

SYLLABUS

COURSE: DH 2103/3103 Introduction to Dental Hygiene
SEMESTER: Fall
CREDIT HOUR: 3.0

REVISED: 2008
REPRINTED: 2009

COURSE DIRECTOR: Donna Warren Morris, RDH, MEd

GOALS

The course is designed to provide dental hygiene students with the background knowledge that will enable them to assess patient oral health needs; select appropriate preventive strategies; and present information and demonstrate techniques for effective patient education.

The purpose of the course is to acquaint the student with the concepts, methods, materials, and technology to promote and maintain personal plaque control for optimal oral health. They will be taught how to evaluate the scientific evidence supporting new commercial products and guide patients in making educated choices as dental consumers. Classroom role-playing and discussions will facilitate transfer of these skills to the clinical setting. Opportunities will be provided in Clinical Dental Hygiene I for the student to acquire skills clinically and apply knowledge.

OBJECTIVES

Upon completion of class activities and assignments for the units listed, the student will be able to:

I. INTRODUCTION TO THE DENTAL HYGIENE PROFESSION

1. Compose a personal definition of the competent Registered Dental Hygienist to encompass the values, ethics, requisites, perceptions of the past, present, and future of the career field. Develop a professional self-concept.
2. Define a dental hygienist.
3. Summarize the development of the dental hygiene profession.
4. Name seven (7) roles that ADHA defines for the dental hygienist and give examples of each.
5. Discuss the role of the dental hygienist within the dental team and the role of other members.
6. List allowable duties of dental hygienists in Texas.
7. List characteristics that define a profession.
8. Explain what is a code of ethics and what is the purpose of one.
9. List the fundamental principles, core values and standards of professional responsibility.
10. Describe the ethical responsibilities of a professional person.
11. List the four (4) levels of ADHA.
12. State the mission of the ADHA.
13. Formulate their role as a student dental hygienist.
14. Discuss the educational setting at UTDB.

II. BIOFILM AND SOFT DEPOSITS

1. Discuss bacterial factors that allow oral microorganisms to colonize and cause disease in the oral cavity and the human defensive factors that ward off these infections.
2. Name and describe three (3) non-mineralized deposits.
3. List in order the three (3) main steps in biofilm formation.
4. Describe the composition of biofilm over time.
5. Describe the biofilm matrix and what purpose it serves.
6. Explain how bacteria can overcome the host defense capacity and why everyone doesn't get caries and/or periodontal disease if they have biofilm.

7. State where biofilm formation begins.
8. Explain three mechanisms for bacterial adhesion and biofilm development.
9. Compare and contrast supra- and sub-gingival biofilm characteristics.
10. Discuss the clinical significance of biofilm.
11. Name three (3) methods to assess the presence and quality of oral biofilm.
12. Every patient should be given information and taught the skills for self-care. List seven (7) treatment modalities for biofilm control and give examples of each.

III. DISCLOSING AGENTS AND INDICES

1. List the purposes for using a disclosing agent.
2. Describe the properties of an acceptable disclosing agent:
3. Perform the disclosing technique with solution, rinse, and/or tablet/wafer.
4. Communicate information to the patient regarding the procedure.
5. List the purposes of a plaque index.
6. Perform the O'Leary Plaque Control procedure.
7. Transfer clinical observations to numerical values.
8. Communicate the degree of oral cleanliness presented by the patient.
9. Motivate the patient to perform according to prescribed procedures.
10. Interpret the score to the patient with regard to degree of oral cleanliness achieved.

IV. PHASE CONTRAST MICROSCOPE (PCM)

1. Discuss the value of phase-contrast microscopy in professional intervention.
2. List and describe bacterial shapes and at what time interval they appear in oral biofilm.
3. List specific bacteria specific to oral diseases and healthy gingiva.
4. Compare the types, numbers and types of microorganisms in sub-gingival and supra-gingival biofilm.
5. Demonstrate the correct procedure for preparing a slide and using the PCM.
6. Communicate information to patients regarding the use of the PCM in assessing oral health.

