Institutional Student Learning Outcomes								
ISLO	Description	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1	Communication (oral, written, visual)	x						x
2	Team & group work			x				
3	Professionalism & ethical practice			x				
4	Critical thinking & problem solving				x			
5	Lifelong & independent learning	x						x
6	Math knowledge & skills		x					
7	Scientific knowledge & reasoning skills					x		
8	Cultural awareness						x	

The assessment cycle for the Bachelor of Science in Dental Hygiene program student learning outcomes follows in Table 2B below:

ISLO	Description	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
TABLE 2B: Assessment Cycle for Bachelor of Science in Dental Hygiene								
1	The dental hygiene graduate will be competent in applying ethical, legal and regulatory concepts in the provision and/or support of oral health care services			X				
2	The dental hygiene graduate will be competent in critical thinking and problem solving related to comprehensive care and management of patients				X			
3	The dental hygiene graduate will be competent in interpersonal and communication skills to effectively interact with diverse population groups	X						
4	The dental hygiene graduate will be competent in assessing, planning, implementing and evaluating community-based oral health programs including health promotion and disease prevention activities		X				X	
5	The dental hygiene graduate will be competent in providing oral health care to individuals at all stages of life and for all periodontal classifications	X				X		
6	The dental hygiene graduate will demonstrate competent knowledge and self-assessment skills necessary for life-long learning.	X						X

IV. Summary of Student Learning

The dental hygiene faculty conducted formal assessment of PSLO #4 on the Klamath Falls campus.

PSLO #4: The dental hygiene graduate will be competent in assessing, planning, implementing and evaluating community-based oral health programs including health promotion and disease prevention activities.

DIRECT ASSESSMENT: Community Health Project and Portfolio
Dental hygiene students' ability to assess, plan, implement, and evaluate community-based oral health programs was assessed in DH 381-383 Community Dental Health I-IV beginning fall term 2011 and ending spring term 2012 using a project and portfolio. Students work in groups to conduct all phases of a community health project in the Klamath Falls area. The following student group projects were assessed:

Head Start Fluoride Varnish, 3 students
This project focuses on prevention of early childhood caries and establishment of a dental home. OIT dental hygiene students work with multiple Head Start programs in Klamath County. Activities include the education of Head Start parents and personnel with regard to oral hygiene care and nutritional counseling as it relates to prevention of dental caries. Children involved are also introduced to the importance of their care for their teeth. Fluoride varnish applications are provided at three month intervals for the Head Start students.

Sealing Healthy Smiles, 5 students
This is a project focused on preventing caries in permanent molars through the application of pit and fissure sealants. Participating elementary schools are selected based primarily on the percentage of students that qualify for free and reduced lunch. Second and fifth grade students from participating schools are first screened to determine if sealant placement is appropriate. Sealants are placed based on the findings of the screening process. Students also receive education regarding effective oral care and nutrition as it relates to prevention of dental caries.

Klamath Children's Dental Clinic (KCDC), 5 students
Students that attend middle schools in Klamath County are the focus of this project. The project goal is to meet their oral health care needs. Participants in this project meet specific criteria. To qualify they do not have a regular dentist of record. Participants do not have dental benefit available to them and they do not qualify for the Oregon Health Plan. Students that direct this project meet with parents/guardians of the participants to explain the project and expectations of participants.

Services for the participants are based on individual needs. Oral prophylaxis, dental radiographs, dental examination, oral hygiene education, fluoride varnish, sealant placement, participation in a caries management program and placement of dental restorations are provided by OIT dental hygiene students.

The Missing Link, 5 students
Link River in Klamath Falls is an alternative high school for students that have not been successful in the traditional school environment. Some have histories of substance abuse. Some have criminal records. Others are homeless. The focus of this project is meeting the oral health needs of this group of students.   As with KCDC a broad range of services, based on individual needs, are provided for the participants.

Migrant Workers, 4 students
There is also a community health project created to meet the oral health needs of the migratory Hispanic population Klamath Falls and the surrounding area. This population has very limited access to dental care and therefore has many unmet oral health needs. A broad spectrum of oral health care services as noted in the description of the KCDC project are provided to participants in this project based on individual needs.

 The following table (Table 3) summarizes the results. (See appendix for assessment tool).

