

Maui Community College  
Course Outline

August 2009 (3)  
Received March 2004  
Under Amnesty Program  
SLOs Updated & Linked To Content  
COWIQ Grid Prepared

1. Alpha DENT Number 165  
Course Title Oral Biology II  
Credits 2  
Department Allied Health Author  
Date of Outline 2/5/09 Effective Date Spring 2010 5-year Review Date Spring 2015

2. Course Description: Discussion of the embryologic development of the structures and tissues of the head, neck, teeth and oral cavity; histology of the hard and soft tissues of the oral cavity. Development of the structural defects involving the oral cavity and the teeth. Includes the normal periodontal tissues, oral mucous membranes, and salivary glands.

Cross-list

Contact Hours/Type Lecture/Lab - four (4)

3. Pre-requisites DENT 164 with C or better  
Pre-requisite may be waived by consent  yes  no  
Co-requisites DENT 152, DENT 154, DENT 177  
Recommended Preparation none

4. Function/Designation  AA Category Additional Category  
 AS Allied Health - Dental Hygiene Category List Additional Programs and Category:  
 AAS Program Category List Additional Programs and Category:  
 BAS Program Category  Developmental/Remedial  
 Other/Additional: Explain:

(3)  
Chancellor

9/2/09  
Approval Date

See Curriculum Action Request (CAR) form for the college-wide general education and/or program SLOS this course supports.

This course outline is standardized and/or the result of a community college or system-wide agreement. Responsible committee:

5. Student Learning Outcomes (SLOs): List one to four inclusive SLOs.

*For assessment, link these to #7. Recommended Course Content, and #9. Recommended Course Requirements & Evaluation. Use roman numerals (I, II, III.) to designate SLOs*

On successful completion of this course, students will be able to:

- I. Differentiate and identify normal and abnormal oral structures, common abnormalities, and infections.
- II. Demonstrate an understanding of the transmission process and control of infective and contagious diseases.
- III. Identify and demonstrate an understanding of the pharmacology of local anesthetic solutions, analgesic gases and psychosedatives, and antibiotic agents.
- IV. Prepare for successful completion of the Dental Assisting National Board Certification Exam (DANB).

6. Competencies/Concepts/Issues/Skills

*For assessment, link these to #7. Recommended Course Content, and #9. Recommended Course Requirements & Evaluation. Use lower case letters (a, b, c...n.) to designate competencies/skills/issues*

On successful completion of this course, students will be able to:

- a. Define the terminology used in naming the landmarks of the teeth.
- b. Evaluate the importance of the shape of the teeth in regards to their fundamental and preventive curvatures.
- c. Describe microscopic features of enamel, dentin, cementum, and pulp.
- d. List the functions of the pulp.
- e. Demonstrate a knowledge of the normal pulpal anatomy and morphology of all the teeth in the deciduous and permanent dentition.
- f. Differentiate the systems used to code teeth.
- g. List the eruption schedules of the teeth.
- h. Describe an understanding of occlusion and identify the three occlusal classifications.
- i. Define the various anomalies of teeth.
- j. Describe the bones of the skull with emphasis on the maxilla and mandible.
- k. Identify the bones that compose the face and skull, their characteristic features, and the related structures these bones form.
- l. Distinguish between the paired and single bones.
- m. Describe the function, characteristics of, and identify anatomical structures of the face, lips, oral cavity, oral vestibule, pharynx, hard and soft palate, sublingual area, tongue, and gingiva.
- n. Explain the origin, insertion, and action of each of the muscles of mastication, suprahyoid and infrahyoid muscles, and the muscles of the face, lips, tongue, and pharynx.
- o. Summarize the components of the temporomandibular joint using correct definitions and terms.
- p. Explain how the TMJ structures interrelate with each other during movement of the mandible.
- q. Discuss TMJ dysfunction and treatment.

