

**WEST LOS ANGELES COLLEGE
DEPARTMENT OF DENTAL HYGIENE**

- I. DH 215: DENTAL MATERIALS AND EXPANDED FUNCTIONS LAB.
- II. PREPARED BY: Eleanor Padnick, D.D.S.
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Carlos Sermeño, R.D.H.A.P., B.S.
- III. REVISED FOR: FALL, **2014**
- IV. PREREQUISITES: SUCCESSFUL COMPLETION OF ALL ATTEMPTED DENTAL HYGIENE COURSES .
- V. COURSE INSTRUCTORS: ELEANOR PADNICK, D.D.S.
CARMEN DONES, R.D.H., M.S.
CARLOS SERMEÑO, R.D.H., A.P., B.S.
- VI. UNITS AND HOURS: THREE UNITS

Monday: 11:40am – 12:45am
Monday: 01:00pm – 02:05pm
Wednesday: 01:30pm – 04:45pm
- VII. OFFICE HOURS; CONTACT Information:
Dr. Padnick:
Ms. Dones:
Mr. Sermeno: Monday: 3:00pm – 5:00pm

Dr. Padnick epadnick@roadrunner.com (cell) 310-717-2873
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Mr. Sermeno sermenoc@gmail.com (office) 310-287-7224

VIII. MEETING DH PROGRAM REQUIREMENTS and ACADEMIC HONESTY

The Dental Hygiene curriculum is scheduled in a sequence of courses, given only once per year. Therefore, all courses must be completed with a minimum of a “C” grade in order to continue in the Dental Hygiene Program.

Students who receive less than a “C” grade at midterm in any course will be notified by the program director in writing of this status. It is the responsibility of the student to seek help and/or clarification of the deficiency with the course instructor. Please refer to the college catalog for further information on grading policies and procedures. Students who have not satisfactorily completed laboratory projects are responsible for notifying faculty and making arrangements to complete their work.

Dishonest conduct in the classroom, laboratory and/or clinic is unacceptable. Some examples of dishonest conduct include, but are not limited to, cheating or plagiarism, forgery or alteration of documents or records, representing another student’s work as your own, doing another student’s work (totally or in part), assisting another student unless instructed to do so by faculty and falsification of records or misrepresentation of facts. Students found conducting themselves dishonestly will be disciplined. Students’ complicities or tolerating the other’s dishonest behavior will be considered an assessor. Due process according to the college policies will be adhered to by the program faculty.

Cell phones are not to be used nor heard during class time.

Put phone on vibrate. If a phone rings during class we will ask you to turn it off. The second time, the student will be given a disciplinary form and we will ask you to leave the classroom and not return until the next instruction day. Obtaining lecture notes or completing the lab project will be your responsibility.

Computers are to be used only for the lecture in progress.

If a computer is used for any purpose other than to follow a lecture, you will be asked to turn it **off**. The second time, the student will be given a disciplinary form and asked to leave the classroom and not return until the next instruction day. Obtaining lecture notes or completing lab projects will be your responsibility.

Attendance to all lectures and all labs is required: Absences will result in a lower grade.

Unexcused absences will be handled in accordance with the West Los Angeles College's Attendance Policy. Whenever the student is absent more hours than the number of hours the class meets per week, the instructor may drop the student from the class.

If you are sick or in an emergency situation on the day of class, please call 310-287-4464 before 8 a.m. And leave a message with the Allied Health office to inform your instructor. Do not leave a message with your classmate. Obtaining lecture notes or completing the lab project will be your responsibility.

IX. COURSE DESCRIPTION:

DH 215:

This course studies the properties, composition and manipulation of materials used in dentistry. This enables the dental hygienist to understand the scientific rationale for using varied dental biomaterials.

The laboratory portion provides experience in using selected dental materials with emphasis on the role of the dental hygienist as a member of the dental health team.

X. REQUIRED TEXTS and VIDEOS:

Gladwin, Marcia, Clinical Aspects of Dental Materials, 4th edition Lippincott Williams & Wilkins, 2013

Darby, Michele, Dental Hygiene Theory and Practice, 3rd edition, Walsh Margaret, 2010

List of required videos will be distributed separately

XI. STUDENT LEARNING OUTCOMES:

A. Critical Thinking: Analyze problems by differentiating fact from opinions, using evidence, and using sound reasoning to specify multiple solutions and their consequences.

Assessment: The students will integrate the classroom information obtained to the clinical and laboratory setting. Instructor will evaluate the students work through skill demonstration and process grading on typodonts and classmates.

F. Technical Competence: Utilize the appropriate technology effectively for informational, academic, personal, and professional needs.

Assessment: The student will take digital intra-oral photos of classmates and present them in a PowerPoint presentation form according to guidelines given. The process and product will be evaluated by an instructor

H. Ethics: Practice and demonstrate standards of personal and professional integrity, honesty and fairness; apply ethical principles in submission of all college work.

Assessment: The students will demonstrate professional and ethical standards in all classroom activities and student and faculty interactions. Professionalism is incorporated in evaluations and will be assessed by instructors.

XII. **Program Student Learning Outcomes** addressed in these courses:

I. **Professionalism**

The dental hygiene graduates must appreciate their role as health professionals at the local, state, and national levels. The graduates must possess the ethics, values, skills, and knowledge integral to all aspects of the profession.

