

Course Outcomes Assessment

Course/Program Title: DHY 204 – Pain Management in Dental Hygiene **Date:** Fall 2018

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Expected Learning Outcomes:

- Prepare for the successful completion of the Commission on Dental Competency Assessments Examinations (CDCA) for certification in local anesthesia administration and nitrous oxide sedation monitoring.
- Assess patients' medical and pharmacologic histories to determine the suitability and proper selection of local anesthesia with or without vasoconstrictors.
- Describe and demonstrate the principles of local anesthetic administration and safety.

Assessment: (How do or will students demonstrate achievement of each outcome? Please attach a copy of your assessment electronically.)

1. Comprehensive Final Exam - The final exam is constructed based on material covered during the entire course and also contains board exam content. The final exam is worth 125 points and accounts for 50% of the student's grade.
2. Quizzes - Four (4) quizzes are given which cover lecture, reading and homework assignments for small sections of course material. The quizzes are worth 10 points each and account for 15% of the student's grade.
3. Lab Assessments - Seven (7) clinical laboratory assessments are given that must be successfully completed at specified times during the duration of this course. Students will complete two (2) pre-injection assessments, four (4) injection assessments, and one (1) nitrous oxide administration assessment. The final 8 injections must be passed at 100% proficiency for students to pass this course and be approved to begin administering local anesthesia to clinic patients in DHY 202 Clinic III and DHY 221 Clinic IV. The laboratory assessments have various points associated with them and collectively count for 20% of the student's grade.
4. Review Questions - Each student is required to complete review questions assignments correlating to each week's topics covered in class. This is designed to strengthen retention of information, and reading and study habits to prepare for class lectures, quizzes, and examinations. The review question assignments are worth 10 points each and account for a combined 10% of the student's grade.

<u>Assignment</u>	<u>Points</u>	<u>Weighted %</u>
Comprehensive Final Exam	125	50%
Lecture Quizzes (4 @ 10 points each)	40	15%
Homework (6 @ 10 points each)	60	10%
Laboratory Assessments (7 @ various points)	122	20%
Classroom Engagement	18	5%

Total

365

100%

Validation: (What methods have you used or will you use to validate your assessment?)

1. Comprehensive Final Examination - An exam review is provided prior to the final exam which contains questions that have a similar format as the actual exam and helps to determine the quality of questions. Questions that are also 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 the final exam.
2. 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 – 85% of students achieve an average of 75% or higher on quizzes.
3. Review Questions – Review questions are taken directly out of the in-class lecture. Review question exercises 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 review questions.
4. Laboratory Assessments – Students demonstrate clinical skills under the direct observation of a clinical dental hygienist or dentist as stated in the Course Requirements. Laboratory assessments are based on procedures learned in DHY 102, 111 and 204 and practiced in DHY 202. Students are evaluated using the laboratory assessment forms which has a level of proficiency the student must pass in order to move on in the course lab. Four sets of injection laboratory assessments are administered with increasing levels of proficiency with the last set requiring the student to pass with 100% proficiency prior to being able to administer local anesthetic injections to live patients in DHY 202 and DHY 221.
5. **Goal – 90% of students achieve an average of 75% or higher on laboratory assessments.**
6. 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?)

With previous cohorts, there were three exams during the course rather than four quizzes and a comprehensive final exam. Below is data for the most recent cohort for the comprehensive final exam and quizzes. Lab assessment data has been logged for the past 3 cohorts and that data is included below.

1. Comprehensive Final Exam – Average score and pass rate of 75% or higher analyzed

Average Scores

Cohort	Comprehensive Final Exam
Fall 2018 (n=19)	95.7%

Pass Rate Analysis – 75% or above

Cohort	Comprehensive Final Exam
Fall 2018 (n=19)	100%

2. Quizzes – Average score and pass rate of 75% or higher analyzed

Average Scores

Cohort	Quiz #1	Quiz #2	Quiz #3	Quiz #4
Fall 2018 (n=19)	93.2%	71.6%	89.5%	85.3%

Pass Rate Analysis – 75% or above

Cohort	Quiz #1	Quiz #2	Quiz #3	Quiz #4
Fall 2018 (n=19)	94.7%	52.6%	94.7%	94.7%

3. Laboratory Assessments – Average score and pass rate of 75% or higher analyzed

Average Scores

Cohort	#1 – Set of 8 Inj.	#2 – Set of 8 Inj.	#3 – Set of 8 Inj.	#4 – Set of 8 Inj.
Fall 2016 (n=20)	99.2%	99.2%	100%	N/A
Fall 2017 (n=18)	99.6%	99.5%	100%	N/A
Fall 2018 (n=19)	98.0%	97.4%	99.1%	99.3%

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 2016 (n=20)	100%	94.9%
Fall 2017	100%	91.9%

(n=18)		
Fall 2018 (n=19)	100%	94.2%

Grade Distribution

Cohort	Letter Grade A n (%)	Letter Grade B n (%)	Letter Grade C n (%)	Letter Grade F n (%)
Fall 2016 (n=20)	20 (100%)	0 (0%)	0 (0%)	0 (0%)
Fall 2017 (n=18)	14 (78%)	4 (22%)	0 (0%)	0 (0%)
Fall 2018 (n=19)	18 (95%)	1 (5%)	0 (0%)	0 (0%)

Follow-up: (How have you used or how will you use the data to improve student learning?)

The weight of the points for exams and quizzes was adjusted so that exams are weighted more heavily and final course grade inflation is reduced. Grade distribution improved from all A's to a mix of A's and B's with an average course grade of 94.2%, about a 3% fluctuation between the three cohorts. I plan to compare the next cohort's comprehensive final exam and quiz scores with the Fall 2018 cohort to determine if any changes are needed.

The current didactic coursework is preparing students to be successful in clinical administration of local anesthesia as well as passing licensure examinations. The clinical laboratory assessments are preparing students to administer anesthesia in Clinics III and IV and success of this is reflected in student assessments when giving injections to patients in clinic.

Budget Justification: (What resources are necessary to improve student learning?)

No additional financial resources are needed at this time.