

# D H 350A: DENTAL HYGIENE RESEARCH & CAPSTONE PROJECT I

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2024
Units:	5
Hours:	5 lecture per week (60 total per quarter)
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

## Student Learning Outcomes

- Develop a focused research topic by applying the PICO format to formulate clear, specific, and answerable research questions, as assessed through multiple weekly assignments, with an overall score of 75% or higher.
- Write an introduction to a literature review that discusses the topic, problem, objectives, and research questions, demonstrating critical thinking, organizational skills, and academic writing, with a minimum score of 75% based on the grading rubric.

## Description

The first in a series of three courses. This course introduces the capstone project, with an emphasis on identifying and developing an appropriate dental hygiene research topic by reviewing published research articles on the subject. The detailed process involved in writing a literature review will be introduced. Conducting research as well as the key concepts of research design will also be reviewed. As a part of exploring topic options that fit the student's professional interest, various career paths for dental hygienists will be discussed. At the end of the quarter, students will write the introduction to their literature review which includes the problem statement, objectives, and research questions. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

## Course Objectives

The student will be able to:

- Identify an appropriate topic for a capstone project.
- Develop a topic using the PICO.
- Identify objectives and specific research questions of their literature review.
- Locate a minimum of eight current literature on their topic.
- Distinguish between various study designs.
- Write the introduction of their literature review stating the topic, research problem, objectives and research questions.

## Course Content

- Overview of the capstone project
  - Literature review overview

- Goals of a capstone project
  - Critical thinking and problem solving
  - Improving research skills
  - Improving written communication skills
  - Educational and career goals
- Dental hygiene career paths
- The literature review process
  - Multiple purposes of a literature review
    - Empirical research reports
    - Literature review articles
    - Reports on professional practices
  - Selecting a topic
    - Defining a general topic area
    - Identifying a problem
    - Significance of a problem for research
    - Narrowing and broadening a topic
  - Developing the topic
    - PICO
      - Patient problem
      - Intervention
      - Comparison
      - Outcome
    - Conducting literature search
      - Types of sources
        - Empirical research reports
        - Government reports
        - Online sources
        - eBooks
        - Practice guidelines
        - Narrative reviews
      - Online databases
      - Keywords
      - Boolean logic
      - Limiting the output
      - Tools for finding relevant sources
    - Reviewing the literature
      - Analysis of quantitative and qualitative research
      - Collecting data
      - Writing the literature review
        - Components of a literature review
          - Abstract
          - Introduction
          - Main body
          - Conclusion
        - Citing sources properly
          - In-text citations
          - Bibliography
          - Review of the NLM citation
  - Research design
    - Quantitative and qualitative research
    - Primary and secondary research
    - Observational studies
      - Cohort
      - Cross-sectional
      - Case-control
      - Case report/series
    - Experimental studies
      - RCT
        - Blinding
        - Randomization
      - Statistics commonly found in research articles
        - P-value

- b. Odds ratio
- c. Confidence interval
- d. Hypothesis
- D. Writing the introduction
  - 1. Problem statement
    - a. Identifying the research problem
    - 2. Research objectives
    - 3. Research questions
    - 4. Structure of the introduction
      - a. Starting with broad statement and ending with specific research question

include your problem statement, research objective, and research questions.

## Discipline(s)

Dental Technology

## Lab Content

Not applicable.

## Special Facilities and/or Equipment

On-going access to a computer or personal device with internet. This course is taught online.

## Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

- Weekly written assignments
- Participation in discussions
- Submission of the introduction

## Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

- Course materials delivered online in modules - reading materials and videos
- Weekly written feedback
- Online discussions
- Annotated feedback on introduction

## Representative Text(s) and Other Materials

Galvan, J.L., and M.C. Galvan. Writing Literature Reviews, 7th ed.. 2017.

Ridley, Diana. The Literature Review, 2nd ed.. 2012.

Although the Ridley text is older than the suggested "5 years or newer" standard, it remains a seminal text in this area of study.

## Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

- A. Find one systematic review of meta-analysis that is relevant to your topic and answer the following questions, for example: Is the scope of the review clearly defined with a clear research question? Explain.
- B. Read the article, "Prediction of Caries in Pre-School Children in Relation to Fluoride Exposure," and analyze the referencing techniques used by the authors by working through the questions.
- C. Complete the "Researching a Topic" worksheet.
- D. Write the introduction of your literature review (1-1.5 pages) incorporating a minimum of eight references. The introduction must