Prosthodontics

Theoretical: It studies how to manufacture removable bridges for patients who have partially lost their teeth, materials, devices used and techniques.

Practical: In the second episode of the educational laboratories for the dental industry, it is relatively simpler than the previous stage due to the repetition of steps that may differ only with the presence of wires installed for bridges and the choice of a different design for each case

Different Learning Methods in the Department of Dentistry

A- Auditory method: This method depends on communicating information in the form of sounds that are heard by the learner for analysis and storage.
B- Visual method: in which information is communicated by displaying color images, videos or any form of visual educational aids.
C- Reading method: It is one of the methods that depend on reading information to understand and store it.
D. Interdisciplinary professional education where dental students collaborate with other healthcare professionals, to promote a holistic approach to patient care.

Different evaluation methods for students in the Department of Dentistry

Daily tests with multiple-choice questions for subjects that require practical skills.
B- Daily exams with practical questions.
C- Semester and final exams.
D- Setting grades for the assigned homework .
H- Grades of participation of questions competing for the subjects of study.
G- Daily evaluation of the student's work in scientific laboratories and educational clinics.

Learning Outcomes for Dental Courses

Using health information technology in oral and dental health care effectively.

Apply appropriate professional, ethical and legal standards in the provision of patient care in accordance with health care rules and regulations.

Providing graduates with scientific knowledge and professional skills in the fields of oral and dental surgery, dental prosthesis, dental preservation, orthodontics, pediatric dentistry, periodontal pathology and surrounding tissues

Knowledge of the principles of oral and dental health and understanding of the development, prevention and treatment of related diseases

Health promotion and disease prevention to serve the community.
Integrating basic and medical sciences into healthcare practice.
Develop decision-making and problem-solving skills in healthcare.
Evaluate the state of oral and dental health and the medical condition of the patient, request the necessary diagnostic analyzes, and interpret the results of various analyzes to reach the appropriate diagnosis.
Prepare a care plan for the prevention and treatment of diseases taking into account the needs of the patient.
Demonstrate competence in performing procedures safely in all aspects of dentistry and prevent injuries arising from treatment.
Providing graduates with theoretical knowledge and laboratory and clinical skills that increase the effectiveness of diagnosis.
Preparing dental graduates and training them to become distinguished in various fields of dentistry.

Lesson name and units

Subject	***1st Semester hours/week***		***2nd Semester hours/week***		***Units***	***Code***
	Theory	*Practical*	*Theory*	*Practical*		
4. Prosthodontics	1	٢	1	٢	4	PR321

Department of prosthodontics / A- Basic information

1-Subject title	**Prosthodontics**	
2-Number of credits	Theory:2	Clinical:2
3-Number of contact hours	Theory:1h/ wk.	Laboratory 2h/wk.
4-Subject time	Third Year	

No.	**Title of The Lectures**		**Hours**

1	Introduction to Removable Partial Dentures	• Partial dentures • Removable partial denture (RPD) • Objectives for RPD construction • Causes of teeth loss • Indications of removable partial dentures • Fixed partial denture • Indications for fixed partial denture • Dental implant therapy • Contraindications for dental implant therapy • Terminology and re-finishing	**1**
2	Classification of Partially Edentulous	• Need for classification.	**1**

	Arches	• Requirements of an acceptable method of classification • Removable partial dentures may be classified according to the type of support • Removable partial dentures may be classified according to the type of material • Removable partial dentures may be classified according to the type of treatment • Classification based on arch configuration • Kennedy – Applegate – Fiset classification system. • Applegate's rules governing the application of the Kennedy classification method	
3	Surveying	• The ideal requirements for successful removable partial denture • Purposes (Objective) of Surveying the Diagnostic Cast • Advantages of single path of placement (insertion) • Guiding planes • Dental surveyor • Types of dental surveyors • Parts of dental surveyor (Ney type surveyor)	**1**
4	Surveying (continue)	• Principles of surveying • Types of undercuts established by surveying • Factors that determine and affect the path of placement (insertion) and removal of the RPD	**1**

		• Rules of surveying	
5	Component Parts of a Removable Partial Denture	• Main components of RPD • Major connectors • Requirements of major connectors • Guidelines for design and location of major connectors • Characteristics of major connectors	**1**
6	Maxillary Major Connectors	• Special Structural Requirements for Maxillary Major Connectors • Types of Maxillary Major Connector • Single palatal bar • Single palatal strap • Anterior-posterior palatal bars • Combination anterior and posterior palatal strap–type connector • Palatal plate-type connector • U-shaped palatal connector	**1**
7	Mandibular Major Connectors	• Special structural requirements • Types of mandibular major connectors ✓ Lingual bar ➢ Methods that may be used to determine the relative height of the floor of the mouth ✓ Lingual plate (linguoplate) ➢ The indications	**1**

		for the use of linguoplate ✓ Double lingual bar (lingual bar with cingulum bar) ➢ Indications for use of double lingual bar ✓ Labial bar ➢ Indications for use of labial bar ➢ Characteristics and location	
8	Minor Connectors	• Definition • Functions • Form & location • Basic types of minor connectors • Tissue stops • Finishing lines • Reaction of Tissue to Metallic Coverage	**1**
9	Rests and Rest Seats	• The purposes of the rest in general • Occlusal Rest • Extended Occlusal Rest • Interproximal Occlusal Rest • Internal Occlusal Rests • Occlusal Rest Seat Preparation • Occlusal Rests on Amalgam Restorations • Occlusal Rest on Crowns • Lingual Rests (Cingulum Rest) • Incisal Rests and Rest Seats • Implants as a Rest	**1**
10	Retention and Removable Partial Denture Retainers	• Direct retainers • Indirect retainers • The extra coronal retainer	**1**

		(Clasp type) • Component parts, Function, and position of clasp assembly parts • Factors affecting the magnitude of retention • The basic principles of clasp design	
11	Extra Coronal Direct Retainers (Types of clasp assemblies)	• Clasps designed without movement accommodation. • Circumferential (Circle or Akers) clasp • Ring-type clasp • Embrasure (double Akers) clasp • Back action clasp • Multiple clasps • Half-and-half Clasp • Reverse-action clasp (Hairpin) • Disadvantages of circumferential clasps in summary • Clasps designed to accommodate distal extension functional movement • RPI clasp • Bar-type clasp assembly • RPA clasp; Akers clasp • Infra-bulge clasp • Combination clasp	**1**
12	Intracoronal Direct Retainers (Internal Attachments, Precision Attachments	• Internal attachments • Precision Attachments ✓ Some indications for precision attachments ✓ Some of the contraindications for precision attachments ✓ The main types of precision attachments	**1**

		• Selection of an Attachment for a Removable Partial Denture	
13	Stress-Breakers (Stress Equalizers)	• Stress breakers ✓ Types of stress breakers	**1**
14	Indirect Retainers	• The main factors influencing the effectiveness of an indirect retainer • The auxiliary functions of indirect retainers • Forms of Indirect Retainers	**1**
15	Indirect Retainers (continue)	• Auxiliary occlusal rest • Lingual rest • Incisal rest • Canine extensions from occlusal rests • Cingulum bars (continuous bars) and linguo-plates • Modification areas • Rugae support	**1**
16	Laboratory procedures in RPD construction: Blockout and Relief	• Blockout and relief • Cast preparation • Types of blockout of master cast ✓ Parallel blockout ✓ Shaped blockout ✓ Arbitrary blockout • Relieving the master cast • Purpose of relief • Sites • Tissue Stops	**1**
17	Laboratory procedures in RPD construction: Duplication and Refractory Cast Construction	• Duplicating a stone cast • Duplicating material and flask • Impression • Refractory cast	**1**

18	Laboratory procedures in RPD construction: Wax Pattern	• Waxing the framework • Spruing • General rules for spruing • Investing the sprued pattern • Purpose of investment • Burnout	**1**
19	Laboratory procedures in RPD construction: Casting and Finishing	• Casting • Casting recovery • Finishing the framework • Sprue removal	**1**
20	Denture Base in RPD	• The primary function of denture base • Types of denture base according to support • Types of the denture base according to materials • Advantages of metal denture base • Disadvantages of metal denture base • Design consideration of denture base • Periodontal consideration of denture base design • Types of artificial teeth	**1**
21	Record Bases, Occlusion Rims, Mounting and Arrangement of Teeth	• Record bases • Types of record bases according to materials constructed from it • Occlusion rims • Occlusion rims for static jaw relation records • Occlusion rims for recording functional or dynamic jaw relationship record • Mounting casts on the articulator	**1**

