University of Basrah

College of Dentistry

Curriculum

1-Teaching language is English.

2-Duration of study is five years; three academic years (for 1st, 2nd &3rd years) and two calendar years (for 4th &5th years).

N.B.

*** Immediately after graduation, compulsory one calendar year (6 hours daily, 6 days a week) of clinical training in specialized dental center of the Ministry of Health (rotation) in the following branches:**

Restorative dentistry (Operative, Endodontics and Crown & Bridge).

Prosthodontics (Complete and Partial Denture).

Oral and Maxillofacial surgery.

Periodontology and Radiology.

Paediatric and Preventive Dentistry.

Total clinical training hours are (1872).

University of Basrah

College of Dentistry

1st. Year Curriculum

MEDICAL PHYSICS

No.	Subjects	Hours
1-	Forces on & in body: a- Static forces: (type of levers with medical examples). b- Dynamic forces * (Centrifuge).	2
2-	Physics of the skeleton: a- Bones : (Function of bones, Composition of bone, bone remodeling, b- Compact and trabecular bone.	3

	c- Stress-strain curve: (compressive and tensile stress, young modulus).	
	d- Bone Joints: (synovial fluid, coefficient of friction of a joint).	
3-	Heat and cold in medicine: Temperature scales, thermography, cold in medicine and cryosurgery.	2
4-	Energy, Work and Power of the body: First law of thermodynamic. Energy change in the body (Met, Basal metabolic rate (BMR). Work and power. Efficiency heat losses from the body. Anaerobic phase and aerobic phase. Hypothalamus (body's thermostat). Heat lost by (radiation, convection, evaporation of sweat and respiration).	3
5-	Pressure: a- Definition, absolute pressure, gauge pressure, negative pressure, unit of Pressure. b- Measurement of pressure in the body(Manometer). c- Pressure inside the skull. d- Eye pressure. e- Pressure in the skeleton. f- Pressure in the urinary bladder. g- Boyle's law: (pressure while diving). HOT (hyperbaric oxygen therapy).	4
6	Physics of the lung and breathing: a- Function of the breathing system. b- The airways (the alveoli, the function of airways). c- Gases exchange in the lungs (ventilation, perfusion, Dalton law, Henry law, diffusion of gases, oxygen saturation curve). d- Measurement of lung volumes (spirometer). e- Pressure airflow volume relationship of the lungs. f- Compliance. Surface tension (physics of alveoli, Laplace law). g- Eating mechanism, airways resistance, work of breathing.	5

	h- sics of lung diseases.	
	Physics of cardiovascular system:	
	a- Work done by the heat.	
	b- Blood pressure and its measurement (indirect measurement, sphygmomanometer).	
7	c- Pressure across the blood vessel wall (Laplace wall).	5
	d- Bernoulli's principle applied to the cardiovascular system.	
	e- Poiseuilles equation, laminar and turbulent flow, viscosity, Renyolds number.	
	f- Physics of cardiovascular diseases.	
	Electricity within the body:	
	a- Electrical potential of nerves (resting potential, action potential in myelinated and unmyelinated nerves).	
	b- Electromyogram (EMG).	
	c- Electrical potential in the heart (electrocardiogram ECG).	
	d- Electroencephalogram (EEG).	
8	f- Biofeedback.	5
	g- Cardiovascular instrumentation (electrodes, amplifiers, monitoring, defibrillators, pace makers).	
	h- Application of electricity (macro and micro electrical shock, high frequency electricity in medicine).	
	i- Short wave diathermy (capacitance and inductance method).	
	j- Microwave diathermy (characteristics, interaction with tissues).	
	Sound in medicine:	
	a- Properties of sounds.	
9	b- Stethoscope (including heart sound).	4
	c- Ultrasound (A-scan, B-scan, M-scan and Doppler effect).	
	d- Physiological effects of ultrasound in therapy.	
	Physics of the ear and hearing:	
10	a- Structure of the ear (outer ear, middle ear, inner ear).	3
	b- Sensitivity of the ears.	