V. TOOTHBRUSHES AND BRUSHING

1. Discuss toothbrush design and technology.
2. Compare natural and nylon bristles.

3. State the factors influencing the selection of a toothbrush.
4. List the factors affecting bristle stiffness.
5. Discuss factors affecting abrasiveness of bristles.
6. List the purpose of toothbrushing.
7. Describe the daily care of a toothbrush.
8. Discuss improper toothbrushing signs.
9. List contraindications of toothbrushing and alternate cleaning techniques.
10. Describe and demonstrate toothbrushing techniques and list the advantages and limitations of each.

VI. DENTAL CARIOLOGY

1. Explain the process of demineralization. Also, explain this in layman's terms for a patient's understanding. State and explain the "formula" for dental caries.
2. Define the "Medical Model of Care" as it applies to dentistry.
3. Discuss the caries process and how it relates to different tooth structures.
4. Explain the process of early childhood caries in regards to etiology, prevention and risk factors.
5. List three (3) factors used to determine a patient's recall interval.
6. Explain the role of diet, fluoride and calcium in the remineralization of tooth structure.
7. Discuss risk factors for dental caries and interventions for each.

VII. PROFESSIONALLY APPLIED TOPICAL FLUORIDES

1. Describe the steps involved in and safety precautions for the application of professionally applied fluorides.
2. List the recommendations on the use of topical fluorides offered by the American Academy of Pediatric Dentistry and the 2006 Workshop on the Changing Patterns of Fluoride Intake.
3. List the three types of fluorides (Stannous, APF, and Sodium), the concentration, and methods of administration that have been approved by the ADA and FDA for professional use.
4. Compare and contrast the difference between professional-use and home-use fluorides.
5. Verbalize the detrimental effects of fluoride.
6. List the symptoms of fluoride toxicity; antidotes for accidental fluoride poisoning; treatment for fluoride poisoning; and prevention of fluoride poisoning.

7. Name three (3) fluoride compounds used to control caries.
8. Identify which type of fluoride is less stable, must be mixed fresh daily and tends to stain the teeth.
9. Identify which fluoride is acid based and will etch porcelain.
10. Identify which type of fluoride is most effective in remineralizing early incipient lesions.
11. Identify which type of fluoride was tested clinically in a series of four (4) applications corresponding with eruption dates.
12. State whether plaque, calculus or stain removal is necessary prior to FI treatment for enamel uptake to occur.
13. List characteristics of fluoride trays that are important.
14. Explain how reductions in professional concentrations of fluorides may be used.

VIII. PIT AND FISSURE SEALANTS

1. Describe the effectiveness of sealants.
2. Identify the part of the tooth that sealants protect.
3. Identify the primary reason for sealants failure.
4. Describe how caries can occur in previously sealed teeth.
5. Identify what protects the smooth surface of the tooth from caries.
6. Discuss sealant retention and effectiveness.

IX. PERIODONTAL DISEASE AND CONTROL

1. Define periodontal disease.
2. Name four (4) by-products produced of bacteria that can contribute to periodontal disease.
3. List the eight (8) warning signs of periodontal disease.
4. Compare and contrast gingivitis and periodontitis.
5. Discuss the disease process of both.
6. Describe the clinical signs of periodontal disease.
7. Discuss the role of biofilm in the disease process.
8. List and discuss at least controls for periodontal disease.
9. Discuss the relationship of each of the following with periodontal disease: plaque control, tobacco use, diabetes, malocclusion, ill fitting restorations/appliances, osteoporosis, xerostomia, diet, gingival recession and pockets.

X. FLOSS

1. List factors to consider when recommending dental floss.
2. State the effectiveness of interproximal plaque removal by the use of dental floss.
3. Demonstrate the proper technique and use of dental floss.
4. Demonstrate appropriate teaching strategies and techniques for teaching patients to use floss.
5. Identify signs of incorrect flossing such as clefting.
6. Recommend alternative devices to floss and state when they would be appropriate.