- r. Interpret the anatomic features of the salivary gland, the properties and functions of saliva, and the stimuli which activate salivary flow.
- s. List and describe common developmental defects involving non-dental oral structures and defects involving the oral structures and teeth.
- t. List the most common oral and dental infections and describe their course, treatment, and resolution.
- u. Describe and define the process of inflammation, regeneration, repair, and healing.
- v. Describe basic pharmacology of selected local anesthetic solutions, analgesic gases, psychosedatives, and antibiotic agents.
- w. Describe the process and stages of tooth development.
- x. Describe the maturation of the hard dental tissues.
- y. Describe and define the development of the gingiva, epithelial attachment, periodontal ligament and alveolar bone.
- z. Describe the introductory principles of oral pathology.
- aa. List and describe the diagnostic tools used in oral pathology.

#### 7. Suggested Course Content and Approximate Time Spent on Each Topic

*Linked to #5. Student Learning Outcomes and # 6 Competencies/Skills/Issues*

- 2 weeks        Maturation of the hard dental tissues including landmarks of teeth and systems for coding teeth; microscopic features of enamel, dentin, cementum, and pulp; eruption schedules of the teeth (I, IV, a, c, d, e, f, g, i, w, x)
- 2 week        Head and neck anatomy including bones of the face and skull, the TMJ, and other structures of the oral cavity (I, IV, j, k, l, m, n, o, p, q, r)
- 1 week        Development of the gingiva, epithelial attachment, periodontal ligament, and alveolar bone (I, IV, y)
- 3 weeks       Introduction to the principles of oral pathology; process associated with the development of abnormalities and defects in the oral and dental structures including fundamental and preventive curvatures; and occlusal classifications (I, IV, b, h, i, s, z)
- 3 weeks       Inflammation, repair, regeneration, healing; dental infections including course, treatment, and resolution (I, II, IV, s, t, u)
- 2 weeks       Basic pharmacology of selected local anesthetic solutions, analgesic gases, psychosedatives, and antibiotic agents (III, IV, v)
- 2 weeks       Diagnostic tools in oral pathology (I, II, IV, t, z, aa)

#### 8. Text and Materials, Reference Materials, and Auxiliary Materials

Appropriate text(s) and materials will be chosen at the time the course is offered from those currently available in the field. Examples include: Bird, D. and Robinson, D., *Torres and Ehrlich Modern Dental Assisting*, current edition, Elsevier.

Bird, D. and Robinson, D., *Student Workbook to Accompany Torres and Ehrlich Modern Dental Assisting*, current edition, Elsevier.

Appropriate reference materials will be chosen at the time the course is offered from those currently available in the field. Examples include: Brand, R. and Isselhard, D., *Anatomy of Orofacial Structures*, current edition, Elsevier.

Massler, M. and Schour, I., *Atlas of the Mouth*, current edition, American Dental Association.

Durley, C. et al., The DANB Review, current edition, Dental Assisting National Board.

Durley, C. et al., DANB's Glossary of Dental Assisting Terms, current edition, Dental Assisting National Board.

Miller, B. et al., Miller-Keane Encyclopedia and Dictionary of Medicine, Nursing and Allied Health, current edition, Elsevier.

Mosby et al., Mosby's Dental Dictionary, current edition, Elsevier.

Mosby et al., Review Questions and Answers for Dental Assisting, current edition, Elsevier.

Appropriate auxiliary materials will be chosen at the time the course is offered from those currently available in the field. Examples include: State of Hawaii Department of Commerce and Consumer Affairs, Hawaii Administrative Rules Title 16, Chapter 79, Dentists and Dental Hygienists.

State of Hawaii Department of Commerce and Consumer Affairs, Hawaii Revised Statutes Chapter 448, Dentistry.

#### 9. Suggested Course Requirements and Evaluation

*Linked to #5. Student Learning Outcomes (SLOs) and #6 Competencies/Skills/Issues*

Specific course requirements are at the discretion of the instructor at the time the course is being offered. Suggested requirements might include, but are not limited to:

- Prompt attendance is required at all class sessions. (I, II, III, IV, a - aa)
- Students will be responsible for completing all assigned reading material in text before each class session. (I, II, III, IV, a - aa)
- Complete various learning skills exercises. (I, II, III, IV, a - aa)
- Complete various laboratory exercises. (I, II, III, IV, a - aa)
- Complete all projects. (I, II, III, IV, a - aa)

