

**STATE UNIVERSITY OF NEW YORK  
COLLEGE OF TECHNOLOGY  
CANTON, NEW YORK**



**DHYG 241 – DENTAL MATERIALS LAB**

Prepared by: **Pamela P. Quinn, RDH, BSE, MSED**  
**Lindsay Argyle, RDH, BS**

**SCHOOL OF SCIENCE, HEALTH & CRIMINAL JUSTICE  
DENTAL HYGIENE AAS PROGRAM  
MARCH 2015**

**DHYG 241 DENTAL MATERIALS LAB**

- A. **TITLE:** DENTAL MATERIALS LAB
- B. **COURSE NUMBER:** DHYG 241
- C. **CREDIT HOURS:** 1
- D. **WRITING INTENSIVE COURSE:** NO
- E. **COURSE LENGTH:** 15 WEEKS
- F. **SEMESTER(S) OFFERED:** FALL
- G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:**  
3 hours of lab each week
- H. **CATALOG DESCRIPTION:** This course enables the dental hygiene student to develop the skills outlined in the NYS Dental Assisting and Dental Hygiene Practice Acts. Skills are learned on a typodont in the lab prior to partner and/or patient practice in the clinical setting. Students will learn the foundation for these skills in DHYG 240 Dental Materials Lecture. Therefore, these courses are co-requisite courses.
- I. **PRE-REQUISITES/CO-COURSES:** Pre-requisite: Dental Hygiene matriculation. Co-requisite: DHYG 240: Dental Materials Theory.
- J. **GOALS (STUDENT LEARNING OUTCOMES):** By the end of this course, the student will meet the following course learning outcomes which are linked to the institutional learning outcomes. This lab provides the foundational for completing the following clinical competencies: 1.8, 1.12, 1.16, 6.2, 6.3, 6.5.

Course Learning Outcomes	Institutional Outcomes
1. Demonstrate clinical competency in mixing alginate, taking an impression free of voids; and obtaining a bite registration.	3. Prof Competency
2. Demonstrate proper infection control techniques when utilizing dental materials in the lab and clinical setting.	3. Prof Competency
3. Construct a well trimmed set of study models.	3. Prof Competency
4. Construct a mouthguard and a set of bleaching trays.	3. Prof Competency
5. Demonstrate clinical competency when placing pit and fissure sealants.	3. Prof Competency
6. Demonstrate clinical competency in polishing tarnished amalgam restorations without traumatizing the oral tissues.	3. Prof Competency
7. Employ proper technique when performing the following dental assisting skills on a typodont in the lab setting: a) isolation with a rubber dam b) removal of sealants c) placement and removal of separators and molar bands d) placing and securing an arch wire e) placement of a periodontal dressing f) vitality testing g) temporary restorations	3. Prof Competency
8. Demonstrate proper technique when mixing dental cements.	3. Prof Competency

- K. **TEXTS:** Gladwin, Marcia and Bagby, Michael, Clinical Aspects of Dental Materials, 4<sup>th</sup> Edition, Lippincott, Williams & Wilkins, Philadelphia, 2013.

**L. REFERENCES:**

Clinical Research Associates (CRA) Newsletters on Reserve  
Journal articles and handouts will be assigned for specific topic areas.

**M. EQUIPMENT:** Each student is expected to wear their clinic scrubs and white clinic shoes to lab; and bring their personal protective equipment including safety glasses, gloves and masks to lab. Students will purchase a lab kit that contains a Sho-Fu Kit, an adhesive and sealant material, mouthguard and bleaching material, a green knife, mixing spatulas.

**N. GRADING METHOD:** A – F

A letter grade will be issued a letter grade utilizing the conversion scale below. All students must achieve a minimum C grade to maintain matriculation in the dental hygiene program.