XI. DENTIFRICES

1. Explain the role of the ADA and FDA in product regulation.
2. List the basic dentifrice ingredients.
3. Explain the role of an abrasive in a dentifrice.
4. Outline the role of fluoride in a dentifrice.
5. Compare sodium and sodium monofluorophosphate fluoride.
6. Discuss the mechanisms and ingredients used for dentinal hypersensitivity and tartar control.
7. Discuss the current status of plaque control agents and whitening agents delivered in a dentifrice.
8. Select appropriate products for specific patient needs.

XII. STAINS

1. Describe the three ways a tooth can be discolored.
2. Identify and give examples of stains as categorized by location and source of discoloration.
3. List, contrast and compare the most common extrinsic and intrinsic stains with regard to name of stain; clinical appearance; distribution on tooth surfaces; composition; occurrence; and etiology.

XIII. CALCULUS

1. Define dental calculus.
2. Summarize the importance of calculus as a mechanical and chemical irritant.
3. Discuss the impact of calculus on the health and form of the gingiva.
4. Identify the organic and inorganic components of calculus.

5. Describe the steps in calculus formation.
6. List methods of clinical identification of calculus deposits.
7. Discuss the following factors with patients: plaque formation, calculus formation, pocket formation, plaque control and gingival healing.
8. Compare supra- and sub-marginal calculus.
9. Discuss mechanism of anti-calculus dentifrices.

XIV. OPT AIDS

1. Describe the indications and contraindications for use of interdental cleaning devices: Interdental brushes, end tuft brushes, rubber tip and tooth picks, oral irrigators, handicapped adaptations, tongue cleaners and stimulators.
2. Select and/or modify appropriate oral physiotherapy methods and materials to meet individual patient needs:
 - 2.1 Toothbrushes/toothbrushing;
 - 2.2 Chemotherapeutic agents;
 - 2.3 Auxiliary cleaning aides;
 - 2.4 Fluoride therapy.
3. Discuss the appropriate materials to employ with each.
4. Describe the technique to follow to use.
5. Explain the precautions to observe with each.
6. Discuss the role of the dental hygienist in recommending OPT aids.

XV. SYSTEMIC FLUORIDES

1. State the optimal level of fluoride in drinking water.
2. Discuss the ADA guidelines on fluoride consumption by infants.
3. List the factors that should be considered when taking a fluoride history.
4. Determine the need for systemic fluoride supplements.
5. List the symptoms of fluoride poisoning; antidotes for accidental fluoride poisoning; treatment for fluoride poisoning; and prevention of fluoride poisoning.

XVI. TEACHING/LEARNING

1. Recite definitions of learning and teaching.
2. List the principles of learning and apply them to aspects of dental care.
3. List the stages in the learning process (learning ladder).
4. Recall the steps in the educational process for dental disease control:

- 4.1 Assessing the patient's current status
 - 4.2 Determining the patient's educational and health needs.
 - 4.3 Designing an appropriate educational and preventive program.
 - 4.4 Implement the strategies.
5. Practice ways to communicate anxiety-arousing information to a patient.
 6. Evaluate the effectiveness of the patient's oral hygiene measures and assess the reasons for lack of progress and modify the educational plan accordingly.
 7. List and give examples of the characteristics of good instruction.
 8. Design and present a lesson plan for an elementary class on oral health.
 9. Participate in a peer review of a classmate and analyze the effectiveness of their patient education and preventive program.

XVII. ONLINE RESOURCES

1. State which online information is most/least reputable for use in conducting scientific searches.
2. Describe the steps you must take as a student in order to access Medline or PubMed from your home.
3. List resources available to you for help with web searching while at UTDB.
4. Describe MeSH and how it is used.
5. Compare the appropriateness of Google, Ovid, Medline and PubMed as a search tool for doing your dental literature searches.
6. List your textbooks that are available online now.