Program SLO #1: Adhere to the American Dental Hygienist's Associations' code of ethical conduct and apply this code to established state and federal laws, recommendations, and regulations in the provision of dental hygiene care.

Program SLO #4: Utilize current technology to enhance education, patient care, research and professional growth.

II. **Patient Care**

The dental hygiene graduates must be competent in the performance and delivery of oral health promotion and disease prevention services in public health, private practice and alternative settings. The graduates must be able to exercise critical thinking and sound clinical judgment and communicate with patients.

Program SLO #10: Provide and evaluate dental hygiene services, including preventive and pain management procedures, that are based on current scientific evidence for a variety of periodontal conditions of children, adolescents, adults, geriatrics and medically compromised patients from diverse populations.

Program SLO #11: Recognize and provide the appropriate care for medical emergencies that occurs in the dental setting.

Program SLO #12: Apply problem solving strategies and critical thinking to insure comprehensive oral health care for individuals, groups and communities.

XII. **COURSE OBJECTIVES:**

DH 215:

As a result of the lectures, demonstrations and assigned materials, the student will be able to demonstrate competency on a written examination and performances evaluations on the following tasks.

REGULATION AND FUNDAMENTALS OF DENTAL MATERIALS

- Explain the variety of dental materials used in all aspects of dental treatment.
- Select and use of dental materials relates to quality dental care.
- Briefly outline the development and historical background of dental materials through modern times.
- List the reasons why the oral environment is destructive to dental materials.
- Describe the requirements that dental materials must meet.
- List the agencies that regulate dental materials and their goals.
- Explain the concepts of standards, specifications and certification.

PHYSICAL, MECHANICAL AND CHEMICAL PROPERTIES

- Explain the significance of the physical, mechanical and biological properties of materials related to the oral cavity.
- Define dimensional change and the importance to dentistry.

- Describe what constitutes physical properties: thermal, electrical, handling and color.
- Define terms: coefficient of thermal expansion, percolation and conductivity.
- List specific materials in order of their coefficients of thermal expansion; describe why this information is important.
- List specific materials in their order of thermal conductivity and explain the importance.
- Define the electrical properties of galvanism, galvanic current, corrosion, and describe the importance in dentistry.
- Define tarnish and its causes, and describe how it differs from corrosion.
- Define hydrophilic and hydrophobic and explain the importance to dental materials.
- Define viscosity, wettability, contact angle, surface energy and surfactants.
- Describe these color properties: hue, value, chroma, metamerism and translucency.
- Define the mechanical properties: force, stress and strain.
- Define tension, tensile, compression, compressive, and shear, and explain the relation to force, stress and strain.
- Explain how a material can fail without breaking.
- Describe how occlusal forces vary in the mouth, the effects on the selection of dental materials and list the teeth in order of the occlusal forces they generate.
- Explain the concepts of strain and deformation.
- Define: elastic limit, ultimate strength, proportional limit, modulus of elasticity, elastic deformation, plastic deformation.
- Describe abfraction and explain how it occurs orally.
- Draw a stress-strain curves, identifying: proportional limit, elastic limit and modulus of elasticity.
- Define the following terms:

elongation	hardness	creep	malleability
cohesion	adhesion	adherence	resilience
sintering	absorption	adsorption	ductility
- State the methods of measuring hardness; list specific materials in order of hardness; explain the relationship of the hardness of dental materials to the hardness of teeth.

IMPRESSION AND GYPSUM MATERIALS

- Describe and define the different ways to categorize impression materials: inelastic and elastic, water based and rubber based, reversible and irreversible.
- List the clinical requirements of an ideal dental impression material.
- Describe how to manipulate different impression materials and the armamentarium used for each type.
- Describe the different setting reactions: chemical, physical, and thermoplastic.
- Describe ways to achieve infection control and minimize dimensional change.
- Outline the composition, uses, advantages and disadvantages of the following:
 - reversible hydrocolloid and irreversible alginate
 - polyvinylsiloxanes, polyethers, and other rubber based materials
 - tray compound, dental impression compound, ZOE paste, plaster,
- Define the following terms:

imbibition	gel
syneresis	sol
hysteresis	colloid
evaporation	thermoplastic

MATERIALS FOR CASTING RESTORATIONS

- Identify the different types of waxes used in dentistry and compare their properties and stability at room temperature.
- Compare the types and applications of the different die materials.
- Compare the composition and expansion characteristics of low-heat and high heat investment materials.
- Explain the causes of the two types of expansion experienced by investment materials.
- Describe the sequence of procedures used to make a cast metal crown.
- Explain why investment materials must expand to produce accurate castings.
- Explain the rationale for vacuum mixing and vacuum investing.
- List the objectives behind the wax burnout procedure for the lost wax technique

- Explain the purpose of using flux during the melting of metal in the casting process.
- List the factors that can influence the fit of a dental casting.

POLYMERS FOR PROSTHETICS

- Identify the steps in addition and condensation polymerization and describe the different methods available to begin the reaction.
- Explain how the size of a polymer affects its strength, stiffness, and dimensional stability.
- Explain the effect of cross-linking agents and plasticizers on the structure and hardness of polymer.
- List the components in the powder and liquid of both heat-cured and cold cured dental acrylics for dentures, appliances, and custom trays.
- List the different types of formulations of denture base plastics and explain the way(s) in which they are an improvement over conventional acrylic.
- Describe the stages during the setting of dental acrylic in terms of the physical and chemical changes occurring.
- Explain the physical and compositional differences between denture bases, liners, and tissue conditioners.
- Describe the general procedure for the production of a heat-cured denture.
- Explain the effect of improper heating, cooling, and pressure application on the strength, fit and esthetics of a heat-cured denture.
- Describe the procedure for constructing a cold-cured acrylic custom tray.