11	**Light in medicine:** **a- Properties of light, measurement of light and its units.** **b- Applications of visible light in medicine (endoscope).** **c- Applications of ultraviolet and infrared light in medicine.** **d- Laser in medicine.** **e- Applications of microscopes in medicine.**	**4**
12	**Physics of eyes and vision:** **a- Focusing elements of the eye (cornea, lens).** **b- Element of the eye (pupil, aqueous humor, vitreous humor, sclera).** **c- Retina (size of image in retina, rods and cons, dark adaptation).** **d- Visual acuity, Snellen chart, optical density.** **e- Defective vision, audits correlation (short and long sight, Astigmatism, contact lenses, glasses prescription.** **f- Color vision and chromatic aberration (color blindness, Purkinje effect, and ocular chromatic aberration).** **Ophthalmoscope.**	**5**
13	**Physics of diagnostic X-ray:** **a- Properties of X-ray, production of X-ray.** **b- Absorption of X-ray, contrast media.** **c- X-ray image (penumbra, grid, intensifying screens).** **d- Radiation to patients from X-ray (filters).**	**4**
14	**Physics of nuclear medicine:** **a- Radioactivity decay, half-life, units.** **b- Basic instrumentation and its medical applications (GM-tube, photomultiplier tube, scintillation detector, solid state detector).** **c- Therapy with radioactivity.** **d- Radiation doses in nuclear medicine.**	**5**
15	**Physics of radiation therapy:** **a- The dose units (Rad and Gray).** **b- Principles of radiation therapy.**	**3**

	c- Brach therapy, quality factor (QF).	
	Pollution:	
	a- Natural occurrence of radioactive materials (Radon gas).	
16	b- Biological effects of ionizing radiation.	3
	c- Radiation protection.	
	d- Radiation detection.	

MEDICAL CHEMISTERY

No.	Subjects	Hours
	Inorganic chemistry:	
	a- Acid-Base and salts.	
	b- Ions in body fluids.	
	c- Buffer – PH and acid-base balance.	
1-	d- Solutions colloidal system.	40
	e- Concentrations (preparation of solutions).	
	f- Chelating and medical interest.	
	g- Pollution.	
	h- Radiochemistry.	
	Organic chemistry:	
	a- A short introduction to the nature of the carbon atom and the properties	
	of organic compounds.	
	b- Hydrocarbons, alkanes, alkenes and alkynes (aliphatic).	
	c- Isomerism, stereoisomerism(optical isomerism and Geometrical	
2-		40
	isomerism) a relationship to medical activity.	
	d- Alkyl halide.	
	e- Aromatic hydrocarbons.	
	f- Ethers.	
	g- The chemistry of carbonyl compounds.	
	h- Carboxylic acids and their derivatives (amides, esters, …etc).	
3-	Bio chemistry:	10

a- Carbohydrates.

b- Lipids.

c- Proteins.

d- Nucleic acids.

MEDICAL BIOLOGY

No.	Subjects	Hours
1-	General introduction: a- Branches of biology, general characteristics of prokaryotes, fungi, Protista, Anamilia and Plantae. b- General characteristics of viruses , Rickettsiae, general structure of bacteria, basic morphological forms of bacteria. c- Methods of nutrition of bacteria, reproduction methods of bacteria, genetic exchange of Bacteria ,gram positive and gram negative bacteria, bacteria and disease. d- Characteristics of immune system, type of immune response in higher animals.	10
2-	Parasitology: a- Type of relationship between organisms , type of parasites, type of hosts. b- Morphology, life cycle and clinical manifestation of Entamoeba c- Histolytica, Entamoeba coli and Entamoeba gingivitis . d- Morphology, life cycle and clinical manifestation of Giardia lamblia, e- Trichomonas vaginalis Trichomonas tenax and Leishmania tropica. f- Morphology, life cycle and clinical manifestation of plasmodium vivax	12