XVIII COMMUNICATION

1. Discuss the three key attributes of effective communication: listening, observing and attending.
2. Explain the function of time, space, context, culture, and language in the establishment of rapport.
3. Identify and explain the importance of core nonverbal behaviors such as facial expression, body language, and eye contact.
4. Explain the value of using "I" messages, providing positive feedback and active listening.
5. Explain how a patient's behavioral style would influence the communication process.

XIX. EVIDENCE-BASED DECISION MAKING

1. Define EBDM and discuss its purpose.
2. Identify and discuss the four primary reasons that EBDM is critical for health care providers.

3. Describe the five (5) steps in EBDM.
4. Identify the four PICO components of a foreground question and write it in correct order.
5. Given examples of questions, accurately identify the question as either being in PICO format or not.

XX. SELF-APPLIED FLUORIDES

1. Compare and contrast the difference between professionally-applied and self-applied fluorides.
2. Verbalize the detrimental effects of fluoride.
3. List the symptoms of fluoride toxicity; antidotes for accidental fluoride poisoning; treatment for fluoride poisoning; and prevention of fluoride poisoning.
4. List the advantages and disadvantages and type of patient that would benefit from APF, Stannous and Sodium self-applied fluorides.

XXI. CHEMOTHERAPUTICS

1. List the five uses or purposes for including a mouthrinse in dental operative procedures.
2. Name and discuss the classifications of mouthrinses according to ADA Council on Dental Therapeutics.
3. Discuss antiplaque/antigingivitis chemical control agents relative to their ADA acceptance, clinical efficacy, disadvantages, contraindications and mode of use: chlorhexidine gluconate, essential oils, triclosan, stannous fluoride, sanguinarine, sodium benzoate, and hydrogen peroxide.
4. Discuss the rationale for including antimicrobial agents in the regimen of most patients along with mechanical plaque control.

XXII. TOBACCO CESSATION and ORAL CANCER FACTS

1. Discuss facts related to tobacco use: diseases caused by tobacco, number of deaths associated with tobacco.
2. Discuss the health benefits of tobacco cessation.
3. List the five A's of a Three Minute Intervention.
4. Discuss the use and selection of nicotine replacement products in tobacco cessation relative to the level of addiction of a patient.
5. Discuss two (2) non-nicotine replacement therapies: Bupropion and Varenicline.
6. List possible resources for patients desiring to quit tobacco.
7. State appropriate communication strategies for tobacco cessation counseling: Simple reflection, amplified reflection and double-sided reflection.

8. Discuss the impact of early detection in oral cancer survival.
9. Discuss the relationship of oral cancer to race, gender and age.
10. Compare cigar, pipe, second hand smoke, and smokeless tobacco to cigarettes: nicotine levels, disease risks and addictive capacity.

RESOURCES

I. Media Resources

A. Printed Media

1. Required textbooks (Latest edition)

- *Mosby's Dental Hygiene*, Daniel & Harfst
- *Clinical Practice of the Dental Hygienist*, Wilkins, E.
- *Mosby's Dental Hygiene Review*, Darby
- *Mosby's Dental Dictionary*, Zwemer, T.J.

2. Required Materials

The Chairside Instructor, ADA
Monograph

B. Required Non-printed Materials

Oral Hygiene Kit (Spring semester)

II. Human Resources

Donna Warren Morris, RDH, MEd
Room: Suite 1.085; Phone: 713-500-4396
Email: Donna.P.Warren@uth.tmc.edu

Course Director

STUDY PLAN AND REQUIREMENTS

The study of this course consists primarily of a lecture series, required textbook assignments and laboratory experiences. The chairside teaching materials will provide the student with resources for patient education. Course activities are designed to enhance student learning and transfer to clinical activities.

Attendance is mandatory. Students are expected to be present and prompt for all lectures, laboratories, and clinical assignments.

See UT Handbook for attendance policies and procedures. Students are responsible for making up any missed activities to receive credit for the course. Students are encouraged to meet with the program director if circumstances occur that interfere with their ability to attend classes.

Students are expected to participate in classroom discussions and role playing situations.