GYPSUM MATERIALS, POURING AND TRIMMING STUDY MODELS

- Demonstrate clinical competence in pouring and trimming maxillary and mandibular study models.
- Identify the categories of gypsum products and their dental application.
- Describe the composition of gypsum products and the setting reaction
- Describe the mixing technique for gypsum products and how to vary the setting time.
- Define the following terms:

replica	electroplating
impression	water-powder ratio
die	exothermic reaction
study model	hydration
cast	

- List the desirable qualities of a cast or die material.
- Explain how the water-powder ratio relates to the different types of gypsums.
- Describe how the how the different types of gypsums compare on expansion, compressive strength, surface hardness and reproduction of detail; and how this relates to the water-powder ratio.
- Name accelerators and retarders for altering the setting time of gypsum materials.
- Explain how to reduce defects from occurring in pouring impressions.
- Recognize defects in impressions and explain the causes.
- Demonstrate clinical competency in pouring up a clinically acceptable maxillary and mandibular impression in stone, to be used for study models.
- List the correct armamentarium and know the correct water-powder ratios and use the recommended technique.
- Employ all recommended safety measures, care of equipment and infection control.
- Evaluate the study models for Angle class, overbite and over-jet relationships, arch form variation and excessive wear.

CLASSIFICATION AND NOMENCLATURE OF CARIES AND RESTORATIONS

- Explain the reasons that restorations are needed.
- Describe and give examples of indirect and direct restorations.
- Define and describe the location of Class I, II, III, IV, V and VI caries and cavity preparations.
- Define, name and locate all walls, line angles and point angles in all types of cavity preparations.

- | | | | |
|----------|--------|----------|-------------|
| proximal | mesial | gingival | facial |
| distal | pulpal | buccal | cavosurface |
- Describe the relationship between cavity design and the properties of restorative materials.

DENTAL AMALGAM

- State the advantages and disadvantages of amalgam restorations compared to other restorative materials.
- Define the following terms:

amalgamation	mulling
trituration	flow
burnishing	creep
galvanic corrosion	alloy
condensation	amalgam alloy
phases	matrix
- List the phases found in amalgam, including the matrix, and their strength and corrosion susceptibility.
- List the components of high copper amalgam alloy and their effect on the restoration.
- Explain the significance of using high copper alloy.
- Describe the particle shapes in which amalgam is available and the effect on the handling properties.
- Describe the toxicity of mercury, who is at risk and the precautions to be used when utilizing mercury.

METAL ALLOYS

- Describe the uses of base metals in dentistry
- Explain what is responsible for the corrosion resistance of each of the alloys used in orthodontics and prosthodontics
- Compare the composition of the four major types of alloys used to make orthodontic wires.
- Compare the properties of the four major types of alloys used to make orthodontic wires.
- Compare the composition of nickel-chromium and cobalt-chromium prosthetic alloys.
- Compare the properties of nickel-chromium and cobalt-chromium alloys to those of gold alloys.
- Describe concerns over the biocompatibility of certain types of alloys used in dentistry.
- Explain pitting corrosion and identify alloys that may be susceptible to it.

COMPOSITES, GLASS IONOMERS AND OTHER POLYMER MATERIALS

- Describe the indications and the contraindications for using composite for anterior or posterior restorations.
- Describe the matrix phase of composite: composition and properties.
- Describe the filler phase of composite: composition and properties.
- Define the following terms:

hygroscopic	percolation	silane coupling agents
polymethyl methacrylate	polymerization	activators
monomer	thermoplastic	free radicals
polymer	unfilled resin	depth of cure
adhesion	BIS-GMA	
- Describe the polymerization reactions: chemical cure, light cure and dual cure.
- List the factors that affect depth of cure.
- Describe the difference between mechanical adhesion, micro-mechanical adhesion and true adhesion.
- Describe how composite, sealants and other resins bond to teeth by micro-mechanical adhesion.
- Describe the indication, composition and properties of the microfill and hybrid composites.
- Describe the different types of composites and their uses other than restorations.
- Compare the properties and clinical differences of acrylic resins and composite.
- Describe the properties and indications for glass ionomer materials.
- Define these terms as related to glass ionomer material: true adhesion, fluoride release.

- Explain how dentin bonding agents are used.
- Place, finish and polish an anterior restoration.
- List the materials and sequence to polish a composite restoration.

PORCELAIN

- Describe the multiple uses of porcelain in dentistry.
- Define the following terms: porcelain fused to metal restorations, sintering, all ceramic restorations, fusing temperature, veneers, inlays, onlays
- Describe the advantages and disadvantages of porcelain restorations.
- Explain how the properties of color pertain to porcelain.

IMPLANTS

- Describe the many uses of implants in dentistry.
- Describe the composition, shape and size of implant fixtures.
- Explain the indications and contraindications for implant for the patient.
- Define how an implant is retained in the mouth via different types of attachment: osseointegration, gross mechanical retention and bio-integration.
- List what factors successful attachment depend on.
- Describe the soft tissue interface.
- Explain the implant treatment sequences.
- List the factors in implant failure.
- Provide professional care of the implant in the office and educate patients for the implant care at home.

