

DLT 222
ADVANCED CERAMIC TECHNIQUES

COURSE DESCRIPTION:

Prerequisites: DLT 217

Corequisites: None

This course covers the fabrication of metal-ceramic bridges; all-ceramic crowns; and shading, staining, and personalizing ceramic restorations. Emphasis is on bonding dental porcelain on base metal alloys, margination, contouring, shading, and soldering. Upon completion, students should be able to fabricate ceramic-to-metal bridgework. Course Hours Per Week: Class, 2. Lab, 9. Semester Hours Credit, 5.

LEARNING OUTCOMES:

The student will:

- a. Practice proper infection control procedures.
- b. Apply principles of occlusion in the construction of a ceramic restoration.
- c.

- A. Classroom lecture
 - 1. Presentation
 - a.) Types of margins

Ideal

Identification

Uses of each

- b.) Proper trimming of models
 - 2. Application
- B. Reference: Fixed Restorative Techniques, UNC pages 21-25

III. Forming wax framework for porcelain-to-metal bridges

- A. Classroom lecture
 - 1. Presentation
 - a.) Slide presentation on design
 - b.) Margin adaptation
 - c.) Lingual formations for bridges
 - 2. Application
- B. Demonstration - waxing the copings and pontics for bridges
- C. Reference: Metal Ceramic Technology, Naylor pages 43-62

IV. Spruing and investing ceramic bridge framework

- A. Classroom lecture
 - 1. Presentation
 - a.) Methods of spruing
 - b.) Advantages and disadvantages
 - c.) Distortion of ceramic wax ups

Why it is present

How to eliminate

- 2. Application
- B.
- C. Reference: Metal Ceramic Technology

1. Presentation
 - a.) Stones
 - b.) Diamonds
 - c.) Thickness of metal
 - d.) Contamination
 - e.) Handling the metal
 2. Application
- B. Demonstration - contouring the framework
- C. Reference: Metal Ceramic Technology, Naylor pages 93-105

VII. Opaquing metal framework and copings

- A. Classroom lecture
1. Presentation
 - a.) Consistency
 - b.) Thickness
 - c.) Modifications
 - d.) Application of porcelain
 2. Application
- B. Demonstration - opaquing the coping and framework
- C. Reference: Metal Ceramic Technology, Naylor pages 121-126

VIII. Building porcelain on bridge framework

- A. Classroom lecture
1. Presentation
 - a.) Consistency
 - b.) Modifications
 - c.) Application of porcelain
 - d.) Reduction of incisal edge
 - e.) Application of incisal porcelain
 2. Application
- B. Live demonstration
1. Packing-baking the single crown
 2. Packing-baking the bridge
- C. Reference: Metal Ceramic Technology, Naylor pages 115-144

IX. Review firing of porcelain -- one half hour

X. Soldering of high fusing metal before applications of porcelain

- A. Classroom lecture
1. Presentation
 - a.) Investment used and why
 - b.) Preparation of metal
 - c.) Investing of metal
 - d.) Adjustment of flame
 - e.) Comparison with casting flame
 - f.) Visual appearance
 2. Application
- B. Demonstration - soldering the framework
- C. Reference: Metal Ceramic Technology, Naylor pages 106-113

XI.

4. Polishing metal collars

C. Reference:

1. Fixed Restorative Techniques, UNC
2. Metal Ceramic Technology, Naylor

XIV. Occlusion:

A. Principles of occlusion

B. Determinants of occlusal morphology and physiology

C. Physiology of mandibular movements as they related to the fabrication of dental restorations

D. Instruction sources:

1. Air Force Manual 162-6, Vol. III Pages 49-61
2. UNC Fixed Restorative 1972 Section 9, pages 79-96

REQUIRED TEXTBOOKS AND MATERIALS:

Sowter, Fixed Restorative Techniques, UNC Press.

Biobond Technique Manual, Dentsply International.

Metal Ceramic Technology, Naylor.

STATEMENT FOR STUDENTS WITH DISABILITIES: