

Scientific Content for Faculty of Oral and Dental
Medicine Kafrelsheikh University

Course Title	Course content	No. of hours	
First year		theoretical	practical
General Anatomy	The skull – the mandible – the scalp – the face – temporal region – infra temporal region- parotid gland – side of the neck – anterior triangle of the neck – submandibular region –deep structure of the neck – lateral muscle of the neck – oral cavity – blood supply of the oral tissue – sensory innervation of oral tissue – lymphatic drainage of the oral tissue – pharynx – the nose – paranasal sinuses- temporal mandibular joint – dural venous sinuses- female reproductive organ – oogenesis – spermatogenesis – prenatal periods pharyngeal arch – development of the mouth face nose and palate – fertilization and formation of germ layer – skeleton of body – the joints	2	2
General Histology	Cytology – epithelium – nucleus – connective tissue – cartilage – bone – blood – lymphatic system – muscular tissue – nervous tissue – vascular system – the skin – histology of digestive glands – histology of endocrine system	1	2
General Physiology	Blood – central nervous system – respiration – cardiovascular system – endocrine – metabolism – digestion – autonomic nervous system	3	2
Biochemistry	The main components of living organism and their biochemical importance – carbohydrate chemistry and metabolism – lipid chemistry and metabolism – protein and amino acids chemistry and metabolism – minerals – hemoglobin and myoglobin structure and function – water – body fluids – buffering system – different types of solutions – enzymes	2	2

English language	Health and illness – parts of the body – function of the body – medical practitioners – allied health professionals – hospital primary care – medical education – symptoms and signs – infection – grammar – writing – lexis (confusable words) – why should we exercise regularly? – top major reasons to major in computing – what is science? – the tactics of study – what do you know about chemistry, physics, biology, geology, and zoology – physical fitness – what is democracy? – inventions and inventors – british English vs American English – special difficulties – major abbreviations.	1	-----
Dental terminology	Definition of different departments in faculty – define the different morphological parts of the tooth study some different terms used basically in dental biomaterials study some different terms used basically in dental anatomy study some different terms used basically in oral biology simple study of some common oral diseases study some different terms used basically in operative dentistry study some different term used basically in prosthodontics study some different term used basically in oral surgery study some different term used basically in endodontic study some different term used basically in orthodontics simple terms used in periodontology and oral medicine	1	-----

Quality	Introduction – evidence based dentistry – problem solving – decision making – scientific search – evidence appraisal – applying evidence into practice – evaluation of results – introduction to dental ethics – principle features of dental ethics – dentist and patients – dentist and society – dentist and colleagues – ethics and research	1	-----
Human rights	القانون الجنائي وحقوق الانسان حق الانسان فى تغيير جنسيته او التخلّى عن احد جنسيته المواثيق الدولية المتعلقة بحماية حقوق الانسان العلامة والتنمية بالحقوق الاقتصادية والاجتماعية والثقافية حق الانسان فى الشرعية الاسلامية حقوق المرأة فى القانون العام والتامين الاجتماعى الحق فى التقاضى وحقوق الانسان الحقوق المدنية و السياسية الحقوق الاقتصادية للانسان	1	-----
Second year			
Microbiology	Introduction – general bacteriology – genetics & genetic engineering – host parasite relationships – antibiotics & chemotherapy – general virology – hypersensitivity – Antigen & Antibody – staphylococci & enterococci – mycobacteria – gram-negative rods – spirochetes- non-enveloped DNA containing viruses – DNA containing viruses – systemic mycology – immunity against bacterial infection – microbiology of dental caries – microbiology of periodontal diseases – guidelines on infection control in dental clinics.	1	2
Pharmacology	General pharmacology – autonomic nervous system – skeletal muscle relaxants – autacoids – respiration – renal pharmacology – cardio-vascular pharmacology – pharmacology of blood – psycho-neuro-pharmacology – hormones – chemotherapy – drug abuse – drug interactions – vitamins and food	2	2

	supplements – locally action drugs – prescription writing – practical revision		
General pathology	Introduction: pathology, its related disciplines & technical points – inflammation (acute & chronic) – healing (repair) – cell injury and cell death – reversible cell injury (degeneration) – irreversible cell injury (necrosis-apoptosis) gangrene – circulatory disturbance (thrombosis, embolism, ischemia, infarction, hyperemia, hemorrhage, shock, oedema) – granulomas (tuberculosis, leprosy, bilharziasis, syphilis, rhinoscleroma, actinomycosis) – infectious disease (viral diseases, fungal diseases, protozoal disease) – immunity and hypersensitivity (the immune system, immunodeficiency disease, hypersensitivity, autoimmune diseases)- genetic disorders – radiation injury – nutritional deficiencies – cellular adaptation and disorders of growth (atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia) – neoplasia- general principles of neoplasia (classifications, criteria of benign and malignant tumours, grading, staging, methods of spread of malignant tumors) – aetiology of cancer – detailed study of the most common tumours.	2	2
Dental anatomy	Introduction – permanent maxillary incisors- permanent mandibular incisors- permanent maxillary canine - permanent mandibular canine - permanent maxillary premolars - permanent mandibular premolars – primary anterior teeth – chronology – permanent maxillary molars - permanent mandibular molars – physiologic tooth form – geometric outline of teeth – primary posterior teeth – occlusion of the primary teeth & permanent teeth.	2	3
Dental biomaterial	Introduction & structure of matter& Physical properties of dental materials - Mechanical properties of dental materials - Hardness &Viscoelasticity- Metals & alloys- Adhesion- Corrosion- Polymers and	2	2

	polymerization - Gold alloys - Cobalt-chromium and titanium – Investment- Casting - Wrought dental alloys- Joining of metals- Dental Cement & Cavity liner materials- Dental amalgam- Composite resin- Adhesive systems- Impression materials- Model & Die materials- Dental ceramics& porcelain fused to metals- Polymeric denture base material- Soft lining materials & artificial teeth- Endodontic materials- Dental waxes- Dental implant materials		
First aid	First aids & golden rules of first aid – characteristics of first aider- triage and mass causality – general trauma – specific trauma (head trauma, spinal trauma, chest trauma, abdominal trauma) – shock (types & management)- bleeding (types & first aid) – care of patient with burn – care of patient with poisoning- care of drowning - care of common bites & stings – care of fractures – angina & heart attach – contents of first aid kit.	1	1
Infection control	Infection control: an overview infection control in dentistry – chain of infection – nosocomial infection & health care associated infections- standards precautions – concept of hand hygiene – personal protective equipment- proper processing of patient care of equipment: cleaning, disinfection, sterilization- environmental surface control safe waste disposal including sharp instruments- aseptic techniques (applying & removing personal protective equipment – infection control & dental radiology- infection control & occupational health- safety goals & risk for nosocomial infection.	1	1

Third year			
Preclinical Removable Prosthetic Dentistry	Introduction to the course- Anatomical landmarks related to denture construction- Impression trays& Construction of master casts - Record blocks Jaw relation terminology for edentulous patient& Mandibular Movement- Articulators and mounting Selection of artificial teeth- Basic arrangement of anterior teeth- Basic arrangement of posterior teeth Complete denture wax-up and flasking procedure- Deflasking of complete denture - Relief in complete denture- Principles of selective grinding, finishing , and polishing of the dentures - Denture repair- Laboratory techniques in relining and rebasing - Types of Removable Partial Dentures and parts of a Removable Partial Denture and their functions- Classification of partially edentulous arches- Surveying of partially edentulous casts Abutment teeth preparation (anterior &. Posterior teeth preparation) - Direct Retainers. (a. Intra-coronal direct retainers, b.Extra-coronal direct retainers: Suprabulge Direct Retainers) Direct Retainers (Infra bulge Direct retainers) Indirect Retainers- Major Connector I. (• General Considerations • Mandibular Major Connectors. • Minor Connectors)	1	4
	Designing removable partial dentures- Lab procedures for removable partial denture construction- Acrylic removable partial dentures		
Preclinical Fixed Prosthodontics	Introduction & terminology- Primary impression and related procedures- Principles of tooth preparation- ¾ tooth preparation & modifications Inlays & onlays tooth preparation - Complete cast crown tooth preparation- PFM Preparation- All-	1	4

