

**Course discipline/number/title: DA 1255: Dental Materials****A. CATALOG DESCRIPTION**

1. **Credits:** 4
2. **Hours/Week:** 2 lecture, 2 lab
3. **Prerequisites (Course discipline/number:** DA 1210
4. Other requirements: None
5. **MnTC Goals (if any):** NA

**B. COURSE DESCRIPTION:** Dental Materials is a study of the properties, uses, and manipulation of chairside and dental laboratory materials. These materials are used in the reconstruction and restoration of the teeth and oral structures. The students will have extensive laboratory experience with the chairside and dental laboratory materials.

**C. DATE LAST REVISED (Month, year):** September, 2021

**D. OUTLINE OF MAJOR CONTENT AREAS:**

1. Introduction to Dental Materials
2. Safety and Hazard Communications In the Dental Lab
3. Dental Materials to include; Impression Materials, Waxes, Resins, Gypsum, and Restorative Materials

**E. LEARNING OUTCOMES (GENERAL):** The student will be able to:

1. Define terms related to dental materials.
2. Demonstrate dental laboratory safety.
3. Describe the function and use of impression materials with correct manipulation.
4. Describe the properties and uses of synthetic resins.
5. Differentiate acrylic materials and their utilization.
6. Fabricate custom acrylic trays, acrylic provisional crowns, mouthguard, bleaching tray. Splints, and retainers.
7. Describe the purposes and classifications of gypsum materials.
8. Handle gypsum materials.
9. Describe the use and characteristics of liners, varnishes, desensitizers, bonding agents, bases, and cements.
10. Prepare and manipulate cavity liners, cavity varnishes, desensitizers, bonding agents, bases, and cements.
11. Identify the types and uses of direct and indirect restorative materials.
12. Describe the characteristics and correct manipulation of direct and indirect restorative materials.
13. Describe amalgam safe handling and hazards management techniques.
14. List and describe the steps for manual, pressed and milled fabrication of ceramic/metal restorations.
15. Describe the use of CAD/CAM technology to fabricate restorations.
16. Describe dental solder and wrought metal techniques used in dentistry.
17. List and describe the steps to fabricate a dental die and wax pattern.

**F. LEARNING OUTCOMES (MNTC):** NA**G. METHODS FOR EVALUATION OF STUDENT LEARNING:** Methods may include but are not limited to:

1. Weekly quizzes
2. Written assignments
3. Skill Evaluations
4. Comprehensive Final Examination

**H. RCTC CORE OUTCOME(S).** This course contributes to meeting the following RCTC Core Outcome(s).  
**Critical Thinking.** Students will think systematically by integrating skills and using a variety of appropriate resources and methods.

**I. SPECIAL INFORMATION (if any):** None