

Course Description

DES 2100 | Dental Materials and Specialties | 2 credits

This course introduces the dental hygiene student to the composition, chemical and physical properties, manipulation and uses of dental materials. This course acquaints the student with the various specialties within the dental profession.

Course Competencies

Competency 1:

The student will demonstrate knowledge, comprehension, and application of the handling of dental materials by:

- a) Identifying job-related health and safety hazards in a dental office and explaining methods of prevention.
- b) Explaining the components of the Occupational Safety and Health Administration Hazard Communication Standard.
- c) Describing the ways chemicals can enter the body.
- d) Describing the employee and employer responsibility for safety training.
- e) Creating a label for a dental material using a Material Safety Data Sheet.

Learning Outcomes

- Communication
- Numbers / Data
- Critical Thinking
- Information Literacy
- Environmental Responsibility
- Computer / Technology Usage
- Aesthetic / Creative Activities
- Ethical issues

Competency 2:

The student will demonstrate knowledge, comprehension, and application of the physical properties of dental materials by:

- a) Listing the different classes of dental materials and providing an example of each.
- b) Describing the clinical importance of thermal conductivity.
- c) Describing the clinical importance of the coefficient of thermal expansion of materials.
- d) Defining hardness and describing how hardness contributes to abrasion resistance.

Learning Outcomes

- Communication

- Numbers / Data
- Critical Thinking
- Information Literacy
- Environmental Responsibility
- Computer / Technology Usage
- Aesthetic / Creative Activities
- Ethical issues

Competency 3:

The student will demonstrate knowledge, comprehension, and application of the oral environment and how it affects dental materials and patients by:

- a) Describing the three types of mechanical forces.
- b) Defining and naming four types of stress: compression, tension, shear, & bending.
- c) Defining strain, and comparing the strain of rubber impression materials to gold alloys.
- d) Explaining adhesion and its significance in dentistry.

Learning Outcomes

- Communication
- Numbers / Data
- Critical Thinking
- Information Literacy
- Environmental Responsibility
- Computer / Technology Usage
- Aesthetic / Creative Activities
- Ethical issues

Competency 4:

The student will demonstrate knowledge, comprehension, and application of impression materials by:

- a) Comparing inelastic and elastic impression materials, for their composition, setting behavior, use, and physical characteristics.
- b) Describing the disinfection technique for impression materials.
- c) Providing examples of inelastic and elastic impression materials.
- d) Stating how the term irreversible hydrocolloid applies to alginate.

Learning Outcomes

- Communication
- Numbers / Data
- Critical Thinking
- Information Literacy
- Environmental Responsibility
- Computer / Technology Usage
- Aesthetic / Creative Activities
- Ethical issues