CEMENTS, VARNISHES AND LINERS

- List the types of cements, bases and liners used in dentistry, and describe the usage for each.
- Compare the compressive and tensile strength of ZOE and ZnPO₄.
- Describe the characteristics, composition and properties and causes of failure of the following materials:

a. zinc phosphate cement	d. calcium hydroxide
b. zinc oxide eugenol (ZOE)	e. varnish
c. zinc polyacrylate	
- Define the following terms:

a. eugenol	d. alumina
b. polymethyl methacrylate	e. secondary dentin
c. suspension	
- List the armamentarium and describe the technique for manipulation of zinc phosphate cement and zinc oxide eugenol cement.
- Explain the various modes and methods used to control the setting time of zinc phosphate cement and zinc oxide eugenol cement.
- List the armamentarium and describe the technique for manipulation of calcium hydroxide and varnish.

PIT AND FISSURE SEALANTS

- Describe the principles for bonding of resins and sealants to tooth enamel.
- Outline the research defining the caries susceptibility of occlusal surfaces.
- Define the following terms:

a. adhesion	d. BIS-GMA
b. sealants	e. odontotomy
c. bonding	
- List the factors to be considered when selecting a patient for pit and fissure sealants.
- Identify the reasons for success or failure of the pit and fissure sealant.
- Describe the principles of acid etching enamel.

- Outline the procedure in proper sequence for application of a pit and fissure sealant (Delton System) in the oral cavity.

MOUTHGUARDS

- Name types of mouthguards currently available.
- List the polymer composition most frequently used in compounding commercial mouthguards.
- Identify the two physical characteristics of greatest importance to a mouthguard material.
- State why mouthguards have caused no known adverse tissue reactions in the oral cavity.

ABRASION AND POLISHING

- Define the following terms:

a. abrasion	b. polishing
c. tarnish	d. corrosion
- Relate the importance of finishing all exposed hard tissue or prosthetic surfaces in the oral cavity.
- List the variables affecting corrosion.
- List the various types of abrasive and polishing agents utilized in dentistry.
- State factors that determine the rate of abrasion of a given material.
- List the ideal characteristics and composition of a prophylactic paste.
- List the characteristics of an ideal denture cleanser.
- Explain the criteria for selection of an abrasive agent
- List the sequence for finishing and polishing the:

a. amalgam restoration
b. gold alloy
c. composite restoration
- Define the term dentifrice and list the ingredients of a typical dentifrice.
- List and describe the dental products a DH may recommend or utilize for oral hygiene procedures or prophylaxis procedures.
- Apply problem-solving skills during the performance of dental hygiene services utilizing dental materials.

DH 215: EXPANDED FUNCTION PROCEDURES FOR DENTAL HYGIENIST

Rubber Dam Application

- State the rationale for usage of the rubber dam technique.
- Describe proper technique for placement of a rubber dam.
- Identify the armamentarium necessary for the application and removal of the rubber dam.
- Select the proper clamp to retain and facilitate application of the rubber dam for all teeth in the deciduous and permanent dentition.
- Prepare the patient and materials for placement of the rubber dam.
- Place and remove the rubber dam without any discomfort to the patient or injury to the soft tissue for each quadrant of the mouth.

Amalgam Restoration Using Matrix and Wedge

- Demonstrate clinical competence in assembling and placing a posterior matrix band and wedge.
- Describe the specific criteria of correctly place a matrix band.
- Describe the selection and function of a wedge.
- Describe and recognize the result of improper placement of a matrix or wedge clinically and radiographically.
- Prepare the armamentarium needed for amalgam placement.
- Place, condense and carve amalgam restorations on an assigned prepared typodont tooth. Identify the qualities of a clinically acceptable amalgam restoration.

Finishing and Polishing Amalgam

- State the purposes for finishing and polishing an amalgam restoration.
- Describe indications and contraindications for selecting an amalgam restoration to polish.
- List the armamentarium necessary for finishing and polishing the amalgam restoration.

- Outline the steps in proper sequence for finishing and polishing the amalgam restoration.
- Outline the different polishing and finishing materials and specific sequence of these materials for amalgam polishing.
- Demonstrate the technique for finishing and polishing amalgam restorations on extracted tooth and on clinical patients.
- Identify the criteria of a properly finished and polished amalgam restoration.
- Identify the qualities of an ideally condensed and carved amalgam restoration and describe the limitations found in finishing and polishing the older amalgam restoration.
Demonstrate on a sampling of extracted teeth and a typodont, the technique for finishing and polishing amalgam restorations.

Alginate Impressions

- State the rationale for usage of alginate impressions.
- Describe proper technique for taking alginate impressions.
- Explain the importance of accuracy in impressions to record all oral anatomy.
- Describe how the amount of water and the temperature of water affect the impression.
- Demonstrate competency in taking an ideal maxillary and mandibular impression on both a typodont and on a partner.
- Evaluate the completed impression for accurate anatomical landmarks and no defects.
- Produce clinically acceptable, defects free alginate impression.
- Identify adequate oral anatomy in the impression
- Identify defects that would make the impression unusable.
- Explain and use the technique of “snap removal”.
- Explain and demonstrate the rationale of tray selection.
- Explain and practice patient preparation to reduce gagging and improve the impression
- Practice infection control during process of alginate impression production.