	and Toxoplasma gondi.	
	g- Morphology, life cycle and clinical manifestation of Fsciola hepatica	
	and Schistosoma spp.	
	h- Morphology , life cycle and clinical manifestation of Taenia saginata,	
	Taenia solium and Echinococcus granulosus.	
	i- Morphology, life cycle and clinical manifestation of Ascaris lubricoides, Ancylostoma duodenale and Enterobus vermicularis.	
	Cell Biology:	
	a- Introductory concept of cell Biology, cell theory, shape of cells, size of	
	cells, types of microscopes.	
	b- Structure and functions of macromolecules (carbohydrate , lipids and	
	proteins) .	
	c- Structure and function of nucleic acids, system of protein synthesis.	
	d- Structure and function of plasma membrane.	
	e- Diffusion , facilitated diffusion , osmosis, active transport, endocytosis,	
3-	Exocytosis , inter cellular junction, extracellualr matrix.	15
	f- Structure and function of endoplasmic reticulum, mitochondria, golgi apparatus and lysosomes.	
	g- Structure and function of centrosomes cytoskeleton, non – living	
	inclusions.	
	h- Structure and nuclear membrane , types of chromatin, Nucleoplasm.	
	i- Structure and function of nucleolus, life cycle of cell, mitotic division.	
	Meiotic division.	
	j- Oogensis and spermatogenesis, structure of sperm.	

	k- Laws of thermodynamics, bioenergetics, sources of cell energy, energy, release in the cell.	
	Histology:	
	a- General characteristics and functions of epithelial tissues, ultra structure of basement membrane, classification of epithelial tissues.	
	b- Type of simple and stratified epithelial tissues.	
	c- Classification of glandular epithelium simple and compound glands	
	with examples.	
	d- Essential elements and function of connective tissues.	
4-	e- Classification of connective tissues, type of connective tissues. (loose	13
	and dense connective tissues.	
	f- Structure of cartilage, type of cartilage, structure of bone, type of bone.	
	g- Development of bone, blood.	
	h- Muscular tissues (smooth, striated and cardiac muscle).	
	i- Nerve cell, classification of nerve cells, neuralgia cells.	
	j- Nerve fiber and structure of peripheral nerve.	
	k- Synapse, nerve ending, structure of spinal cord.	
	Genetics:	
	a- Elementary genetics, terminology and Mandel's laws.	
	b- Modes of inheritance, linkage, crossing over sex linkage.	
	c- Genetic interactions, multifactorial inheritance, heredity and	
	environment.	
5-	d- Structure of chromosome, structure of DNA, Replication of DNA.	10
	e- Normal human Kanyotype, abnormalities of the sex chromosomes, mutations and types of mutations.	
	f- Blood groups, Rhesus blood groups, genetic engineering, restriction	
	enzymes, cloning .	

DENTAL ANATOMY

No.	Subjects	Hours
1-	Introduction and nomenclature.	1
2-	Numbering systems.	1
3-	Anatomical landmarks.	1
4-	Development of teeth, calcification and eruption.	3
5-	General consideration in the physiology of the permanent dentition.	1
6-	Physiologic form of the teeth and periodontium.	2
7-	The permanent maxillary central incisors.	2
8-	The permanent maxillary lateral incisor.	2
9-	The permanent mandibular incisors.	2
10-	The permanent canines maxillary and mandibular.	2
11-	The permanent maxillary premolars.	2
12-	The permanent mandibular premolars.	2
13-	The permanent maxillary molars.	2
14-	The permanent mandibular molars.	2
15-	The deciduous teeth.	2
16-	The pulp cavities of the anterior permanent teeth.	1
17-	The pulp cavities of posterior permanent teeth.	1
18-	Comparative dental anatomy.	1

