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Course Outcomes Guide

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Course/Program Title: DHY 102 – Dental Hygiene Clinical I   **Date:** Fall 2017

Course/Program Team: Jennifer Suminski (co-lead), Kelanie Yordy (co-lead), Nancy Stannert, and Lucinda Oberholzer

Expected Learning Outcomes:
- Demonstrate safe and effective instrument pre-sterilization and sterilization procedures under the direct observation of an instructor.
- Demonstrate clinical dental hygiene skills and assessment procedures under self-assessment and direct observation conditions.
- Develop a dental hygiene plan of action for a student partner, then complete and evaluate the oral prophylaxis process.
- Create clinical patient assessment documents that adhere to legal and ethical standards.

Assessment: (How do or will students demonstrate achievement of each outcome? Please attach a copy of your assessment electronically.)
Student preliminary patient care skillsets are evaluated through the use of Skills Evaluations and Objective Structured Clinical Examinations (OSCE). Quizzes are administered to reinforce information taught in the Sim Lab portion of the course. Additionally, homework assignments are given to provide reinforcement of concepts taught in Sim Lab, as well as to prepare them for patient care in the second semester of the Dental Hygiene Program.

Skills Evaluations - Eighteen (18) skills evaluations on instruments and clinical procedures learned in the simulation lab are given during the clinic session of the course to assess the student's progress with acquiring the skillsets and hand skills necessary to treat patients. The student is given time to practice on a partner and self-assess their skills in clinic before being evaluated by a faculty member. The Skills Evaluations are worth anywhere from 12.5 to 25 points each and account for 55% of the student's grade.

Comprehensive OSCE Exams - Three (3) Objective Structured Clinical Evaluations (OSCEs) are given periodically during the clinic session of the course and evaluate summative progress in clinical instrumentation and hand skills. The OSCEs are worth 50 points each and account for 18% of the student's grade.

Simulation Lab Quizzes Six (6) quizzes are given in the Sim Lab portion of the course or via Moodle. Each quiz is given at the beginning of a Sim Lab session and covers the assigned reading/lecture material. The quizzes are worth 20 points each and account for 15% of the student's grade.

DH2 Student Clinic Observation and Reflection - In anticipation of treating patients in DHY 111 – Dental Hygiene Clinical 2, students are required to complete 4 hours of observation in second year clinic. After the student's observation, they are to write a one page, double-spaced reflection paper about their experience. The observation is worth 30 points and the reflection paper is worth 15 points and the assignment as a whole accounts for 5% of the student's grade.

Odontogram Interpretation – This exercise requires students to create two mock patient hard tissue dental charts from a written explanation of dentition findings; one in Dentrix and one on paper. Each odontogram is worth 10 points and the assignment as a whole accounts for 2% of the student's grade.

Skills Evaluations	450	55%
3 Comprehensive OSCE Exams	150	18%
Simulation Lab Quizzes	120	15%
DH2 Student Clinic Observation and Reflection	45	5%
Dentrix Odontogram Interpretation	20	2%
Clinic/Lab Engagement	42	5%
Total	**827**	**100%**

Validation: (What methods have you used or will you use to validate your assessment?)
1. Skills Evaluations - The average grade for the Skills Evaluations portion for DHY 102 MUST be 75% or higher in order to pass the course and progress in the Dental Hygiene Program.
   Goal – 100% of students achieve an average of 75% or higher on Skills Evaluations

2. Comprehensive OSCE Exams - While there currently is not a minimum average score for the OSCEs needed to pass the course and progress in the Dental Hygiene Program, we keep everything about these OSCEs the same from semester to semester to stratify and analyze trends between cohorts.
   Goal – 100% of students achieve an average of 75% or higher on OSCEs
3. Quizzes - Questions that are reused from semester to semester are analyzed for clarity based on the number of students who did not answer the question correctly during the previous semester.
   Goal – 90% of students achieve an average of 75% or higher on quizzes

4. Students must successfully demonstrate skills learned in this course and receive a grade of 75% (C) or higher to progress in the Dental Hygiene Program.

Results: (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)

1. Skills Evaluations – Average score

Skills Evaluations	Fall 2015 Average (n=20)	Fall 2016 Average (n=19)	Fall 2017 Average (n=20)
Infection Control	97.6%	97.5%	97.2%
Sterilization Process	100%	100%	98.2%
Blood Pressure	98.9%	99%	97.8%
Tx of Diabetic Patient	N/A	N/A	98.2%
Mirror/Clock Positioning	96%	97.8%	94.2%
Grasp/Fulcrum	86.8%	97.4%	93.3%
Explorer	89.4%	93.8%	85.7%
Sickle Scalers	88.8%	89.8%	89.6%
Extraoral/Intraoral Exam	96.1%	98.8%	91.4%
Probe	94.4%	95.5%	92.8%
Coronal Polishing	93.8%	96.2%	93.9%
Flossing	97.3%	96.7%	94.7%
Fluoride Tray	90.2%	99.2%	95%
Fluoride Varnish		100%	95%
Universal Curettes	95%	95.1%	91.7%
Gracey 1/2 Curette	93.8%	99.2%	94.4%
Gracey 11/12 Curette	92.4%	96%	93.9%
Gracey 13/14 Curette	92.4%	97%	95.4%
Patient Care Appt	N/A	80%	89.8%
Total Average	**93.9%**	**96.1%**	**93.8%**