Study Models

- State the rationale for usage of study models.
- Describe proper technique for producing study models.
- Pour the alginate impression in plaster without introducing voids or blebs.
- Trim excessive stone from the finished models.
- Evaluate the study models for Angle class, overbite and overjet relationships, arch form variation and excessive wear.

Bleaching Trays and Mouthguard

- Describe the rationale for usage of bleaching trays and mouthguard
- List the armamentarium necessary to complete fabrication of trays.
- List the steps in proper sequence for fabrication of trays.
- Demonstrate the fabrication of either a bleaching tray or a mouthguard for patients.
- Describe the patient in need of trays.
- Describe the desired tray design which will prevent irritation to mucosal tissues and discomfort to the patient.

Pit and Fissure Sealants

- List the steps in proper sequence for placement of pit and fissure sealants
- List the armamentarium necessary for application of pit and fissure sealant.
- Demonstrate the procedure for applying pit and fissure sealants on extracted teeth and on clinical patients.

Temporary Crowns and Restorations

- List the rationale for placement of temporary crown restorations.
- State the various types temporary cements and temporary crown restorations.
- State what functions the temporary cement serves, other than adhering the crown to the preparation.
- Identify the conditions that must be met in order for any temporary restorations to be satisfactory.
- Explain the advantage for using the preformed aluminum temporary crown.
- Outline the steps in proper sequence for placing a preformed aluminum temporary crown.
- Outline the steps in proper sequence for placing a preformed plastic temporary crown.
State the reason for temporization of tooth tissue.
- List the objectives for a temporary restoration.
- Identify the types of temporaries and give examples of proper selection.
- List the armamentarium for placement of a temporary cement in a Class II preparation.
- Outline the steps in proper sequence for placing a temporary cement in a Class II preparation.

- Demonstrate the making and cementation of a custom plastic crown on a posterior and anterior tooth of a typodont.

Anterior Restorations and Composite Finishing

- List the armamentarium necessary for the placement of an anterior restorative material.
- Given a Class III or Class IV cavity preparation, adapt and place an anterior matrix to fit the tooth according to the specific criteria without trauma to the teeth or periodontium.
- State the rationale for finishing and polishing the composite restoration.
- Outline the steps in proper sequence for finishing and polishing an anterior composite restoration.
- List the armamentarium necessary for finishing and polishing a composite restoration.
- Identify the criteria for evaluation of a properly finished composite restoration.
- Demonstrate the technique for finishing and polishing a composite restoration on a typodont.

Vitality Testing

- List the armamentarium necessary for vitality testing.
- List the procedure for vitality testing.
- Demonstrate the procedure for testing vitality on a patient.

Periodontal Dressing

- List the armamentarium needed to mix and apply a periodontal dressing.
- Demonstrate the procedure to mix and place a periodontal dressing on a typodont.
- Demonstrate the procedure for removal of a periodontal dressing.

Post-Extraction Dressing for dry socket

- List the armamentarium needed to apply a dressing to extraction site.
- Demonstrate the procedure to place a post-surgical dressing on a typodont socket using gauze or foam.
- Demonstrate the procedure for removal of a post extraction gauze.

Sutures

- List the armamentarium needed for placement and removal of sutures.
- Demonstrate the procedure for removal of sutures.
- Assess the benefit of gingival curettage

Evaluation of Orthodontic Appliance

- Recognize the armamentariums used for orthodontic treatments

Course SLO	Criterion Level
1. As a result of the lectures, demonstrations and assigned materials, the student will be able to demonstrate competency on a written examination.	At least 80% of students will complete course with a 70% (C) or higher grade.
2. Students will be instructed on various dental tasks within the scope of practice.	At least 80% of students will complete 100% of the required number of course competence requirements
3. Work in the laboratory environment in a professional and ethical manner, following the WLAC Dental Hygiene Program infection control protocol.	At least 80% of students will complete the course without any poor laboratory report.

XV. METHODS OF INSTRUCTION:

Lecture
 Demonstration
 CD or online video
 Discussion

Presentations
Peer teaching

XVI. Clinical Skills:

A. At the end of this course, the student will be able to demonstrate a **novice level of competent skills** in the following procedures in laboratory and continued in the clinical courses, DH 201 and DH 251 to clinical competency.

- Rubber dam application
- Finishing and polishing amalgams
- Alginate impressions
- Study models
- Bleaching trays and mouthguard
- Pit and fissure sealants
- Placement and sizing of temporary crowns and restorations
- Composite polishing
- Suture removal
- Orthodontic appliance examination
- Matrix and wedge placement
- Surgical Dressing

B. At the end of this course, the student will be able to demonstrate knowledge of the following procedures in the laboratory setting only (not clinical level):

- Placement of amalgam restorations
- Placement & finishing of composite material
- Suture placement
- Periodontal dressing
- Vitality testing

NOTE: The above procedures (B) are taught to allow the students to manipulate the materials and to make clinical simulation aids for other procedures which are taught to clinical competence. This does not imply that the student is competent to perform these procedures on patients. The functions that are taught to laboratory competence cannot be legally performed by the Dental Hygienist in the State of California under the State Practice Act.