#### EVALUATION AND GRADING

Weekly quizzes	25 - 35% (I, II, III, IV, a - aa)
Midterm	20 - 30% (I, II, III, IV, a - aa)
Lab assignments	20 - 30% (I, II, III, IV, a - aa)
Final exam	25 - 35% (I, II, III, IV, a - aa)
Attendance/ Attitude	10% (I, II, III, IV, a - aa)

#### 10. Methods of Instruction

Instructional methods will vary considerably by instructor. Specific methods are at the discretion of the instructor teaching the course and might include, but are not limited to:

- Participation in class lecture/ discussion.
- Reading assigned portions in textbooks, journal articles, and/ or modules.
- Viewing various audiovisual materials.
- Participation in class exercises such as role-plays and simulations.
- Demonstration and simulation.

- Discovery learning.
- Group projects.

○ 11. Assessment of Intended Student Learning Outcomes Standards Grid attached



## Grid of Maui Community College Student Learning Outcomes- Dental Assisting

**KEY:** 3 Major Emphasis. The student is actively involved, uses, reinforces, applies, and evaluated in the student learning outcomes. The learner outcome is the focus of the class

2 Moderate Emphasis. The student uses, reinforces, applies and is evaluated by this learner outcome, but it is not the focus of the class.

1 Minor Emphasis. The student is provided an opportunity to use, reinforce, and apply this learner outcome but does not get evaluated on this learner outcome

0 No Emphasis. The student does not address this learner outcome

Dental Assisting Educational Standards

- I. Demonstrate an understanding of dental assisting roles including the legal, professional, and ethical responsibilities within the community
- II. Demonstrate basic theoretical knowledge and skills in biological science, dental radiology, chairside dental hygiene program to support dental assisting practice and build the foundation for an associate degree dental hygiene program
- III. Demonstrate a commitment to the long learning and advancing competency over a lifetime of clinical practice

### General Education Standards

#### Standard 1 - Written Communication

Outcome	DENT 120	DENT 150	DENT 151	DENT 152	DENT 164	DENT 165	DENT 176	DENT 177
Outcome 1.1 Use writing to discover and articulate ideas	3	3	2	3	0	0	1	1
Outcome 1.2 Identify and analyze the audience and purpose for any intended communication	3	3	2	3	0	0	1	1
Outcome 1.3 Choose language, style, and organization appropriate to particular purposes and audiences	3	3	2	3	0	0	1	1
Outcome 1.4 Gather information and document sources appropriately	3	3	3	3	0	0	1	1
Outcome 1.5 Express a main idea as a thesis, hypothesis, or other appropriate statement	3	3	3	3	0	0	1	1
Outcome 1.6 Develop a main idea clearly and consistently with appropriate content	1	1	0	0	0	0	1	1
Outcome 1.7 Demonstrate a mastery of the conventions of writing, including grammar, spelling, and mechanics	3	3	0	0	0	0	1	1
Outcome 1.8 Demonstrate proficiency in revision and editing	3	3	0	1	0	0	1	1
Outcome 1.9 Develop a personal voice in written communication	3	3	0	3	0	0	1	0

#### Standard 2 - Quantities Reasoning

Outcome	DENT 120	DENT 150	DENT 151	DENT 152	DENT 164	DENT 165	DENT 176	DENT 177
Outcome 2.1 Apply numeric, graphic, and symbolic skills and other forms of quantitative reasoning accurately and appropriately	3	3	1	3	0	0	3	3
Outcome 2.2 Demonstrate mastery of mathematical concepts, skills, and applications, using technology when appropriate	3	3	0	3	0	0	3	3
Outcome 2.3 Communicate clearly and concisely the methods and results of quantitative problem solving	3	3	2	3	0	0	3	3
Outcome 2.4 Formulate and test hypotheses using numerical experimentation	0	2	0	0	0	0	3	3
Outcome 2.5 Define quantitative issues and problems, gather relevant information, analyze that information, and present results	2	3	0	0	0	0	3	3
Outcome 2.6 Assess the validity of statistical conclusions	0	1	0	0	0	0	3	0