This will necessitate preparation in advance of the class period in order to be familiar with the clinical case studies and to provide the necessary teaching-learning elements. Students are expected to have all materials required for class participation removed from the clinic cubicles **prior** to class in order to avoid disturbing second year clinic.

Students are expected to complete examinations as scheduled.

If you are going to be absent when an examination is to be given, follow the procedure for any absence by calling the secretary (713-500-4086) or the course director (713-500-4396). Make-up examinations and labs will be given only **DURING FINAL EXAM WEEK** for **excused absences** (after consultation with the course director). A written doctor's excuse is required for an absence due to illness. Additional work may also be required to receive credit for the course by the decision of the course director. The responsibility lies with the student to schedule a conference with the course director to make these arrangements. **Late work will be penalized by two (2) points for each day late.**

Students are expected to complete all clinical/laboratory performances within the scheduled time periods.

The student will not receive credit for the course if all laboratory/clinical experiences are not completed by the end of the semester. All experiences must be made-up during the scheduled time.

Students scoring below 75% on any examination will be required to conference with the course director.

Additional work or make-up examination may be required.

Extra Credit

Extra credit may be used toward raising the course grade up to five (5) points only if the exam grade average is above 74. Extra credit points cannot be used to bring up a semester average of 74 or below. Extra credit is awarded at the discretion of the course director only upon submission of all required materials.

The Honor System

The Honor System will be in effect for all aspects of this course. Students are expected to do their own assignments and to report any knowledge of violations. Failure to do so will result in an automatic failure of the assignment and possibly the course. The penalty for scholastic dishonesty, as described by the Board of Regents' Rules and Regulations, can be disciplinary probation, withholding of transcript or degree, barring against readmission, failing grade, denial of degree, suspension from the institution for a period of time not to exceed one calendar year, or expulsion from the institution for a specific period of time not less than one year.

Baccalaureate Program

Baccalaureate students will be expected to serve as group leaders for class assignments, extramural teaching projects and other activities as assigned. Leadership qualities will be emphasized and evaluated. Additional time, possibly outside of class, will be scheduled to meet with the course director to plan for these activities. BS students will evaluate group participation of other students.

Clinic Observation

This a required experience for all students that allows them to experience the dental hygiene clinical setting. The student will answer questions about the rotation and submit within one week. The student is required to perform the phase contrast microscope and have an instructor sign off on the form provided.

Portfolio

Students will begin an electronic portfolio this semester and will be required to post all assignments within it. The portfolio will allow the student to demonstrate their learning and progress over the next two years. It will serve as a dynamic example of their achievements for employers and others who may require evidence of their abilities.

**DH 2103/3103 INTRODUCTION TO DENTAL HYGIENE
2009 Fall Semester Lecture Schedule**

Lecture: Tuesday 1-2:50 pm and Thursday 10-10:50 am, Room 446
Lab: Tuesday 3-3:50 pm in DH clinic bays

Date	Lecture/Lab	Assignments
Tue, Thu Aug 18- 20	Lecture: Overview of course Introduction to Dental Hygiene Roles, History, Professional Ethics Behaviors, and Expectations Health Promotion and Oral Disease	Wilkins: Ch 1 pp. 320-323 Daniel: Ch 1,3
Tue, Aug 25	Lecture: Biofilms and Soft Deposits	Wilkins: Ch 17 Daniel: pp. 322- 325, 507-508
Thu, Aug 27	Lecture: Manual Toothbrushing Techniques Disclosing and O'Leary Plaque Control Record (PCR)	Wilkins: Ch 20, 25 Handouts Daniel: pp. 448- 454, 455
Tue, Sep 1	Lecture: Phase-Contrast Microscopy (PCM) Lab: Phase Contrast Microscope, Practice Toothbrushing Techniques	Handouts
Thu, Sep 3	Exam I (one-hour) Room 340	
Tue, Sep 8	Lecture: Cariology: Etiology of Dental Caries Lab: PCM, Disclosing, O'Leary Plaque Control Record Practice Toothbrushing Techniques	Handouts Wilkins: Ch 24, pg. 265-269 Daniel: Ch 25
Thu, Sep 10	Lecture: Cariology cont	Wilkins: Ch 24 Daniel: Ch. 25
Tue, Sep 15	Medical Terminology Quiz I Lecture: Professionally Applied Fluorides Lab: PCM, Fluoride Applications on partners	Wilkins: Ch 33 Daniel: Ch 25
Thu, Sep 17	Lecture: Caries Risk and Prevention: Fluorides, Xylitol, ACP and Sealants Clinic Observation Begins	Wilkins: Ch 33, 34, 42 Daniel: Ch 25; 381, 482, 502, 689
Tue, Sep 22 and Thu, Sep 24	Lecture: Principles of Learning Motivation and Behavior Lab: PCM, Fluoride varnish applications and ORA on partners	Wilkins: Ch 23 Handouts
Tue, Sep 29	Lecture: Teaching Methodologies/Materials: Chair-side Teaching Lab: Teach Bass Toothbrushing	Wilkins: Ch 23