COMPUTER

No.	Subjects	Hours
1-	Introduction about Computer: a- Hard ware. b- Software. c- Computer structure.	6

	d- Floppy magnetic disks. e- Operating System. f- CD-ROM. g- File & Folder. h- High level programming language. i- Constant and Variables. j- Library Function. k- Arithmetic Expression, (rule of precedence). l- Number of system. m-Type of monitor.	
2-	Introduction about MS-DOS: a- Operating System. b- Dos drive. c- Key board. d- Dos command. 1- Internet command. 2- External command. Ex. A:C:,Dir,Time,Date,CD,MD,RD,Format,Copy,Edit, Tree,Deltree,Del,Ren,CLS,Type,Print. e- Application.	4
3-	Introduction about windows.	4
4-	Introduction about Microsoft word.	4
5-	Introduction about Microsoft excel.	4
6-	Introduction about Microsoft power point.	4
7-	Introduction about internet and e-mail.	4

DENTAL MATERIALS

No.	Subjects	Hours
1-	Introduction to dental materials. Definition and importance.	1
2-	Physical, mechanical, chemical and biological properties.	1

3-	Gypsum products.	2
4-	Investments.	1
5-	Impression materials. Classification.	1
6-	Indication and usage.	2
7-	Properties of impression materials.	2
8-	Non-metallic denture base materials.	1
9-	History, types.	1
10-	Polymerization, PMMA.	1
11-	Heart and cold cure. Properties.	1
12-	Metallic denture base material: a- Stainless steel. b- Cobalt/chromium.	2
13-	Precious, non-precious metals: a- Stainless steel. b- Metals for crown and bridge.	1
14-	Waxes, types, composition and uses. Investment.	1
15-	Filling materials. Silicate and acrylic.	2
16-	Composite.	2
17-	Amalgam.	1
18-	Amalgam properties.	1
19-	Temporary filing.	1
20-	Cement.	1
21-	Tissue conditioner. Soft-liner.	2

Polishing and abrasive.

Denture cleaners.

Basrah University

College of Dentistry

Department: Oral Surgery

Course title: Anatomy

No	Subjects	Hours
1	Introduction	2
2	Vertebrae Joints	4
3	Muscles	4
4	Nervous System	2
5	Thorax	4
6	Pleura	2
7	Diaphragm	2
8	Mediastinum	4
9	Heart	4
10	Big vessels of thoracic cavity	4
11	Abdomen	6
12	Upper limb + lower limb	4
13	Axilla	4

University of Basrah

College of Dentistry

2nd year Curriculum

PROSTHODONTICS

No.	Subjects	Hours

	Complete denture prosthesis:	
1-	**a- Definition.** **b- Desired objectives.**	**1**
2-	**Anatomy in relation to complete denture, upper maxillary landmark.**	**1**
3-	**Anatomy in relation to complete denture, lower maxillary landmark.**	**1**
	Impression trays:	
4-	**a- Definition.** **b- Stock tray.**	**1**
	Primary impression:	
5-	**a- Production of study model.** **b- Common fault in impression making.**	**1**
6-	**Study cast:** **Special trays, materials, importance and advantages.**	**1**
	Secondary of final impression:	
7-	**a- Mucostatic impression technique.** **b- Functional impression technique.**	**1**
	Final impression materials:	
8-	**a- Plaster impression.** **b- Zinc/oxide eugenol paste.** **c- Elastomere impression.** **d- Boxing and production of master cast.**	**1**
	Occlusion blocks:	
9-	**a- Record bases. Occlusion rims.** **b- Uses of bite rims, occlusal plane.**	**1**
	Recording jaw relations:	
10-	**a- Maxillo-mandibular relation.** **b- Vertical dimensions.**	**1**
11-	**Methods of recording vertical and horizontal relations:**	**1**

	a- Mechanical method.	
	b- Physiological method.	
	c- Centric jaw relation, methods of recording.	
	d- Center occlusion.	
	e- Eccentric jaw relation.	
	Articulators:	
12-	a- Types of articulators.	1
	b- Face-bow, definition, types.	
13-	Mounting the cast on the articulator. Method, common errors.	1
	14- Selection of artificial teeth:	
	a- Anterior teeth.	
14-	b- Posterior teeth.	1
	c- Types of teeth according to material, cusp inclination.	
	Arrangement of artificial teeth:	
15-	a- Guides.	1
	b- Arrangement of upper and lower six anterior teeth.	
	Arrangement of posterior teeth:	
16-	a- Orientation of occlusion plane.	1`
	b- Balanced occlusion.	
17-	Wax contouring of denture. Waxing carving upper and lower denture.	1
18-	Flasking of denture. Definition half and full flasking of denture.	1
	Wax elimination:	
19-	a- Preparing the mold for packing.	1
	b- Separating medium.	
	Preparation and packing of acrylic resin:	
20-	a- Mixing, packing.	1
	b- Processing of dentures.	

