

## Course Outcomes Guide

**Directions:** Please complete this form to document your progress toward improving student learning. For each item, indicate your progress and your anticipated next steps. Thank you!

**Course/Program Title:** DHY 116 – Dental Pharmacology

**Date:** Spring 2017

**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.)

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 59% of the student's grade and this course does not include a comprehensive final exam.
2. Quizzes - Six (6) 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 7% 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 8% 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 9% of the student's grade.

5. Drug Reference Notebook – In order to help the student retain drug information, students must create a drug reference notebook. Students select thirty (30) drugs from different drug classes and fill out a form that prompts information about the drug such as; brand and generic name, pregnancy category, uses for the drug, usual dosage, side effects, dental considerations, if a medical or dental consult is necessary prior to treatment, and what the dental hygienist should teach the patient about using the particular drug. This assignment is worth 100 points each and accounts for 12% of the student's grade.

**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 an average of 75% or higher on exams.**
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. 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 an average of 75% or higher on 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 an average of 75% or higher on case studies.**
5. Drug Reference Notebook – Student projects are evaluated for clarity, accuracy, and completeness using Mosby's Dental Drug Reference book.  
**Goal – 95% of students achieve an average of 75% or higher on this assignment.**
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?)

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

1. Examinations – Pass rate of 75% or higher analyzed.

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

| Cohort                    | Exam #1 | Exam #2 | Exam #3 | Exam #4 | Exam #5 | Average % |
|---------------------------|---------|---------|---------|---------|---------|-----------|
| <b>Spring 2016 (n=20)</b> | 100%    | 90%     | 100%    | N/A     | N/A     | 96.7%     |
| <b>Spring 2017 (n=18)</b> | 100%    | 94.4%   | 100%    | 88.9%   | 100%    | 96.7%     |

2. Quizzes – Pass rate of 75% or higher analyzed.

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

| Cohort                    | Quiz 1 | Quiz 2 | Quiz 3 | Quiz 4 | Quiz 5 | Quiz 6 | Quiz 7 | Average % |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|-----------|
| <b>Spring 2016 (n=20)</b> | 70%    | 80%    | 85%    | 80%    | 85%    | 60%    | 100%   | 80%       |
| <b>Spring 2017 (n=18)</b> | 94.4%  | 94.4%  | 72.2%  | 100%   | 77.8%  | 91.1%  | N/A    | 88.3%     |

3. Weekly Chapter Review Questions – Pass rate of 75% using the average scores of the set of fourteen (14) review questions.

| Cohort                    | Total Average of Review Question Scores |
|---------------------------|---|
| <b>Spring 2016 (n=20)</b> | 100%                                    |
| <b>Spring 2017 (n=18)</b> | 94.7%                                   |

4. Case Study Assignments – Pass rate of 75% or higher analyzed.

| <b>Cohort</b>                 | <b>Case Study 1</b> | <b>Case Study 2</b> | <b>Case Study 3</b> | <b>Average %</b> |
|-------------------------------|---------------------|---------------------|---------------------|------------------|
| <b>Spring 2016<br/>(n=20)</b> | 75%                 | 100%                | 100%                | 91.7%            |
| <b>Spring 2017<br/>(n=18)</b> | 88.9%               | 61.1%               | 33.3%               | 61.1%            |

5. Drug Reference Notebook – Pass rate of 75% or higher analyzed.

| <b>Cohort</b>                 | <b>Drug Notebook Pass Rate %</b> |
|-------------------------------|----------------------------------|
| <b>Spring 2016<br/>(n=20)</b> | 95%                              |
| <b>Spring 2017<br/>(n=18)</b> | 100%                             |

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

| <b>Cohort</b>                 | <b># of Students with 75% or Higher<br/>n (%)</b> | <b>Total Class Grade Average %</b> |
|-------------------------------|---|------------------------------------|
| <b>Spring 2016<br/>(n=20)</b> | 20 (100%)   | 92.4%                              |
| <b>Spring 2017<br/>(n=18)</b> | 18 (100%)   | 88%                                |

Grade distribution between cohorts.

| <b>Cohort</b>                 | <b>Letter Grade A<br/>n (%)</b> | <b>Letter Grade B<br/>n (%)</b> | <b>Letter Grade C<br/>n (%)</b> | <b>Letter Grade F<br/>n (%)</b> |
|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| <b>Spring 2016<br/>(n=20)</b> | 13 (65%)                        | 7 (35%)                         | 0 (0%)                          | 0 (0%)                          |
| <b>Spring 2017<br/>(n=18)</b> | 4 (22.2%)                       | 14 (77.8%)                      | 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.

**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. I would prefer to gather one more cohort's data prior to making any changes.

The Case Study Assignments scores were inconsistent. I feel that the reason that they were so inconsistent between cohorts, even though I went through each case study in class thoroughly, is because I did not return the feedback of the prior case study to the student in a timely fashion. Therefore they may not have known how in depth they needed to be with each case study. I would also like to re-do the grading scheme and perhaps make them worth more points. The justification of making this worth more is that it builds 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 I feel that the students are waiting until the last minute to complete this assignment and are not retaining the information. I want to rework this project so that every week the students are completing one or two reference sheets per week which will be included in their weekly review question packets, and therefore would increase the points. Increasing the points by combining the weekly review questions and the reference project will put more emphasis on the students learning the drug names and uses which is in alignment with the course objectives.

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

No additional resources are needed at this point.