Date	Lecture/Lab	Assignments
Thu, Oct 1	Exam II (one-hour) Room 207	
Tue, Oct 6	Lecture: Teaching Methodologies/Materials: Teaching Classrooms/Groups Lesson Plans and Objectives	Handouts
Thu, Oct 8	In class activities: Writing Lesson Plans and Objectives for Rusk	Handouts
Tue, Oct 13	Lecture: Etiology of Periodontal Diseases Lab: Perio Case Study	Wilkins: Ch 14 Handouts
Thu, Oct 15	Medical Terminology Quiz 2 Lecture: Flossing Techniques	Wilkins: 426-432 Daniel: Ch 21; pp.457-461
Tue, Oct 20	Lecture: Prevention of Periodontal Diseases Lab: Practice Flossing/Teach Flossing	Lesson Plans Due Wilkins: Ch 14 Daniel: Ch 16
Thu, Oct 22	Lecture: Preparation for Rusk Elementary	
Tue, Oct 27	Lab: In-class activities for Rusk	
Thu, Oct 29	Exam III (one-hour) Room 132	
TBA	Hines Nursery Project	
Tue, Nov 3	Medical Terminology Quiz 3 In-class Rusk Project Presentations	
Thu, Nov 5	In-class Rusk Project Presentations Medical Terminology Quiz 4	
Tue, Nov 10 12-3:00 pm	Rusk Elementary Project	Supplies, handouts
Thu, Nov 12	Lecture: Hard Deposits/stains Medical Terminology Quiz 5	Wilkins: Ch 18, 19 Turn in materials from Rusk
Tue, Nov 17	Medical Terminology Quiz 6 Lecture: Dentifrices Lab: Dentifrices	Wilkins: 444-446 Daniel: Ch 26
Thu, Nov 19	Exam IV (one hour) Room 132	
Tue, Nov 24 1-3:00 pm	Lab: Plaque control on partners (Group A)	Wilkins: Ch 26
Thu, Nov 26	<i>Thanksgiving Holiday</i>	
Tue, Dec 1 1-3:00 pm	Lab: Plaque control on partners (Group B)	All assignments due
Thu, Dec 3	<i>Focus Groups and Review for Final</i>	
Thu, Dec 10 9-11:00 am	Final Exam Room 132	

EVALUATION METHODS

Four (4) Unit Examinations, 100 points each	40
Laboratory Evaluations	Satisfactory completion required
Clinic Observation (electronic submission)	5
Rusk Teaching Project	
Lesson Plans/objectives (electronic sub.)	5
Participation	5
In-class Presentation	5
Comprehensive Final Exam	20
Medical Terminology Quizzes (Online)	5
Electronic Portfolios	15

The student will be given credit for the course **only** if an overall grade of a “C” or better is achieved and only if all class/lab and medical terminology requirements are satisfactorily completed. Assignments submitted after the date due will be reduced by 10 points for each 24-hour period late. Each absence will result in the loss of two (2) points deducted from the final grade in addition to any other penalties stated above.

A = 100-93

B = 92-84

C = 83-75