DA 1815- Dental Materials Course Information

Common Course Outline

Description:
Dental Materials is designed to provide fundamental knowledge of dental materials, their purpose, composition, manipulation, properties and storage as utilized in the dental practice and laboratory setting. 3 credits (2 Lecture / 1 laboratory / 0 OJT) (Prerequisites: DA 1811, DA 1812)

Instructional Level:
Associate Degree

Total Credits: 3

Total Hours: 64

Prerequisites / Corequisites
Prerequisite: Pre-Requirements: DA 1811 Dental Science I, DA 1812 Oral Anatomy

Course Competencies

Define dental material terminology
Learning Objectives
Define specific dental material terminology
Demonstrate correct terminology usage

Identify dental material historical developments and contributors
Learning Objectives
Review the historical development of dental materials
Identify individuals and their contributions to dental material development
Explain dental material importance, standards, agencies and requirements
Explain consumer product information and the ADA seal requirements

Describe the oral environment and clinical patient considerations
Learning Objectives
Describe the clinical requirements of therapeutic and restorative dental materials
Describe oral environment the effects and clinical consideration in relationship to dental materials
Describe biocompatibility, patient safety and infection control measures with dental materials
Discuss dental material selection criteria

Identify bio-materials properties, handling criteria and safety considerations
Learning Objectives
Explain the states of matter, its physical structure and defining characteristics
Describe the dental material classifications, methods and usage
Explain dental material physical properties and their interrelationships
Describe dental material long-term/short-term effects, clinical significance and requirements

Select appropriate dental material armamentarium, equipment and supplies
Learning Objectives
Identify essential equipment and supplies needed for dental material procedures
Explain appropriate equipment utilization, function and safety features
Demonstrate correct equipment utilization and storage
Describe dental material manipulation, storage and handling variables

Learning Objectives
- Explain dental material physical, mechanical and chemical reactions
- Explain dental material manipulation techniques, working and setting times and handling variables
- Demonstrate dental material selection criteria, manipulation, application and storage
- Demonstrate correct dental material safety criteria, handling and infection control measures

Describe dental material bonding properties

Learning Objectives
- Define primary and secondary bonding principles and properties
- Explain dental material mechanical, chemical and physical bonds and retention
- Describe adhesion and cohesion properties, contributing factors and practical application
- Demonstrate correct bonding principles and clinical applications of dental materials

Explain abrasion, finishing and polishing of dental materials

Learning Objectives
- Discuss the purpose of abrasion, finishing, polishing and cleansing
- Identify the factors affecting the rate and efficiency of abrasion and finishing
- Identify application methods of abrasion listing indications and contraindications and contributing factors
- Finish and polish a preexisting amalgam and composite restoration

Describe primary restorative dental materials

Learning Objectives
- Identify esthetic and amalgam restorative materials, functions and composition
- Explain dental material clinical selection criteria, indications and contra-indications
- Explain restorative dental material advantages and disadvantages
- Demonstrate correct manipulation and handling of amalgam and esthetic restorative dental materials

Identify dental ceramics, cast and wrought materials

Learning Objectives
- Describe dental restoration types, alloy types and selction criteria
- Define ceraminc metarism, shade taking, chroma, value and hue
- Explain fabrication methods, CAD/CAM technology and common failures
- Demonstrate CAD/CAM technology

Demonstrate dental material SOP procedures and processes

Learning Objectives
- Demonstrate correct application of dental materials
- Demonstrate standard operating procedures for dental material procedures and utilization
- Complete laboratory and clinical dental material procedures

Demonstrate laboratory competencies

Learning Objectives
- Demonstrate accurate dental materials manipulate
- Complete pouring and trimming dental gypsum product procedures and competencies
- Complete required dental impressions, bite registrations, and custom tray procedures and competencies
- Demonstrate correct dental cement manipulation, application and competencies
- Complete esthetic and dental amalgam dental restorations and competencies
- Complete provisional restorations and use of miscellaneous materials

Published: July 9, 2013