#### Standard 3 - Information Retrieval and Technology

Outcome	DENT 120	DENT 150	DENT 151	DENT 152	DENT 164	DENT 165	DENT 176	DENT 177
Outcome 3.1 Use print and electronic information technology ethically and responsibly	3	3	3	3	0	0	1	2
Outcome 3.2 Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology	3	3	3	0	0	0	1	2
Outcome 3.3 Recognize, identify, and define an information need	3	3	3	0	0	0	1	2
Outcome 3.4 Access and retrieve information through print and electronic media, evaluating the accuracy and authenticity of that information	3	3	3	0	1	0	0	2
Outcome 3.5 Create, manage, organize and communicate information through electronic media	3	3	3	0	0	0	1	2
Outcome 3.6 Recognize changing technologies and make informed choices about their appropriateness and use	2	3	2	2	0	0	1	2

#### Standard 4 - Oral Communication

Outcome	DENT 120	DENT 150	DENT 151	DENT 152	DENT 164	DENT 165	DENT 176	DENT 177
Outcome 4.1 Identify and analyze the audience and purpose of any intended communication	3	3	3	3	2	2	2	3
Outcome 4.2 Gather, evaluate, select, and organize information for the communication	3	3	3	3	2	2	2	3
Outcome 4.3 Use language techniques, and strategies appropriate to the audience and occasion	3	3	3	3	2	2	2	3
Outcome 4.4 Speak clearly and confidently, using the voice, volume, tone, and articulation appropriate to the audience and occasion	3	3	3	3	2	2	2	3
Outcome 4.5 Summarize, analyze, and evaluate oral communications and ask coherent questions as needed	3	3	3	3	2	2	2	3
Outcome 4.6 Use competent oral expression to initiate and sustain discussions	3	3	3	3	2	2	2	3

#### Standard 5 - Critical Thinking

Outcome	DENT 120	DENT 150	DENT 151	DENT 152	DENT 164	DENT 165	DENT 176	DENT 177
Outcome 5.1 Identify and state problems, issues, arguments, and questions contained in a body of information	3	3	3	3	2	2	2	3
Outcome 5.2 Identify and analyze assumptions and underlying points of view relating to an issue or problem	3	3	3	3	0	0	0	3
Outcome 5.3 Formulate research questions that require descriptive and explanatory analysis	0	2	0	0	0	0	0	0
Outcome 5.4 Recognize and understand multiple modes of inquiry, including investigative methods based on observation and analysis	1	3	3	3	0	0	3	1
Outcome 5.5 Evaluate a problem, distinguishing between relevant and irrelevant facts, opinions, assumptions, issues, values, and biases through the use of appropriate evidence	0	3	3	3	2	2	2	1
Outcome 5.6 Apply problem-solving techniques and skills, including the rules of logic and logical sequence	3	3	3	3	2	2	2	3
Outcome 5.7 Synthesize information from various sources, drawing appropriate conclusions	3	3	3	3	2	2	2	3
Outcome 5.8 Communicate clearly and concisely the methods and results of logical reasoning	3	3	3	3	2	2	2	3
Outcome 5.9 Reflect upon and evaluate their thought processes, value systems, and world views in comparison to those of theirs	3	3	3	3	2	2	2	3

#### Standard 6 - Creativity

Outcome	DENT 120	DENT 150	DENT 151	DENT 152	DENT 164	DENT 165	DENT 176	DENT 177
Outcome 6.1 Generate responses to problems and challenges through intuition and non-linear thinking	2	2	1	1	1	1	1	1
Outcome 6.2 Explore diverse approaches to solving a problem or addressing a challenge	3	3	3	2	1	1	2	2
Outcome 6.3 Engage in activities without a preconceived purpose	0	0	0	0	0	0	0	0
Outcome 6.4 Apply creative principles to discover and express new ideas	2	0	0	0	2	2	3	3
Outcome 6.5 Demonstrate the ability to trust and follow one's instincts in the absence of external direction	2	0	0	0	0	0	1	1
Outcome 6.6 Build upon or adapt the ideas of others to create unique expressions of solutions	2	1	1	0	2	0	0	2