	ceramic tooth preparation Provisional restorations (Ready-made) 2nd semester- Laboratory steps for cast restoration reconstruction- Working cast and Die fabrication Wax Pattern and spruing- Investment and Investing Burn-out- Dental Casting Alloys- Casting Techniques- Casting Failures- Finishing and Polishing.		
Preclinical Conservative Dentistry	<p>Introduction to Conservative Dentistry</p> <p>Objectives and Terminology</p> <ul style="list-style-type: none"> - Tooth numbering <p>Dental Caries:</p> <ul style="list-style-type: none"> -Definition -Classification -Sites and Progression of Caries -Black's classification -Classification according to site and stage <p>principles of Cavity Preparation - biologic principles- mechanical principles - Outline Form Resistance and Retention Form.</p> <ul style="list-style-type: none"> - Convenience Form -Removal of Remaining Carious Dentin <p>-Finishing Enamel Walls</p> <p>Instruments and Instrumentation</p> <ul style="list-style-type: none"> *General Classification *Hand Instruments *Powered Cutting Equipment (Hand pieces, Burs, Abrasives) <p>class I- classII- class III-class V</p> <p>Pulp Protection Therapy:</p> <ul style="list-style-type: none"> - Varnishes - Liners - Bases <p>Dental Matrices & separation</p> <p>Amalgam Restoration</p> <p>Composite restoration</p>	1	4

Oral Biology	Tooth development- Enamel -Dentine Cementum – Pulp- Periodontal ligament Embryology - Alveolar bone - Oral mucosa Salivary glands- Eruption Shedding Growth of maxilla and mandible Temporomandibular joint & Maxillary sinus & Lymph drainage of the teeth and oral tissues	2	2
Internal medicine	Cardiovascular system- chest – gastrointestinal – hepatology – renal – blood – endocrine – neurology – rheumatology	2	1
Dermatology	Viral skin diseases with oral manifestations: Herpes simplex Herpes zoster Warts Kaposi's sarcoma Fungal diseases: Candidiasis Autoimmune skin diseases with oral lesions: Pemphigus vulgaris Systemic lupus Psoriasis Lichen planus Behcet's disease Erythema multiforme Oral leukoplakia Sexually transmitted diseases: Syphilis AIDS		
General surgery	Anatomy of neck- Thyroid gland, anatomy, physiology, goiters- Thyrotoxicosis, solitary thyroid nodule- Malignant thyroid diseases - Wound healing- Parotid gland- Submandibular, sublingual glands- Midline neck swelling- Lateral neck swelling- Shock- Hemorrhage - Cervical lymphadenopathy- Skin tumours- Ulcers, sinuses, fistulae, of the neck- Blood transfusion- Surgical site infections- Post-operative complications - Oral cavity lesions	2	1
ENT	Otology (Symptomatology- Clinical Examination. Investigations- Differential Diagnosis of Painful Ear- Differential Diagnosis of Discharging Ear) Rhinology (Symptomatology- Clinical Examination- Investigations. DD of Nasal Obstruction: 1. Diffuse causes- 2. Septal causes- Causes from the roof-DD of Headache- Nasal Trauma) Pharyngology (Symptomatology- Clinical		