TABLE 3: DH 380-384 Community Health Project and Portfolio			
Performance Criteria	Measurement scale	Minimum Acceptable Performance	Results
Writing	1-4 scale, % at 3 or 4	80 % at 3 or 4	80%
Assessment	1-4 scale, % at 3 or 4	80 % at 3 or 4	80%
Needs Assessment	1-4 scale, % at 3 or 4	80 % at 3 or 4	80%
Planning	1-4 scale, % at 3 or 4	80 % at 3 or 4	80%
Implementation	1-4 scale, % at 3 or 4	80 % at 3 or 4	80%
Evaluation	1-4 scale, % at 3 or 4	80 % at 3 or 4	100%
Portfolio (appearance)	1-4 scale, % at 3 or 4	80 % at 3 or 4	80%

Table 3 Assessment results for PSLO #4 in DH381-383, fall 2011 – spring 2012

Strength: Assessment results indicate teaching and learning related to PSLO #4 meets or exceeds minimum acceptable performance

Weaknesses: Assessment results did not reveal any weakness

Plans for Improvement: Continue successful teaching strategies

INDIRECT ASSESSMENT: Graduate Survey
Dental hygiene students' ability to assess, plan, implement, and evaluate community-based oral health programs was also assessed using a survey. Students expected to graduate winter term 2012 were asked to rate the level that the program prepared them to be competent in assessing, planning, implementing, and evaluating community-based oral health programs. The survey was administered to twenty-one students using Survey Monkey. The following table (Table 4) summarizes the results.

TABLE 4: Survey		
Question: The OIT Dental Hygiene program prepared me to be competent in assessing, planning, implementing, and evaluating community-based oral health programs		
Measurement Scale	Minimum Acceptable Performance	Results
1-4 scale, % at 3 or 4	80% at 3 or 4	100%
Question: The OIT Dental Hygiene program helped me be able to improve access to care by providing community oral health services such as needs assessment, screening, referral, and educational services		
Measurement Scale	Minimum Acceptable Performance	Results
1-4 scale; percent at 3 or 4	80% at 3 or 4	100%

Table 4: Assessment results for PSLO #4, survey W 2012

Strengths
Survey results indicate teaching and learning related to PSLO #4 exceeds minimum acceptable performance.

Weaknesses
Survey results did not reveal any weakness.

Plan for Improvement
Continue successful teaching strategies.

V.   Changes Resulting from 2010-2011 Assessment

ISLO 1: OIT students will demonstrate effective oral, written and visual communication.
And
PSLO 3: The dental hygiene graduate will be competent in interpersonal and communication skills to interact effectively with diverse population groups.

DIRECT ASSESSMENT: Writing assignment

During the 2010-2011 assessment cycle the dental hygiene faculty identified areas of weakness in written communication.

Writing was re-assessed fall term 2011 in DH 225 Head and Neck Anatomy using an assignment. Twenty-four sophomore students who had previously taken WRI 121 and WRI 122 or the equivalent were assessed two different times. Students received the grading rubric, but no other writing instruction prior to the first assignment. Before the second assignment, in addition to the having the grading rubric, students were reminded about how to write paragraphs and essays and how to document sources. The following table (Table 5) summarizes the results.

TABLE 5: Writing Assessment					
	Measurement Scale	Minimum Acceptable Performance	Results		
			2010-2011	2012 (1)	2012 (2)
Purpose and ideas	1-4 scale, % at 3 or 4	80% at 3 or 4	96%	71%	67%
Organization	1-4 scale, % at 3 or 4	80% at 3 or 4	92%	58%	87.5%
Support	1-4 scale, % at 3 or 4	80% at 3 or 4	81%	83%	92%
Style	1-4 scale, % at 3 or 4	80% at 3 or 4	84.6%	92%	100%
Conventions	1-4 scale, % at 3 or 4	80% at 3 or 4	73%	96%	87.5%
Documentation	1-4 scale, % at 3 or 4	80% at 3 or 4	69%	58%	100%

Table 5 Assessment results and comparison for ISLO #1; years 2010-2011 and 2011-2012

Strengths: In both assignments, students demonstrate strength in style.

Weakness: Students did not meet minimum acceptable performance in purpose and ideas in either assignment.

Comments: In the 2010-2011 assessment of written communication, dental hygiene students did not meet minimum acceptable performance in conventions and documentation. When the outcome was reassessed in 2011-2012, students met criteria in conventions in both assignments. However, they underperformed in purpose & ideas, organization, and documentation in one or both assignments.

Plan for improvement
The dental hygiene faculty met with members of the communication department on October 21, 2011 to discuss the results and strategies to improve teaching and learning. The Communication Department is making changes to course content in lower level writing courses to address these specific topic areas.

