**Objectives:**

Summary of main learning outcomes for students enrolled in the course.

**At the end of this course the student will be able to:**

- Show evidence of knowledge of the design of the retainers and pontics according to the case.
- Biologically and esthetically treat patients in need of fixed prosthodontics, so that all functional and mechanical requirements are met.
- Have adequate knowledge to work in harmony with a certified dental technologist.
- Demonstrate the ability to carry out the laboratory steps resulting in the satisfactory completion of several units of crowns or fixed partial dentures for patients.
- Have thorough understanding of the integration between fixed prosthodontics and the basic sciences.
- Solve some problems that could be faced by the clinician during crown and fixed partial denture work.

**Course Content:**

1) **Diagnosis & treatment planning**

- Student should be able to demonstrate ability:
  - To diagnose clinical cases properly by proper data collection.
  - To formulate treatment options for each patient needs.
  - To set out priority during treatment.
  - To execute treatment sequence with regard to periodontal status of the patient.

- Student should be able to demonstrate knowledge of factors to consider during treatments.

**Examination of occlusion**

- Student should be able to demonstrate knowledge of:
  - Muscles of mastication origin and insertion, and nerve supply
Border movement of the mandible
- Occlusal scheme classification.
- The importance of custom incisal table and their clinical application

- Student should be able to evaluate occlusion and occlusal plane

Revision on all types of preparation

- Student should be able to demonstrate knowledge of:
  - Classification of full and partial coverage extra-coronal preparations
  - Advantages, disadvantages, indications and contraindications for full & partial coverage restorations
  - Finish lines and indications of each.

Effect of tooth loss & types of bridges

- Student should be able to demonstrate knowledge of causes of tooth loss & consequences of removal without replacement
- Students are introduced to different historical fixed partial denture prosthesis designs

Restorative and prosthetic considerations in periodontal health and disease

- Student should be able to demonstrate knowledge of:
  - Biological width
  - Location of the restoration margin relative to the biological width
  - Fabricating proper temporary and final restorations conducive to optimal plaque control.

- Student should be able to diagnose of root fracture and its effect on the periodontium

Tissue management and impression techniques

Student should be able to demonstrate knowledge of the basic clinical steps of tissue management and impression registration. Student’s should be able to identify impression defects and take measures to avoid these defects.

Framework design and metal selection for PFM restorations

- Student should be able to demonstrate knowledge of the following:
- Advantages of metal-ceramic restorations
- Composition of metal-ceramic restorations
- Design of metal substructure
- Cut-back technique and its advantages
- Metal selection according to the case
- Compatibility between metal and overlying porcelain
- Classification of dental casting alloys, uses, advantages, and disadvantages of each

Color and shade selection

- Student should be able to demonstrate knowledge of:
  - Color Systems & dimensions of colors
  - Munsell System
  - CIE LAB color system
  - Color measurement
    a) Visual
    b) Instrumental methods
  - Light Sources and the ideal light source for shade matching
  - Factors affecting color perception
  - Factors affecting the color of porcelain restorations
  - General guidelines for shade selection

Porcelain application on PFM restorations

- Student should be familiar with:
  - Layers of porcelain covering the metal coping
  - Porcelain application techniques
  - Porcelain surface treatments

Resin bonded bridge

- Student should be able to demonstrate knowledge of:
  - Basic principles for resin-bonded fixed partial denture
  - Advantages, disadvantages, indications, contraindications & frame work design
- Resin-bonded fixed partial denture classification
- Preparation of abutment teeth

**Modification of badly destructed endodontically treated teeth**

Student should understand guidelines for modification of badly destructed teeth

**Fiber-reinforced composite fixed prostheses**

Student should be able to demonstrate knowledge of fiber-reinforced composite (FRC), indications, contraindications, advantages and disadvantages, clinical application, and laboratory procedures

**All-ceramic restorations**

- Student should be able to demonstrate knowledge of the following:
  - Strengthening mechanisms of dental ceramics
  - All-ceramic systems
  - Proper selection of all-ceramic systems & rational of using each system

**Cements and cementation procedures**

- Student should be able to demonstrate knowledge of the following:
  - Classification of luting cements
  - Provisional cementation
  - Definitive cementation
  - Advantages and disadvantages of each type cement
  - Choice of luting agents
  - Cementation procedures & steps in preparation of the restoration and tooth surface for cementation.

**Laminate veneers**

- Student should be able to demonstrate knowledge of:
  - Indications, contraindications, advantages, disadvantages, and preparation of laminate veneers.
  - Impression taking: indirect and direct technique (computerized reconstruction)
  - Prebonding procedures
- Cementation and finishing
- Combined bleaching-porcelain veneers treatment

**Esthetics in fixed prosthodontics**

Student should be able to demonstrate knowledge of esthetic diagnosis and treatment plan
Student should be familiar with tools, materials and techniques used to prepare better esthetics

**Bridge failure**

Student should demonstrate knowledge of the
different causes of fixed prosthesis failure
different types of failure (biological, mechanical, or esthetic)
procedures that are necessary to remedy the situation

**Post operative care**

Student should be able to demonstrate knowledge of application of clinical protocols for
c几点 cementation appointments, OHI, & periodic recall

**Implant supported fixed prostheses**

- Student should be able to demonstrate knowledge of the following:
  - Types of implant retained prosthesis
  - Implant components
  - Surgical and restorative procedures
  - Cement retained versus screw retained prosthesis

**Competency Statement:**

* This course combines basic science with practical work.
* The readings and lectures provide a base of knowledge that students can use in practical work.
* Clinics urge the student to apply their knowledge on practice.

* The goal of this course is to provide adequate technical detail for construction of crowns and bridges and to overcome on some problems encountered in clinical and laboratory work.

**Learning Resources:**

1. *Required Text (s)*
   - Contemporary Fixed Prosthodontics by Rosenstie F et al., 4rd ed., 2006 (CFP)
   - Fundamentals of Fixed Prosthodontics by Shillingburg et al., 19(FFP)
2. *Essential References*
   2. Management of Temporomandibular Disorders and Occlusion

3. Recommended Books and Reference Material (Journals, Reports, etc.) (Attah List)
   Dental school library 1st floor building 120

4. Electronic Materials, Web Sites etc
   DA (American Dental Association): http://www.ada.org
   ACP (American College of Prosthodontists): http://www.prosthodontics.org
   Science Direct: http://www.sciencedirect.com

5. Other learning material such as computer-based programs/CD, professional standards/regulations
   Dental school library 1st floor building 120