	Examination. Investigations- Differential Diagnosis of Sore Throat-Sleep Disturbances) Nsopharynx (Mouth breathing Management)		
Ophthalmology	Anatomy of the eye, orbit and ocular appendages. - Cavernous sinus thrombosis -Anatomy of midfacial bones, blood supply & innervation - le Fort fractures - Modified le Fort classification practical points and management. -Visual acuity testing, cranial nerves examination. Important causes of visual acuity drop (cataract - endophthalmitis - Age related macular degeneration - glaucoma - diabetic retinopathy - endophthalmitis) -conditions of common interest between ophthalmology and dentistry (Marcus Gunn Jaw Winking - DISEASES causing jaw pain - Behcet disease - Sjogren's syndrome - Ophthalmic complication of dental anesthesia) Differential diagnosis of red eye		
Fourth year			
Oral Diagnosis	Introduction to oral diagnosis – Diagnostic Chart – Patient history – Clinical examination – Extra-oral examination – Intra-oral examination - Lymph nodes – Laboratory aids to diagnosis – Biopsy – Peripheral oral Exophytic lesions – Advanced diagnostic technique – Methods of differential diagnosis of oral ulcer – Methods of differential diagnosis of red & white lesions – Diagnosis of oro-facial pain.	1	2
Fixed Prosthodontics	Diagnosis and treatment planning - Tooth loss and bridge types - Framework design and metal selection for metal ceramic restoration - Pontic design – Connectors - Color and shade selection - Porcelain application for metal ceramic restoration - Try-in procedure in FPD - Luting agents and cementation procedures - Principal of occlusion - Bite registration – Laser - Restoration of endodontically treated teeth.	1	3

Oral Pathology	Introduction & ental Caries – Pulp Lesions – Periapical Lesions – Osteomyelitis – Oral Cysts – Developmental Anomalies of Oral & paraoral structures – Odontogenic Tumors – Bone Lesions– Reactive Lesions – White Lesions – Premalignant Lesions – Benign Non odontogenic Tumors – Malignant Non odontogenic Tumors – Salivary Gland Diseases – Salivary Gland Tumors.	2	2
Oral Surgery	Introduction to LA – Pharmacology of LA drugs and Vasoconstrictives – Armamentaria – General considerations for LA delivery – Anatomical considerations – hemoglobin and myoglobin structure and function – Maxillary techniques – Mandibular techniques – Supplementary & Extraoral techniques – Local complications of LA – Systemic complications of LA and drug-drug interactions – Dental extraction Surgical extraction– Impaction – Complications of extraction – Medically compromised patients.	1	2
Removable prosthodontic department	Diagnosis and Mouth Examination – Primary Impressi – Secondary Impression Theories and Making – Reten and stability of complete denture – Face bow and articulator – Jaw Relation – Try-In – Denture insertion – Occlusal disharmony and Selective grinding – Patient complaints – Relining rebasing of Complete denture – Treatment of some complete denture problems Management of flat Ridges and neutral zone technique Single Complete Denture – Tooth supported over denture – Immediate complete & Partial dentures – Complete denture occlusion – Implant supported over denture – Geriatrics.	1	3
Oral Radiology	Radiation physics – Radiation characteristics Dental x-ray equipment & film – Normal anatomy Intra-oral Radiographic Techniques (Periapical, Bitewing & Occlusal) – Parallelizing technique –	1	2

	<p>Bisecting technique – Bite wings technique Processing – Errors Occlusal & localization technique – Radiation protection & infection control – Radiation biology Dental X-ray image characteristics – Panoramic radiograph – Extra-oral technique and landmarks Digital radiograph– Principles of radiographic interpretation – Interpretation of periodontal diseases Interpretation of caries – Interpretation of traumatic injury Inflammatory jaw lesions – Cyst of the jaws –Bone diseases – Bone tumors – advanced techniques (MRI- CT- Cone Beam).</p>		
Conservative Dentistry	<p>Preliminary consideration of operative procedures – treatment planning –biological consideration of restorative materials –treatment of incipient caries – treatment of moderate and deep carious lesions – non carious lesions – dentine hypersensitivity – glass ionomer – adhesion.</p>	1	3
Endodontic	<p>Scope of endodontic- internal anatomy- instruments- access opening- working length determination- apex locator- irrigation- cleaning and shaping- rotary instrumentation- obturation materials- endodontic techniques- endodontic sealer- endodontic misshapes- case selection.</p>	1	3
Fifth year			
Conservative Dentistry	<p>Restoring contact and contours- classII ,IV, V direct composite- Posterior composite- indirect tooth colored restorations- Additional conservative esthetic procedure- laser in operative dentistry- Failure of restorations- Repair versus failure</p>	1	4