At the spring assessment meeting held on May 30, 2012, the faculty reviewed the results and discussed general observations of students' writing. The faculty determined the following strategies to help students meet or exceed minimum competency in all criteria:
- Model effective writing and documentation.
- Provide a tutorial on documentation to include on Bb in hybrid courses

- Develop a writing standards guideline that will be included in all syllabi and writing assignments
- Direct students to resources including web sites, publication manuals, grammar reference, automated writing feed-back resources, etc.

PSLO #5: Students with a bachelor's degree in dental hygiene must be competent in providing oral health care to individuals at all stages of life and for all periodontal classifications.

DIRECT ASSESSMENT: Patient Experience Tracking Records
In the 2010-2011 assessment cycle, review of patient experience tracking records revealed a weakness in students' patient experiences with providing oral health care to children, persons with special needs, and women who are pregnant.

In the 2011-2012 assessment cycle, patient experience tracking records were again reviewed. The following table (Table 6) summarizes the results:

TABLE 6: Patient Experiences for Child, Special Needs, and Pregnant Patients					
	Child		Special Needs		Pregnant	
	2011	2012	2011	2012	2011	2012
Total	170	200	23	98	4	2
Maximum	13	20	7	15.5	3	1
Minimum	0	3	0	1	0	0
Average	6.54	6	0.88	9.5	.15	.115

Table 5 Assessment results and comparison for PSLO #5; years 2010-2011 and 2011-2012

Strengths: Compared to 2011 no student reported zero experiences with children or special needs patients.

Weaknesses: Most students had zero experiences with pregnant women.

Plan for improvement:
At the spring assessment meeting held on May 30, 2012 faculty reviewed the tracking results and discussed observations of students' experiences. Faculty believes that changes in tracking have more accurately reflected students' experiences, but still under-represents actual experiences.

The faculty determined the following strategies to help students meet or exceed minimum competency in experiences with children, special needs, and pregnant women:

- Reassess tracking procedures and make any necessary changes to assure accuracy.
- Continue to develop partnership with Klamath Open Door in conjunction with the Klamath County Health Department Women, Infants, and Children (WIC) program.
- Continue to seek opportunities to serve a diverse population in the OIT Dental Hygiene clinic.

INDIRECT ASSESSMENT: Survey

In the 2010-2011 assessment cycle, a survey was administered week nine of winter term 2011 to students expected to graduate at the end of the term. Results of the survey indicated weakness in students' ability to be competent to treat aggressive periodontitis.

Aggressive periodontics is an uncommon condition and the likelihood of encountering the condition is low. To compensate for the rarity of the condition, aggressive periodontitis received emphasis in DH 354 Periodontolgy during fall term 2011. Twenty-two junior students enrolled in DH 354 were then assessed using a case study. The following table (Table 7) summarizes the results.

TABLE 7: Aggressive Periodontitis Case Study					
Question	Type	Criteria	Correct	Minimal Acceptable Performance	Percent
1	Short Answer	Radiographic interpretation	20	75% out of 100%	90%
2	Multiple Choice	Periodontal differential Dx	21	75% out of 100%	95%
3	Multiple Choice	Pathogen	18	75% out of 100%	82%
4	Short Answer	Diagnostic testing	17	75% out of 100%	77%
5	Short Answer	Treatment options	18	75% out of 100%	82%
6	Multiple Choice	Laser outcomes	19	75% out of 100%	86%
7	Paragraph	Treatment planning	18	75% out of 100%	82%

Table 7: Assessment results and comparison for PSLO #5; years 2010-2011 and 2011-2012

Strengths: The majority of students have a good understanding of radiographic interpretation and periodontal differential diagnosis.

Weaknesses: No weaknesses identified; students met or exceeded minimum acceptable performance in all criteria.

Plan for improvement: Continue successful teaching strategies.

Appendix A: Curriculum Maps

Program Student Learning Outcome #4: Graduates will be competent in assessing, planning, implementing, and evaluating community-based oral health programs including health promotion and disease prevention activities.

The following table (TABLE A.1) indicates the dental hygiene curriculum. Courses that are bolded indicate that the SLO above is taught in the course, students demonstrate skills or knowledge in the SLO, and/or students receive feedback on their performance on the SLO.

 I = Introduced; R = Reinforced; E=Emphasized

Table A.1 SLO#4 Assessment Map					
		Fall	**Winter**	**Spring**	**Summer**
SOPHOMORE					
CHE 360	Clin Pharm for Health Professions				
DH 221	DH Clin Prac & Seminar I				
DH 226	Head & Neck Anatomy				
DH 240	Prevention I				
DH 275	Dental Ethics				
SPE 321	Small Group & Team Com				
DH 222	DH Clin Prac & Seminar II				
DH 237	Oral Histology & Embryology				
DH 241	Prevention II				
DH 244	General & Oral Pathology				
DH 252	Oral Radiology I				
DH 366	Dental Anatomy				
DH 223	DH Clin Prac & Seminar II I				
DH 242	Prevention III				
DH 253	Oral Radiology II				
DH 254	Introduction to Periodontology				
DH 267	Emergency Procedures				
DH 380	**Community Dental Health I**			**I**	
	Psychology elective				
JUNIOR					
BUS 317	Health Care Management				
DH 321	DH Clin Prac & Seminar IV				
DH 340	Prevention IV				
DH 354	Periodontology				
DH 381	**Community Dental Health II**	**E**			
	Psychology elective				
DH 322	DH Clin Prac & Seminar V				
DH 341	Prevention V				
DH 351	Pain Management I				
DH 382	**Community Dental Health III**		**E**		
WRI 227	Technical Report Writing				

	Humanities electvie				
DH 323	DH Clin Prac & Seminar VI				
DH 344	Advanced General & Oral Pathology				
DH 352	Pain Management II				
DH 363	Dental Materials				
DH 370	International Externship (opt)				
DH 383	**Community Dental Health IV**			E	
SENIOR					
BUS 331	Personal Finance				
DH371	International Externship (opt)				
DH421	DH Clin Prac & Seminar VII				
DH461	Restorative Dentistry II				
DH475	DH Research Methods				
MATH 243	Introductory Statistics				
AHED 450	Instructional Methods				
DH372	International Externship (opt)				
DH422	DH Clin Prac & Seminar VIII				
DH462	Restorative Dentistry II				
DH476	DH Research Methods II				
	Communication elective				
	Humanities elective				
DH423	DH Clin Prac & Seminar IX				
DH454	Dental Practice Management				
DH463	Restorative Dentistry III				
DH477	DH Research Methods III				
	Humanities elective				
	Psychology elective				

Appendix B: Assessment Tools

Community Health Project Rubric – DH 380 - 383				
	Novice 6.5	**Beginner 7.5**	**Competent 8.3**	**Proficient 10**
Writing	Project documentation has numerous writing errors; formatting not consistent; needs major editing.	Project documentation has minor writing errors; formatting not consistent; needs minor editing	Project documentation has minor writing errors. Document shows evidence of editing	All project documentation is free from writing errors. The document has clearly been edited to improve quality.
Assessment	Does not identify an appropriate target population			Identifies an appropriate target population
Needs Assessment	Needs assessment is based on anecdotal or biased information to determine a population profile	Conducts a needs assessment, but more than 1of the 5 major issues are omitted; population profile is not accurate	Conducts a thorough needs assessment, but omits 1 of the 5 major issues; population profile is mostly accurate	Conducts a thorough needs assessment that addresses the 5 major issues; population profile is accurate
Planning	Program is planned based on inadequate goals and objectives AND strategies and activities are inappropriate; does not plan for evaluation	Program is planned based on inadequate goals and objectives OR strategies and activities are inappropriate; inappropriately plans for evaluation	Program is planned based on adequate goals and objectives; strategies and activities will accomplish program goals and objectives; plans for evaluation using measureable objectives	Plans an effective program based on appropriate goals and objectives; determines effective strategies and activities to accomplish the program goals and objectives; plans for evaluation using measureable objectives
Implementation	Inadequate implementation of program. Team work and communications are ineffective. Correspondence is not tracked. Implementation process is inadequately documented	Adequately implements program; teamwork and communication is sometimes ineffective, some activities and correspondence is tracked; implementation process is adequately documented	Effectively implements program; teamwork and communication are adequate, most activities and correspondence is tracked; implementation process is effectively documented	Proficiently implements program' teamwork and communication are highly effective; all activities and correspondence is tracked; implementation process is proficiently documented
Evaluation	Process evaluation is not evident. Evaluation of program not based on measureable objectives	Sometimes conducts process evaluation of program; summative evaluation is partially based on measureable objectives	Usually conducts process evaluation of program; summative evaluation is based on measureable objectives	Consistently conducts ongoing process evaluation of program, summative evaluation is based on measurable objectives
Portfolio Appearance	Portfolio is not neat in appearance; not all information is easy to find; lack of creativity in design and formatting	Portfolio has neat appearance; not all information is easy to find; lack of creativity in design and formatting	Portfolio has neat appearance; not all information is easy to find; creativity in design and formatting	Portfolio has neat appearance; information well organized and easy to find; creativity in design and formatting
Total Team Grade:				