		• Arrangement of artificial teeth to the opposing cast • Principles that should be taken during arrangement of artificial teeth • Laboratory procedure of arrangement teeth (Example)	
22	Biomechanics of Removable Partial Dentures	• Biomechanical considerations • Possible movements of partial dentures • Tooth-tissue–supported prosthesis	**1**
23	Biomechanics of Removable Partial Dentures (continue)	• Tooth-supported partial denture • Occlusal Rest Seat Preparation and Denture Movement • Impact of Implants on Movements of Partial Dentures	**1**
24	Principles of Removable Partial Denture Design	• Difference in Prosthesis Support and Influence on Design • Differentiation Between Two Main Types of Removable Partial Dentures	**1**
25	Principles of Removable Partial Denture Design (continue)	• Components of Partial Denture Design • Implant Considerations in Design	**1**
26	Clinical Phases of Removable Partial Denture Construction.	• 1st Phase: Education of patient • 2nd Phase: Diagnosis, Treatment Planning, Design, Treatment Sequencing, and Mouth	**1**

		Preparation • 3rd Phase: Support for Distal Extension Denture Bases • 4th Phase: Establishment and Verification of Occlusal Relations and Tooth Arrangements • 5th Phase: Initial Placement Procedures • 6th phase: Periodic Recall	
27	Acrylic Removable Partial Dentures	• Acrylic removable partial dentures • Appearance • Maintenance of space • Reestablishment of occlusal relationships • Conditioning of teeth and residual ridges • Interim restoration during treatment • Conditioning the patient for wearing a prosthesis • Clinical procedure for placement	**1**
28	Flexible Removable Partial Dentures	• Flexible removable partial dentures • Type of material used for the flexible denture • Support • Retention	**1**
29	Repairs and Additions to Removable Partial Dentures	• Broken clasp arms • Several reasons for breakage of clasp arms • Fractured occlusal rests • Distortion or breakage of other components – major and minor connectors • Addition of a new	**1**

		artificial tooth to a RPD • Repair by soldering	
30	Digitally Designed & Fabrication Process of RPD Framework Using CAD/CAM System	• Components of CAD/CAM system • Types of Digital Scanner • Digital RPD Framework Design (step by step) • Digital Fabrication Process	**1**
Total			**30**

Laboratory sessions

Lab number	Study unit title	Hours
1	Introduction to Removable Partial Dentures	**2**
2	Kennedy Classification	**2**
3	Cast Trimming	**2**
4	Surveying	**2**
5	Surveying	**2**
6	Wire Bending	**2**
7	Wire Bending	**2**
8	Acrylic Removable Partial Denture Design	**2**
9	Acrylic Removable Partial Denture Laboratory Procedures	**2**
10	Acrylic Removable Partial Denture Laboratory Procedures	**2**
11	Flexible Partial Denture Design	**2**
12	Flexible Partial Denture Laboratory Procedures	**2**
13	Flexible Partial Denture Laboratory Procedures	**2**
14	Flexible Partial Denture Laboratory Procedures	**2**
15	Principles of 2D Design for the Removable Partial Denture s	**2**
16	Principles of 2D Design for the Removable Partial Denture s	**2**
17	Principles of Drawing 2D Design for the Removable Partial Dentures	**2**
18	2D Design for Mandibular & Maxillary Arches	**2**
19	2D Design for Mandibular & Maxillary Arches	**2**
20	2D Design for Mandibular & Maxillary Arches	**2**
21	Drawing Removable Partial Denture 3D Design & CAD/CAM	**2**
22	Drawing Removable Partial Denture 3D Design & CAD/CAM	**2**
23	Types of Rests	**2**
24	Rest Seat Preparation	**2**
25	Block Out and Relief	**2**
26	Block Out and Relief	**2**
27	Duplication Of the Master Cast	**2**
28	Wax Pattern for the Removable Partial Denture Framework	**2**
29	Wax Pattern for the Removable Partial Denture Framework	**2**

30	Framework Fabrication	**2**
Total		**60**