

**Course Outline for:** DENH 1160 Dental Materials

**A. Course Description**

1. Number of credits: 2
2. Lecture hours per week: 1  
Lab hours per week: 2
3. Prerequisites: Acceptance in the Dental Hygiene Program; CHEM 1050, DENH 1140, DENH 1141
4. Corequisites: None
5. MnTC Goals: None

The study, demonstration, and manipulation of materials used in dental and dental hygiene procedures.

**B. Date Last Reviewed/Updated:** January 2022

**C. Outline of Major Content Areas**

1. Introduction to Dental Materials
2. Materials Science
3. Physical and Mechanical Properties of Dental Materials
4. Infection Control and Lab Safety
5. Gypsum Materials
6. Impression Materials
7. Operative Dentistry / Minimally Invasive Dentistry
8. Dental Dam Isolation
9. Direct Polymeric Restorative Materials
10. Adhesive Materials
11. Dental Cements
12. Wax and Impression Compounds
13. Porcelain and Polymers
14. Investing and Casting
15. Dental Amalgam and Direct Metallic Restorations
16. Margination Procedures
17. Polishing Materials and Abrasion
18. Materials for Indirect, Fixed Restorations
19. CAD-CAM
20. Interim Restorations (Atraumatic Restorative Technique)
21. Materials for Removable Prosthesis
22. Tooth Whitening / Mouth Protectors
23. Pit and Fissure Sealants

- 24. Gingival Displacement Techniques
- 25. Silver Diamine Fluoride
- 26. Isolation Techniques

**D. Course Learning Outcomes**

Upon successful completion of the course, the student will be able to:

- 1. Understand the physical, chemical and biologic properties of the specific dental materials addressed by this course.
- 2. Relate the physical, chemical, and biologic properties to the selection, handling, and care of dental materials used within the scope of dental hygiene practice.
- 3. Recognize, select, and apply dental materials used in preventive and therapeutic dental procedures to provide quality patient care that is within the licensed dental hygienists scope of practice.
- 4. Demonstrate current, acceptable infection control and safety procedures in the laboratory and clinical settings when using a given dental material or providing dental hygiene services.

**E. Methods for Assessing Student Learning**

- 1. Assignments
- 2. Exams
- 3. Lab Requirements and Evaluations

**F. Special Information**

None