XVII. METHODS OF EVALUATION:

DH 215

1. Attendance at **all** lecture sessions is required. Absences will lower your grade.
2. Students must earn 70% or better on *both* the mid-term and final examination to pass DH 215.
A =90 and above, B = 81-89, C=70-79.
3. Satisfactory completion of any and all assigned study assignments by faculty.
4. Attendance at **all** laboratory sessions is required.
5. Completing each laboratory assignment and turning in the process evaluation form in a timely manner is required. "Timely" means when the majority of the class completes the assignment.
6. Student may do a procedure and have it evaluated up to two times. **Remediation may be necessary to help student achieve a competent level (assignment at instructor's discretion).**
7. The student must demonstrate an understanding of the material for *every* procedure to pass. Each procedure will be evaluated per the scoring method on process grading forms.
8. The procedures ***specifically listed below*** must be done ***to clinical competency***, based on the criteria for the procedure. "Clinically acceptable" is described on the process evaluations forms for each assignment.

1. Placement of Periodontal dressing on tyodont and students

2. Pit and Fissure Sealants on extracted teeth
3. Alginate Impression on a student
4. Mixing and pouring gypsum study models
5. Suture removal on typodont
6. Polishing two amalgam restorations on typodont
7. Polishing composite restoration on typodont
8. Placement of provisional restoration (Class II) IRM on typodont
9. Fabrication and cementing temporary crowns - posterior and anterior on typodont
10. Matrix and wedge placement for Class II preparations on typodont
11. Pulp vitality testing on typodont

XVIII. DH 215 Course Schedule

See **SEPARATE SCHEDULE** of lecture and laboratory topics

Dr. Padnick lectures	Mr. Sermeno lectures
<ul style="list-style-type: none"> • Basic Properties of Materials • Impression Materials • Alginate Impressions • Esthetic Materials • Implants • Restorative Nomenclature • Polishing materials and abrasion • Amalgam & Placement • Amalgam Polishing • Polishing composite • Metals & Casting • Gypsum & Pouring • Study Models • Bleaching Trays & Mouthguards 	<ul style="list-style-type: none"> • Regulations of Dental Materials • Infection control & safety • Professionalism • Vitality Testing • Periodontal Dressing • Periodontal Sutures • Rubber Dam • Temporary Restorations IRM • Temporary Crowns: Alum & Resin • Vanishes, Liners & Cements • Surgical Packing Material • Pit & Fissure Sealants • Laser disinfection and curettage

XIX. IMPORTANT NOTES:

- **Be prepared with the appropriate armamentarium and supplies for all assignments.** Bring all materials in your kits and your handpieces and latch attachments to this class every week. It is YOUR responsibility to bring your armamentarium and ask what is needed.
- Professionalism, Safety and Infection Control: Wear scrubs to class, hair tied back neatly, nails short and clean. Follow OSHA infection control protocol during lab procedures, including wearing all PPE's when necessary.
- You are responsible for all the equipment lent to you. **You must replace, at your own expense,** any equipment or instruments not returned, or returned in an unsatisfactory condition (including, but not limited to damage, distortion or simply, not clean).
- Process forms must be **turned in on-time** for the lab project to receive full credit.

PREPARATION BEFORE CLASS

Many of the procedures require preparation prior to the laboratory time. Read this carefully and make sure you are prepared before class or you will fall behind and risk not passing DH 203.

Impression on a Student: Sterilize trays before, and after, using them on each other.

Temporary Crowns and IRM/provisional restorations: PRIOR TO CLASS, place all prepared teeth into your typodonts in the correct location (Instructor will announce any exceptions). Do not wait until lab begins.

XX. College Policies and Standards from WLAC Handbook

Classroom and Campus Cleanliness

Please help us keep the classroom and campus grounds clean. No food or beverages, except for water, is permitted inside instructional classrooms /labs. Please use the receptacles to dispose of trash.

Professional Conduct in Our Classroom Community

The West LA College faculty, staff and administrators are dedicated to maintaining an optimal learning environment and will not tolerate any disruptive behavior in or outside of the classroom or any academic dishonesty. These standards apply to all students.

Attendance

Students are expected to attend all classes for which they are registered, to be prompt and to remain in class/lab for the entire time. Students who are unable to attend class regularly, regardless of the reason or circumstance, should withdraw from the class. Instructors may drop a student from a class whenever a student is absent more hours than the number of hours the class meets per week. Withdrawal from class can affect eligibility for federal financial aid.

Special Instructional Accommodation

If there are special accommodations that you require to be successful in this course, please discuss your situation with the professor. To receive accommodations for a special need or disability, students must register with the Office of Disabled Student Program and Services, HLRC. Tape recording of lectures and discussions will not be permitted without the consent of the instructor.

Academic Integrity

Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others' academic endeavors. When there is evidence of cheating or plagiarism in classroom work, the instructor may assign a failing grade, "F," or zero points to the examination or assignment in which the alleged cheating or plagiarism occurred. Before a substandard grade is issued the instructor will provide the student with supporting documentation of the plagiarism or cheating charge. Instructors have the authority to use plagiarism detecting instruments such as "Turn It In" to detect academic dishonesty.