A	94 – 100
B+	90 - 93
B	84 - 89
C+	80 - 83
C	75 - 79
D	74 - 70
F	69 or lower

**O. MEASUREMENT CRITERIA/METHODS:**

- 1) Attendance, Preparedness & Professional Conduct
- 2) Weekly Quizzes
- 3) Homework Assignments
- 4) Lab Projects
- 5) Capstone Lab Practicum

**P. DETAILED COURSE OUTLINE:**

Lab #1: Distribute Syllabus, Review Lab Requirements & Lab Safety Rules

Faculty Demonstrations:

- a. Armamentarium Needed for Mixing Alginate
- b. Use of Utility Wax around the Periphery of the Tray
- c. Proper Mixing Techniques & Loading of the Tray
- d. Techniques for Taking and Disinfecting an Interocclusal Record (Bite Registration)
- e. Cleaning and Preparing Trays for Sterilization

Students Practice:

- a. Beading a Tray with Utility Wax
- b. Mixing Alginate and Loading the Tray
- c. Preparing Soft Baseplate Wax when Taking an Interocclusal Record
- d. Disinfecting the Interocclusal Record
- e. Cleaning and Preparing Trays for Sterilization

Lab #2: Take Weekly Quiz

Faculty Demonstrations:

- a. Mixing Stone
- b. Use of Vibrator when Pouring Impressions
- c. Clinician Positions When Taking Impressions
- d. Use of Automixing Gun, disposable tips & Polyvinyl Siloxane when taking a bite registration

Students Practice:

- a. Taking Impressions on Typodonts
- b. Mixing Stone

- c. Using Vibrator to Pour Impressions
- d. Proper Positioning When Taking Impressions
- e. Loading and Utilization of the Automixing Gun

Lab #3: Take Weekly Quiz

Faculty Demonstrations:

- a. Use of Grinders
- b. Steps for Trimming the Stone Model
- c. Use of the Vacuum Former

Students Practice:

- a. Trimming Models
- b. Making a Mouthguard on the Vacuum Former

Lab #4: Take Weekly Quiz

Everyone Reports to the Clinic

½ class sits as a patient

½ acts as the clinician: takes a bite registration, upper and lower impressions

Patients tear down and disinfect treatment rooms while clinicians pour impressions in the lab

All report back to watch video on bleaching trays

Lab #5: Take Weekly Quiz

Reverse Roles from Lab #4

Lab #6: Take Weekly Quiz

½ trim models

½ make bleaching trays

Reverse Roles after 1.5 hours

Lab #7: Take Weekly Quiz

Faculty Demonstration: with ½ group in the green room

- a. Amalgamator
- b. Use of Tofflemire Matrix and Wood Wedge
- c. Placement of Both Intraorally
- d. Instruments Used when Placing Amalgams: Amalgam Carrier, Condenser, Carver, Burnisher, Forceps with Articulating Paper
- e. Placing Temporary Restorations

Faculty Demonstration: with other ½ of the group in the prosthetic lab

- a. Procedures for Mixing Cements and Placing Temporary Restorations

Students Practice Skills Above :

Lab #8: Take Weekly Quiz

Faculty Demonstration:

- a. Armamentarium for Polishing Tarnished Amalgam Restorations
- b. Technique for Polishing Restorations

Students Practice Polishing an Amalgam

Lab #9: Take Weekly Quiz

Faculty Demonstration: Suture Removal, Vitality Testing & Periodontal Dressings

All students then report to clinic to practice amalgam polishing on a partner

Patients are screened for sealants in preparation for lab #10

Lab #10: Take Weekly Quiz

Faculty Demonstration:

- a. Armamentarium for Placing Sealants
- b. Use of the Blue Light
- c. Infection Control Techniques

Students Practice on typodont and then each other.

Lab #11: Take Weekly Quiz

Faculty Demonstration:

- a. Mixing a Periodontal Dressing and Placing on a Typodont
- b. Vitality Testing
- c. Suture Removal on an orange

Students Practice

Lab #12: Take Weekly Quiz

Faculty Demonstrations:

- a. Armamentarium for Placing a Rubber Dam
- b. Technique for Placing a Rubber Dam
- c. Technique for Paint-on Dam

Students Practice:

Lab #13: Take Weekly Quiz

- a. Instruments and Armamentarium for Placing Ortho Bands and Brackets

Students Practice:

- a. Placing Separators
- b. Fitting Molar Bands
- c. Placing an Arch Wire and Securing with Elastic Ligature
- d. Placing Elastics from One Arch to Another
- e. Identifies the following instruments: Mathieu Needle Holder, Ligature Director, Pin and Ligature Cutter, Howe Pliers, Band Biter, Band Pusher, Posterior Band Removing Pliers, Adhesive/Anterior Bracket Removing Pliers

Lab #14: Field Trip to an Orthodontic Office

Lab #15: Final Exam Week All students take the Capstone Lab Practicum