



Wayne County Community College District

COURSE SYLLABUS

DA 104 Dental Materials

CREDIT HOURS: 5.00

CONTACT HOURS: 75.00

COURSE DESCRIPTION: A lecture and laboratory course which provides the student with a fundamental knowledge of the Dental cements and materials commonly used in dental practice. Lecture: Presents physical, chemical, and manipulative characteristic of impression materials, cements, bases, cavity liners, cavity varnishes, waxes, composites, gypsum products, metals, and resins. Laboratory: Prepares students to correctly manipulate dental cements and materials. Students also acquire the skill to obtain preliminary impressions and occlusal registrations; pour, trim and polish study casts; fabricate custom impression trays from preliminary impressions; and demonstrate mixing techniques for dental cements and impression materials.

PREREQUISITES: Program Approval

EXPECTED COMPETENCIES:

Upon completion of this course, the student will be familiar with:

- Explain the types of dental restorative materials; list the standards and the organization responsible for the standards.
- Explain the role of the dental assistant.
- List and explain the properties of dental materials.
- List the types of materials used to restore cavity preparations.
- Identify the types of dental cements and explain their properties, compositions, uses, and manipulation.
- Describe bonding agents and their manipulation.
- Identify the types of direct restorative materials and where they are used
- Explain the properties, the composition, and the manipulation of dental amalgam;
- Explain the composition of composite resins
- Explain the use of glass ionomer cements and restorative materials.
- Explain the use of composites.
- Identify the materials used in the dental laboratory and perform the associated procedures.
- Identify the different classifications and uses of dental waxes.
- Explain the different options for protecting the pulp with cavity liners, cavity varnish, and cement bases.
- Describe the purpose of using cavity liners. List the types of materials that can be used and explain the placement procedure.
- Describe the purpose of using cavity varnish and explain the placement procedure.
- Describe the purpose of using cement bases. List types of materials that can be used and explain the placement procedure.
- Explain the benefits of the bleaching process in dentistry.
- List and describe the types of bleaching techniques and describe the procedures for dental office bleaching for vital and nonvital, and for home bleaching.



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- 20 Explain information given to the patient concerning outcomes, procedures, responsibilities and precautions related to bleaching.
 - Explain the process of preparing lab cases within infection control guidelines.
 - Demonstrate knowledge and skills needed to prepare, take, and remove alginate impressions and wax bites;
 - Demonstrate knowledge and skills necessary to prepare reversible hydrocolloid impression material for the dentist.
 - Demonstrate knowledge and skills necessary to prepare elastomeric impression materials such as polysulfide, silicone, and polyether for the dentist.
 - Demonstrate knowledge and skills necessary to use gypsum products such as Type I impression plaster, Type II laboratory or model plaster, Type III laboratory stone, Type IV die stone, and to pour and trim a patient's alginate impression (diagnostic cast)
 - Demonstrate knowledge and skills necessary to fabricate acrylic tray resin self-curing and light curing custom trays, vacuum-formed, and thermoplastic custom trays, and mouthguards.
 - Demonstrate knowledge and skill to work with a vacuum-formed tray.
 - Demonstrate knowledge and skill to fabricate a bleaching tray (in office bleaching)
 - Demonstrate knowledge and skill to operate a laboratory lathe
 - Demonstrate knowledge and skill to operate a laboratory Dremel

ASSESSMENT METHODS:

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

GRADING SCALE:

90%-100%	= A
80%-89.9%	= B
70%-79.9%	= C
60%-69.9%	= D
<60%	= E