Forms of Behavior which Violate Academic Integrity

- **Cheating.** Using any materials or devices or strategies which provide undue advantage on any exam, assignment, activity or other method of assessment for a course. This includes, but is not limited to, looking at another student's exam, using phones or other communication systems to text message during exams, taking pictures or images of exams, talking with others during exams, using Internet to find information, or any other system of inappropriate "help." Exams are to be measures of what YOU, as an individual, have learned.
- **Collaboration.** Working together on projects, papers, exams or other forms of assessment which are to be completed individually is NOT permitted.
- **Laboratory projects:** Working in any way on another student's laboratory projects is not allowed (unless specifically instructed to do so by a faculty member). You are allowed to demonstrate on using your own laboratory project as long as you do not do any part of the other student's work.

- **Plagiarism.** Taking anyone else's work as one's own. Presenting another's words, ideas, forms of expression, materials, or labor without proper citation, referencing, and declaration that this material originated outside the student's own work.

For assistance with classroom projects, papers and assignments, please visit the Learning Skills Center, HLRC.

Standard of Student Conduct

Faculty members are charged with responsibility for building and maintaining a classroom atmosphere conducive to learning. Disruptive, disrespectful, or obstructive behavior will be dealt with in terms specific to this syllabus and in accordance with the LACCD Standard of Student Conduct. Select forms of disciplinary action appropriate to the misconduct may be taken by an instructor when there is evidence that the student's behavior interferes with classroom instruction.

The following types of disciplinary action may be taken::

- 1) Warning- A verbal or written notice, given to the student by an instructor. Continuation or repetition of the specified conduct may be cause for further disciplinary action/Remediation.
- 2) Removal by Instructor - An instructor may remove (suspend) a student from his or her class for the day of the incident and the next class meeting. During this period of removal, the student shall not return to the class from which he or she was removed without the permission of the instructor of the class.
- 3) The DH Dept. Chair will meet with the student and faculty member and stress that repetition of inappropriate behavior raises questions of suitability for the DH profession and that the student will be suspended from the program if any additional incident of any type occurs.
- 4) Third Offense
The VP of Student Services and DH Dept Chair will meet and decide whether the student will be suspended from the program; and if so, **the conditions** upon which the student may re-apply to return.
- 5) Regardless of whether the student is suspended from the program or is allowed to continue with her class, the student must accomplish specific, designated criteria in order for the Dept. Chair to evaluate her suitability as a Dental Hygiene student.
- 6) Students may refer to the College Catalog or the online student orientation at www.wlac.edu; click "Counseling, Assessment and Orientation," then scroll down to "Orientation" for complete details regarding the aforementioned policies.

DH 215 Dental Materials and Expanded Function for the RDH Fall 2014 Course Schedule

Monday: 11:40am – 01:50pm OR
Monday: 01:00pm – 03:10pm (Check schedule CAREFULLY)
Wednesday: 01:30pm – 04:45pm

Refer to page following schedule for non-textbook assignments

Date	Topic	Instructors	Assignment
Wednesday September 3	Lec: Dental Materials Overview Lec: Treatment Planning Lec: Properties of Dental Materials Lab: Sign out loaned instruments & typodonts	Padnick (3) Semenov (1) Dones (1)	4th edition Gladwin textbook Gladwin, Chapter 1, 2, 3, 37

Date	Topic	Instructors	Assignment
Monday Sept. 8 1:00 pm	Lec: Alginate Material & Technique Lec: Gypsum Material & Technique Lec: Bite Registration	Padnick (2)	Gladwin: pp. 117-118 Gladwin: Chapter 9, 21, 27 Watch alginate / gypsum videos
Wednesday Sept. 10	Lab: Alginate impression - typodont Lab: Pour Gypsum Lab: Bite registration (do after pour) Lab: Evaluate SAVE casts	All (3) Tell Dr. P if you cannot stay until 4:30 on Sept. 24 for religious reasons	Sterilize impression trays before Sept. 17
Monday Sept. 15 11:40 am	Lec: Arestin Lec: Sutures, Suture Removal Lec: Periodontal Dressings	Semeno (2)	Gladwin: Chapter 33 34
Wednesday Sept. 17 Groups A & B	Clinic: All students Group A: take 4 Alginate Impressions Group B: are patients Lab: Group B: Periodontal Placement; Suture removal Group A: Pour gypsum in 4 impressions	All (3)	Group A: Clean clinic after pouring. Ask faculty if cast is okay before you leave today.
Monday Sept. 22 1:00 pm	Lec: Study Model Fabrication Use of Model Trimmer Lab: Design on typodont casts	Padnick (2)	Gladwin: Chapter 28 Watch video Copy check list for trimming
Wednesday Sept. 24 Groups A & B	Same schedule as last Wednesday afternoon; Reverse groups.	All (3)	Group B: Clean clinic after pouring.. Ask faculty if cast is okay before you leave today.
Monday Sept. 29 11:40 am	Lec: Caries control & Direct Provisional Restorations (Dycal & IRM) Lec: Universal Matrix Bands Evaluation of gypsum pouring (1 hr)	Semeno (2) Dones (1)	Gladwin: Chapter 7
Wednesday Oct. 1 Groups A & B	All students in Lab: Group A: lab: Trim & Finish Study Models Group B: Lab: Place Dycal & IRM - typodont Lab: Matrix bands	All (3)	
Monday Oct. 6 11:40 am	Lec: Rubber Dam Lec: Vitality Testing Methods Lec: Laser	Semeno (2)	Gladwin: Chapter 24 Darby Chapter 36 pp 687-691