	Deflasking of dentures:	
21-	a- Removing of dentures.	1
	b- Reprocessing of dentures.	
	Abrasive and polishing agents:	
22-	a- Types of burs.	1
	b- Carbrandum, pumice and rouge.	
23-	Selective grinding. Rules for selective grinding.	1
24-	Denture repair. Fractured denture, replacing teeth.	1
25-	Relying and rebasing.	1
26-	Seminars and review of the program.	5

ORAL HISTOLOGY

No.	Subjects	Hours
	Development of the oral cavity:	
	a- Fertilization.	
	b- Basic germ layer:	
	c- Ectoderm.	
1-	d- Mesoderm.	1
	e- Endoderm.	
	f- Neural crest formation, migration and derivative.	
	g- Brachial arches.	
	Development of face and oral cavity:	
	a- Development of the facial process.	
	b- Development of the tongue.	
	c- Clinical considerations:	
2-	d- Facial clefts.	2
	e- Development cyst.	
	f- Lingual anomalies.	
	g- Labial anomalies.	

3-	Development and growth of the teeth: a- Enamel organ. b- Dental papilla. c- Dental sac.	2
4-	Root formation: a- Hertwig's epithelial root sheath. b- Uni- and multi-rooted tooth. c- Clinical considerations: d- Initiation stages. e- Proliferation. f- Histodifferentiation. g- Morphodifferentiation. h- Apposition.	1
5-	Enamel: a- Physical and chemical characters. b- Structure elements.	1
6-	Amelogensis: a- Amelobolast file cycle. b- Formation of the enamel matrix. c- Mineralization of the matrix.	1
7-	Clinical consideration in enamel. a- Abnormal enamel formation. b- Genetic factor responsible for the enamel formation. c- System and local factors.	1
8-	Dentine: a- Physical and chemical properties. b- Dentine structure.	1
9-	Structure and landmarks could be seen in dentine: a- In ground section. b- In decalcified section.	1

	c- Different kinds of dentine.	
10-	Dentinogenesis; A- Odontoblast life cycle. b- In decalcified section. c- Dentine enervation theories.	2
11-	11- Pulp. a- Mature pulp. b- Formation and development of the pulp. c- Structure elements. d - Pulp stones. e- Defense cell neural system. f - Clinical consideration.	2
12-	Cementum: a- Mature cementum structure and properties. b- Cellular cementum. c- Acellular cementum. d- Cementogenesis. e- Cemento-enamel junction. f- Cemento-dentinal junction. g- Clinical consideration.	2
13-	Periodontal ligament: a- Development and formation. b- Clinical consideration of the periodontal ligament. c- Physiological changes.	2
14-	Oral mucosa membrane: a- Transitional area. c- Kinds of oral mucosa.	1
15-	Maxilla and mandible: a- Development of the alveolar process. b- Properties of the alveolar bone.	3

	c- Clinical considerations.	
16-	Dentino-gingival junction. Development of the epithelial attachments.	1
17-	Salivary gland: a- Classification. b- Structure elements. c- Clinical considerations.	2
18-	Eruption of teeth: a- Mechanism of eruption. b- Clinical considerations.	2
19-	Shedding of the deciduous teeth: a- Process of shedding. b- Clinical considerations.	1
20-	Histochemistry of the tissue: a- Structure and chemical composition of oral tissue. b- Specific histochemical method.	1