Fixed Prosthodontics	Periodontal consideration In FPD- Esthetic consideration In FPD- All-ceramic restorations- Fiber reinforced composite restoration- Resin bonded restorations- Porcelain laminate veneers- Implant supported prosthesis- Retainers- Care and maintenance- Failures of fixed prosthodontics- Repair of crown and bridge- Removal of fixed prostheses	1	4
Oral medicine	Basic immunity- Allergy- White and red lesions- Ulcerative and vesiculobullous lesions of the oral mucosa- Tongue diseases- Blood dyscrasias- Bleeding and clotting disorders- Dental management of systemic diseases- Infectious diseases (AIDS)- Hyperpigmentation- Salivary gland diseases- Medical chart	2	2
Periodontology	Anatomy of the periodontium- Dental plaque- Microbial Interactions with the Host- Classification of periodontal Diseases- Dental calculus & Local Predisposing Factors in periodontal disease- Influence of Systemic Disorders on the Periodontium- Gingival inflammation and Acute gingival conditions- Gingival enlargement- Plaque control- periodontal chart- Instrument and instrumentation- Chronic periodontitis + Periodontal pocket- Aggressive periodontitis + Periodontal abscess- Determination of the prognosis + Treatment plan- Chemotherapeutic agents- Periodontal flaps and the flap technique for pocket therapy- Gingival surgical techniques- Furcation involvement- Osseous Surgery- Regenerative techniques- Mucogingival surgery- Supra and sup gingival scaling and root planing	2	2

Oral and Maxillofacial Surgery	Revision on dental extraction- Preprosthetic surgery- Orofacial infections- Cysts of the oral and para-oral region- Oral and maxillofacial tumours- Dental and maxillofacial traumas- Temporomandibular joint disorders- Salivary gland diseases- Craniofacial deformities	2	3
Orthodontics	Ethics and medico-legal issues. Growth and development of the head. Development of normal occlusion. Etiology of malocclusion. Terminology and classification of malocclusion. Diagnostic procedure in orthodontics. Biomechanical principles in orthodontics. Tissue changes in orthodontics. Iatrogenic effects in orthodontics. Sequels of untreated malocclusion. Preventive orthodontics. Interceptive orthodontics. Orthodontic appliance design. Therapeutic extraction. Adjunctive orthodontics. Orthodontic retention and relapse. Impressions and wire bending. Description of normal occlusion. Problem based learning	2	2
Pediatric Dentistry and Dental Public Health	Pedodontics: Development of dentition, teeth eruption- Differences between primary and permanent dentition- Development of occlusion- Preventive orthodontics and space management- Problems in early mixed dentition- Interceptive Orthodontics- Oral Habits- Caries In Children- Basic behavioral guidance technique- Advanced behavioral guidance technique- Examination and Radiology in pediatric dentistry- psychological and pharmacological management in children- Oral surgery in children (L.A and	2	2

	<p>exodontia)- Restorative Dentistry (Class I, Class II, Class III, Class V, strip crowns)- Restorative Dentistry (Stainless Steel Crowns)- Pulp Therapy in children (Pulpotomy)- Pulp Therapy in children (Pulpectomy)- Pulp therapy in young permanent dentition- Traumatic injuries in primary dentition- Traumatic injuries in young permanent dentition- Children with special needs (Medically compromised)- Children with special needs (Intellectually disabled)- Gingival diseases in children.</p> <p>Public health: epidemiology of dental caries, caries indices, epidemiology of periodontal diseases, periodontal indices, caries risk and caries assessment, fluoride, fissure sealant, minimally invasive dentistry, a traumatic restorative technique, health education.</p>		
Removable prosthodontic department	<p>Introduction and diagnosis for partial denture- Mouth preparation- Impression techniques for R.P.D- Occlusal relationships for R.P.D- Class I- Class II- Class III and Class IV- Try in & insertion for R.P.D- Patient Complains- Tissue damage- Introduction to maxillofacial prosthesis- Acquired maxillary defect- Congenital defect- Stent- splint- Radiation</p>	1	4
Endodontic	<p>Diagnosis Endodontic radiography Periapical pathosis Endodontic emergency Management of incompletely formed roots Vital pulp therapy Endo-perio problems Traumatic injuries Periapical surgery Restoration of endodontically treated teeth Bleaching</p>	1	3