Date	Topic	Instructors	Assignment
Wednesday Oct. 8 Groups A & B	Same schedule as last Wednesday afternoon; Reverse groups.	All (3)	
Monday Oct. 13 1:00 pm	<i>Restorative Treatment Phase</i> Lec: Restoration Nomenclature (Black's) Lec: Amalgam Material & Placement	Padnick (2)	Gladwin: Chapter 6, 26
Wednesday Oct. 15 Groups A & B	Lab: Laser Clinic: Rubber Dam - Live Clinic: Vitality Testing Methods	All (3)	Inform Mr. Semeno of all lab projects NOT as of today
Monday Oct. 20	Mid-Term Examination Time TBA	Semeno (2)	
Wednesday Oct. 22	Complete all projects today Time TBA	Dones (3)	
Monday Oct. 27 1:00 pm	Lec: Tooth Discoloration & Whitening Lec: Shade Taking Lec: Vacuum Formed Oral Appliances & Demo	Padnick (2)	Gladwin: Chapter 17, 18, 31 Watch video 5 students start today
Wednesday Oct. 29	Lab: Construct Bleaching Tray/Mouth Guard Lab: Shade taking	All (3)	
Monday Nov. 3 1:00 pm	Lec: Abrasives Lec: Amalgam Polishing	Padnick (2)	Gladwin: Chapter 16 Gladwin: Chapter 26
Wednesday Nov. 5	Lab: Amalgam Polishing	All (3)	
Monday Nov. 10 1:00 pm	Lec: Composites, Acrylic & Glass Ionomer Lec: Placement & Polishing Composites Lec: Maintenance of Composites	Padnick (2)	Gladwin: Chapter 4, 5, 11, 36
Wednesday Nov. 12	Lab: Composite Polishing and Stain Removal	All (3)	
Monday Nov. 17 1:00 pm	<i>Definitive Treatment Phase (Restorative & Prosthodontics)</i> Lec: Metals in Dentistry Lec: Porcelain Lec: Crowns & Bridges Lec: Implants	Padnick (2)	Gladwin: Chapter 10, 12, 19
Wednesday	Lec: Impression Materials	Padnick (2)	Gladwin: Chapter 8, 30

Date	Topic	Instructors	Assignment
Nov. 19	Lec: Construct temporary crowns	Semeno (2)	Gladwin: Chapter 7, 35
Monday Nov.24 11:40 am	Recognizing carious lesions and dental material on radiographic images	Semeno (2)	
Wednesday Nov. 26	Lab: Construct 3 temporary crowns Lab: Cement temporary crown (To be completed Dec 3)	Semeno (3) Dones (3)	Inform Mr. Semeno of ANY lab projects NOT completed
Monday Dec. 1	Lec: Radiology Review Lec: Cracked Tooth Syndrome, Abfraction Question and Answer (NOT a review)	Padnick (2)	Gladwin: Chapter 15 Gladwin: pp. 174-178 Gladwin: Chapter 13, 14, 32
Wednesday Dec. 3	Lab: Complete Construct 3 temporary crowns Lab: Cement temporary crown Complete ALL labs today Check loaned items are clean before 8/10	All (3)	TBA –3 groups, assigned schedule for each activity
Monday Dec. 8	TBA	Semeno (2)	
Wednesday Dec. 10	RETURN loaned items or PAY for MISSING or DAMAGED items Turn in ALL process forms to receive credit for DH215.	All (3)	To receive credit for DH 215: TODAY is the deadline process forms and returned items.
Monday Dec 15 OR Wednesday the 17th	Final Exam (from Mid-term) Time TBA	All (3)	

Read next page for non-Gladwin assigned reading and viewing material.

Reading and viewing assignments (in addition to textbook assignments).

Watch the videos or read the assigned material BEFORE the related lecture and lab.

Use the link or search by the video name.

If you cannot find the exact video, find and watch others on the same topic.

The videos provide demonstrations of what to do..... even if some are old or not perfect.

ALGINATE and GYPSUM Each video shows different information.

Gladwin's ***Clinical Aspects of Dental Materials 4th edition***. Inside front cover of the 4th edition are directions on access. View TWO videos on ALGINATE.

8 Keys to Beautiful Alginate Impressions http://www.youtube.com/watch?v=M5L_o98ZtZk

Taking an Orthodontic Impression Watch how to *relax patient's lips* over the tray.
<http://www.youtube.com/watch?v=WNGbUg7tWOs&feature=related>

Alginate Impression Materials and Hand Spatulation Video is old but shows how to pour gypsum into the impression. <http://www.youtube.com/watch?v=wnFfKVUzR0A>

AMALGAM Condensation and Carving

Search for ***Columbia Dental Operative Video Amalgam***. You'll see Class II Amalgam restoration. Follow the instructions to view condensation and carving a class II amalgam.

VITALITY TESTING:

<http://www.cdeworld.com/courses/4462-assessment-and-diagnosis-of-pulp-vitality-the-role-of-electric-pulp-testing>

PROVISIONAL – TEMPORARY CEMENTS:

Provisional–Temporary Cements - Inside Dental Assisting - dentalAEGIS.com

Source: dentalaegis.com This oral healthcare site affords access to the AEGIS dental archives, as well as news, product information, and other online-only articles and features.