

Course Outcomes Guide

Course/Program Title: DHY 116 – Dental Pharmacology

Date: Spring 2018

Course/Program Team: Jennifer Suminski

Expected Learning Outcomes:

- Evaluate the human physiology and importance of drug safety and use in the dental practice.
- Formulate a healthy and ethical perspective for drug usage in dental procedures.

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

In the Spring 2018 semester, this class adopted a weighted grading model versus a straight points scale. This was done in order to prevent ancillary assignments from buffering low grades on exams and quizzes. More percent points were added to assignments which had the students using critical thinking skills, such as case studies, exams, and quizzes.

1. Examinations - Exams are constructed based on material covered during class and also contains board exam content. An exam review is provided prior to each exam which contains questions that have a similar format as the actual exam which helps determine the quality of questions. The exams are worth 100 points each and account for 50% of the student's grade and this course does not include a comprehensive final exam.
2. Quizzes - Six (5) quizzes are given which cover lecture, reading and homework assignments for small sections of material. The quizzes are worth 10 points each and account for 15% of the student's grade.
3. Weekly Review Questions - Each student is required to complete a set of questions 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, quizzes, and examinations. The weekly chapter review questions are worth 5 points each and account for 15% of the student's grade.
4. Case Study Assignments – Each student is assigned three (3) case studies through the semester to complete on dentalcare.com which provides a patient history, periodontal chart, study model, radiographic images, and intraoral images. The questions that accompany each case study are questions that will be provided are provided by the instructor to help prepare each student for board exams and patient care through strengthening the student's conceptual skill set. Students are also required to fill out a treatment plan for some case studies, which follows the Standards for Clinical Dental Hygiene Practice set forth by the American Dental Hygienists' Association. This assignment is worth 25 points each and accounts for 15% of the student's grade.

5. Drug Reference Notebook – The purpose of this assignment was to help the student retain drug information by creating a drug reference notebook. However, this assignment was redesigned for this semester and did not go as planned, so the assignment was canceled. I will be working to create a new assignment to help students retain information on specific drugs.

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

1. Examinations - An exam review is provided prior to each exam which contains questions that have a similar format as the actual exam which helps 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 – 85% of students achieve a 75% or higher on each 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 a 75% or higher on each quiz.

3. Weekly Chapter Review Questions - Questions are taken directly out of the in-class lecture so the student can follow along and have the opportunity to finish the question set in class the same day. 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 – 95% of students achieve a 75% or higher on each set of review questions.

4. Case Study Assignments – Questions provided to students follows the Standards for Clinical Dental Hygiene Practice set forth by the American Dental Hygienists' Association. 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 – 80% of students achieve a 75% or higher on each case study.

5. Drug Reference Notebook – N/A

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

I have chosen to compare data from the three cohorts I have taught.

1. Examinations – Percentage of Students Achieving a Pass Rate of 75% or Higher

In the Spring 2016 cohort, this course had three (3) exams, whereas the Spring 2017 cohort and onward had five (5).

Cohort	Exam #1	Exam #2	Exam #3	Exam #4	Exam #5	Average %
Spring 2016 (n=20)	100%	90%	100%	N/A	N/A	96.7%
Spring 2017 (n=18)	100%	94.4%	100%	88.9%	100%	96.7%
Spring 2018 (n=19)	100%	100%	100%	100%	100%	100%

2. Quizzes – Percentage of Students Achieving a Pass Rate of 75% or Higher

In the Spring 2016 cohort, this course had seven (7) quizzes, whereas the Spring 2017 cohort had six (6) and the Spring 2018 cohort had five (5).

Cohort	Quiz 1	Quiz 2	Quiz 3	Quiz 4	Quiz 5	Quiz 6	Quiz 7	Average %
Spring 2016 (n=20)	70%	80%	85%	80%	85%	60%	100%	80.0%
Spring 2017 (n=18)	94.4%	94.4%	72.2%	100%	77.8%	91.1%	N/A	88.3%
Spring 2018 (n=19)	84.2%	78.9%	94.7%	94.7%	73.7%	N/A	N/A	85.2%

3. Weekly Chapter Review Questions – Average Score of the Set of Ten Chapter Review Questions

Cohort	Total Average of Review Question Scores
Spring 2016 (n=20)	100%
Spring 2017 (n=18)	94.7%
Spring 2018 (n=19)	92.6%

4. Case Study Assignments – Percentage of Students Achieving a Pass Rate of 75% or Higher

Cohort	Case Study 1	Case Study 2	Case Study 3	Average %
Spring 2016 (n=20)	75%	100%	100%	91.7%
Spring 2017 (n=18)	88.9%	61.1%	33.3%	61.1%
Spring 2018 (n=19)	68.4%	94.7%	63.2%	75.4%

5. Drug Reference Notebook – Percentage of Students Achieving a Pass Rate of 75% or Higher

Cohort	Drug Notebook Pass Rate %
Spring 2016 (n=20)	95%
Spring 2017 (n=18)	100%
Spring 2018 (n=19)	N/A

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

Cohort	# of Students with 75% or Higher n (%)	Total Class Grade Average %
Spring 2016 (n=20)	20 (100%)	92.4%
Spring 2017 (n=18)	18 (100%)	88%
Spring 2018 (n=19)	19 (100%)	90.3%

Grade distribution between cohorts.

Cohort	Letter Grade A n (%)	Letter Grade B n (%)	Letter Grade C n (%)	Letter Grade F n (%)
Spring 2016 (n=20)	13 (65%)	7 (35%)	0 (0%)	0 (0%)
Spring 2017 (n=18)	4 (22.2%)	14 (77.8%)	0 (0%)	0 (0%)
Spring 2018 (n=19)	10 (52.6%)	9 (47.4%)	0 (0%)	0 (0%)

Weight of Assignments and Grade Distribution:

The weight of assignments and exams is reviewed each year to ensure points awarded are distributed appropriately and accurately measure student learning. The program grade scale is currently 75%-79% =C, 80%-89%=B and 90%-100%=A. This is not an even distribution and is artificially inflating grades into the A and B range. The program grading scale should be evaluated and adjusted for a more even scale which would in turn create a more accurate grade distribution in a Bell Curve with A's, B's and C's.

Having pilot tested using a weighted grade scale with this course, I have determined that it did not have an impact in the grade distribution for the cohort. I believe the reason why is that I had to cancel an entire assignment worth 225 points and 15% of their grade due to it being problematic. I would like to implement the weighted grade scale again in the Fall with some of my other courses in order to see if it has an actual impact in grade distribution to counteract the program's uneven grade scale.

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

Overall, the grades for quizzes, weekly review questions, and examinations are fairly consistent and do not need any adjustment at this time.

The Case Study Assignments scores were inconsistent. I would also like to re-do the grading scheme for this assignment and implement a formal standardized rubric and directions or an example for the students to reference. I would also like to make these case studies worth more percentage points because these assignments build upon critical thinking and places emphasis on bridging that gap between learning didactically and applying that to clinical courses. Students need to be able to think critically when they sit for their licensure board exams, especially when solving scenarios and case studies. Students also need to think critically as licensed health care professionals.

The Drug Reference Notebook is an important aspect of the course learning objectives, however the project design I implemented did not work out the way I wanted it to. I had originally reworked this project so that every week the students are completing one or two reference sheets per week, but it was taking the students hours to complete them, and me weeks to grade them. I will work over the summer to speak to other programs and design a project where it will still put emphasis on the students learning the drug names, but be less time consuming for the students to complete and for me to grade.

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

No additional resources are needed at this point.