I. CATALOG DESCRIPTION:

This course stresses physical properties and applications of metals used in dentistry as well as dental porcelain and dental polymers. Chairside and laboratory procedures necessary for fixed and removable prosthodontics will be studied and practiced.

II. EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:

Upon completion of the course, the student will be able to:

1. Demonstrate a basic understanding of the composition and use of dental golds and nonprecious alloys.
   1.1 Identify the basic physical properties of metals.
   1.2 Differentiate the composition and properties of high noble, noble, and base metal alloys.
   1.3 Compare the composition, properties, and uses of metals used for casting partial denture frameworks.
   1.4 Explain the composition, use, and properties of solder.
   1.5 Discuss the metals used for orthodontic brackets, band, wires, implants, posts, and endodontic files/reamers.
II. EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES: (con’t)

2. Demonstrate a basic understanding of the types, selection, composition, and uses of dental porcelain.
   
   2.1 Explain the various uses of dental porcelain.
   2.2 Identify the components of dental porcelain.
   2.3 Describe the types of porcelain used in dentistry.
   
   2.4 Explain the classifications of dental porcelain.
   2.6 Explain laminate veneers - know advantages, indications for veneers, know types of veneers used in dentistry, and procedures involved.

3. Demonstrate a basic understanding of the laboratory procedures necessary to fabricate temporary and permanent fixed prosthetic appliances.
   
   3.1 Fabricate/fit a metal, polycarbonate, and custom provisional restoration.
   3.2 List and explain the steps in the construction of a wax pattern through the casting and finishing of a full veneer crown, an inlay or onlay, and a ceramic veneer crown.
   3.3 Describe the process of applying a porcelain veneer to a casting.
   3.4 List the information that must be included on a work order for the dental technician to fabricate a fixed prosthetic appliance.
   3.5 Describe the functions of a pontic and how it relates to fixed bridgework.

4. Demonstrate a basic understanding of removable prosthetic procedures.
   
   4.1 Discuss the intra- and extraoral factors that influence the consideration for fixed prostheses.
   4.2 Differentiate between various types of removable prostheses.
   4.3 Outline the typical appointment schedule for common removable prostheses.
   4.4 Define the components of a removable prosthesis.
   4.5 Describe the role of the chairside assistant in the preparation and delivery of removable prostheses.
   4.6 Describe the basic procedural steps necessary to create a removable prosthesis.
   4.7 Describe home care for removable prostheses.
   4.8 Clean and polish removable prostheses.
   4.9 Describe various types of overdentures and the functions they provide.
   4.10 Define the various types of implants and describe the implant process.
II. EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:  
(con’t)

4.11 Construct custom impression trays.
4.12 Describe the advantages and disadvantages of chairside and laboratory denture relines and the processes for both.

II. COURSE CONTENT:

I. Gold and nonprecious alloys
   A. Properties of metals
   B. Dental golds
      1. Direct filling gold
      2. Casting gold alloys
   C. Cobalt - chromium alloys
   D. Palladium - silver alloys
   E. Nickel alloys
   F. Titanium alloys
   G. Composition and use of alloys
   H. Wrought metals

II. Dental porcelain
   A. Uses of dental porcelain
      1. Denture teeth
      2. Jacket crowns
      3. Bridge work
      4. Inlays, onlays
      5. Veneers
   B. Composition
   C. Types of porcelain
      1. Core/opaque layer
      2. Incisal
      3. Gingival
   D. Classification of porcelain
   E. Color
   F. Porcelain crowns
   G. Laminate veneers

III. Fixed prosthetics
   A. Construction and placement of temporary crown
   B. Laboratory procedures
      1. Pouring impressions
      2. Articulating casts
      3. Wax pattern construction
      4. Investing wax pattern
      5. Removal of sprue
      6. Burn-out of wax pattern
      7. Casting
III. COURSE CONTENT: (con’t)

8. Pickling, finishing, polishing
C. Use of pontic
D. Ceramic veneer crowns
   1. Construction of casting
   2. Application of ceramic veneer

IV. Removable prosthodontics
A. Intraoral and extraoral factors
B. Types of removable prostheses
C. Components of removable prostheses
D. Role of the dental assistant
E. Appointment sequence for removable prostheses
F. Laboratory procedures
G. Overdentures
H. Implants

IV. INSTRUCTIONAL METHOD:

Lecture

Class discussion

Transparencies

Demonstrations

Laboratory projects

Exams and quizzes

Actual practice using dental materials and equipment

V. INSTRUCTIONAL MATERIALS:

Miscellaneous transparencies

Laboratory materials, equipment, and miscellaneous supplies
VI. STUDENT REQUIREMENTS AND METHODS OF EVALUATION:

Lecture: Reading assigned materials, note taking and participation in classroom discussion is expected.

Written examinations are used to evaluate student progress following each unit. A comprehensive final exam will be given at the end of the semester. All of the grades from these exams will be averaged equally to determine the student’s final lecture grade.

Laboratory: Students are required to complete all assigned projects.

Students are responsible for the cleanliness of the laboratory and must follow the posted laboratory rules.

Final Grade: A grade of “C” is required in the lecture portion and in the laboratory portion of this course for graduation from the Dental Assisting Program.

The student’s final grade will be calculated: 50% lecture grade 50% laboratory grade

The following grading scale will be used as a guide in determining the grade for this course:

A= 90 - 100%
B= 80 - 89%
C= 70 - 79%
D= 60 - 69%
F= 0 - 59%

For attendance and testing policies, see the Dental Assisting Student Handbook.

VII. REFERENCES:


References:

VII. REFERENCES: (con’t)