2. OSCE – Average score

OSCEs	Fall 2015 Average (n=20)	Fall 2016 Average (n=19)	Fall 2017 Average (n=20)
OSCE #1	84.5%	89.1%	82.6%
OSCE #2	95.7%	92.2%	90%
OSCE #3	85.9%	94.5%	84.8%
Total Average	**88.7%**	**91.9%**	**85.8%**

3. Quizzes – Average score

Quizzes	Fall 2015 Average (n=20)	Fall 2016 Average (n=19)	Fall 2017 Average (n=20)
Quiz #1	80.4%	98.3%	97.8%
Quiz #2	87%	83.9%	81.4%

Quiz #3	93%	89.7%	90.8%
Quiz #4	92.5%	83.9%	75%
Quiz #5	79.5%	81.7%	80.5%
Quiz #6	92.5%	90%	82%
Total Average	**87.5%**	**87.9%**	**84.6%**

4. Number of students passing the course with 75% or higher, along with the grade distribution and average.

Course Pass Rate Analysis

Cohort	# of Students with 75% or Higher n (%)	Total Class Grade Average %
Fall 2015 (n=20)	20 (100%)	94.2%
Fall 2016 (n=19)	18 (95%)	93.7%
Fall 2017 (n=20)	19 (95%)	90.7%

Grade Distribution

Cohort	Letter Grade A n (%)	Letter Grade B n (%)	Letter Grade C n (%)	Letter Grade F n (%)
Fall 2015 (n=20)	19 (95%)	1 (5%)	0 (0%)	0 (0%)
Fall 2016 (n=19)	18 (95%)	0 (0%)	0 (0%)	1 (5%)
Fall 2017 (n=20)	16 (80%)	3 (15%)	0 (0%)	1 (5%)

Follow-up: (How have you used or how will you use the data to improve student learning?) This is the third time I have been a co-lead instructor for this course and the faculty who are all involved with this course, along with the program coordinator have addressed design and implementation weaknesses from the Fall 2015 and Fall 2016 semesters. Additional design and implementation challenges were identified this semester, but were relatively minor compared to the previous year.

I taught this course with a new co-lead instructor this year and she brought several new ideas to the table which we implemented to help facilitate learning and transition into patient care for the Spring semester. Some of the changes we implemented from past semester student feedback were more instructional videos, one entire Sim Lab session dedicated to patient education and treatment planning, and more Dentrix training exercises.

At the end of the semester, the other co-lead instructor and I asked the students for anonymous course feedback on a paper survey since DHY 102 does not have a formal instructor evaluation administered by HCC. The students were given the opportunity give feedback on which assignments/lectures were most beneficial to them and why, which assignments/lectures were

least beneficial to them and why, what would they change about the course, and any additional comments they had for us.

With this information along with the SLOA data, the instructors of this course plan to address all of the concerns to improve the course for future semesters. Some of the concerns were geared toward the students feeling that they wanted more time during Sim Lab to practice the instruments versus having us lecture for the first half of Sim Lab. The instructors already saw this as a concern and are planning to create video lectures that the students will be required to watch prior to class.

Students also discussed on their feedback surveys that the OSCEs were very intimidating and rushed and believed were not a true reflection of their skill level with each particular instrument. Instructors will be reviewing the directives for the OSCEs and talking to other dental hygiene programs about their OSCE process then potentially make some changes to the directives so the student's performance is more reflective of their actual skill level.
Skills Evaluations are revised annually, based on recurring themes in student testing. The faculty will make minor changes for Fall 2018, however as they stand currently, the Skills Evaluation forms need very little revision.

The biggest concern which was realized this semester is the way the grading system is currently structured for this course. Currently the way the clinic grading system is structured for Clinic 2, 3, and 4 are by weighted percentage; whereas Clinic 1 is a straight point system. Having a straight point system may not be reflective of the student's clinical skills when other assignments can buffer their grade; thus not realizing their true preparedness for treating patients in Clinic 2. Currently the difference in grade distribution between Clinic 1 and 2 are significant; Clinic 1 has mostly A's and Clinic 2 has mostly B's. The instructors plan to transition Clinic 1 to a weighted percentage system by Fall 2018 and stratify data to compare the weighted percent system against the straight points system.

Budget Justification: (What resources are necessary to improve student learning?)
No changes needed at this time.