GENERAL HISTOLOGY

No.	Subjects	Hours
1-	Hematopoiesis: a- Red and yellow bone marrow, maturation & erythrocytes maturation & granulocyte. b- Maturation & lymphocytes & monocytes, origin of platelets.	5
2-	Circulatory system: a- General structure & blood vessels, general structure, types & capillaries. b- General structures & different types & arteries. c- General structure & different types & veins, general structure & heart.	6
3-	Lymphoid system:	6

	a- Cellular & humoral immunity, antigen & antibody, differentiation & b- b- lymphocytes.	
	c- Thymus, lymph node.	
	d- Spleen, tonsil, encapsulated lymphoid, liver.	
4-	Digestive system: a- General structure & digestive tract, lip. b- Pharynx, esophagus, cardiac & pyloric parts & stomach. c- Parts & small intestine (duodenum, jejunum & ileum). d- Colon, rectum, appendix. e- Salivary gland (parotid gland - sublingual gland & submaxillary gland). f- Liver. g- Pancreas, gall bladder.	6
5-	Respiratory system: a- Nasal cavity, paranasal sinuses, nasopharynx. b- Larynx, trachea, bronchial tree. c- Pulmonary blood vessels, nerves, pleura & lung.	6
6-	Skin: a- Epidermis. b- Dermis, subcutaneous layer. c- Hair, nails. d- Glands & skin, vessels & nerves & the skin.	5
7-	Urinary system: A- Nephron. b- Collecting tubule & ducts, juxtaglomerular apparatus. c- Blood circulation, bladder & ureter.	5
8-	Reproductive system: a- Testis, intratesticular genital ducts. b- Excretory genital duct, accessory genital gland, penis. c- Ovary, oviduct. d- Uterus, mammary gland.	5

9-	Endocrine system: a- Pituitary gland. b- Adrenal gland. c- Thyroid gland, parathyroid gland, peneal body.	5
10-	Nervous system: a- Neurons, neuroglia. b- Nerve jibers, nerve trunk, and synapses. c- Sympathetic & parasympathetic system. d- Meninges, spinal cord. e- Cerebrum, cerebellum.	6
11-	Sense organs: a- Receptors related to somatic & visceral sensitivity, proprioceptor system, and chemoreceptors. b- The eye. c- The ear.	5

GENERAL PHYSIOLOGY

No.	Subjects	Hours
1-	Blood physiology: a- Functional organization of the human body & the control system of the internal environment. b- General function, the plasma composition & functions, red blood cells, genesis of r. b. c., regulation of r.b.c. production. c- Formation of hemoglobin, iron metabolism, structure of hb., properties & types, destruction of r.b.c. d- White blood cells, genesis of w.b.c., morphology & general properties, classification &functions. e- Hemostasis & blood coagulation, events in hemostasis, mechanisms of blood coagulation. f- Lysis of blood clot, formation of prothrombin activator, extrinsic & intrinsic mechanisms. g- Prevention of blood clotting, intravascular anticoagulant, blood diseases.	

h- Blood groups, agglutinins & agglutinogens, blood typing, cross matching test.

Physiology of respiration:

a- Pulmonary ventilation, respiratory pressures, the work of breathing, surfactant. the pulmonary volumes & capacities & their significance

b- ventilation of the alveoli, the dead space, diffusion of gases through the c- respiratory membrane. The respiratory unit, the respiratory membrane. d- factors affecting the rate of gas

2- diffusion through the respiratory membrane, uptake of 02 by the pulmonary blood, diffusion of 02 from the capillaries to the interstitial fluid. Diffusion of 02 from the interstitial fluid to the cells. Reaction of hb. &02. the factors affecting the affinity of hb. for 02,c02 transport. regulation of respiration, the respiratory center,

e- neural regulation & chemical regulation of respiration respiratory abnormalities. Hypoxia, cyanosis, dyspnea, hypercapnia.

Physiology of kidney & body fluids:

The nephron. Blood supply of the nephron, innervating of the renal vessels, filtration. mechanisms of tubular reabsorption & secretion,

pressure in the renal circulation, concentration of substances at

3- different points in the tubules, the plasma clearance, mechanisms of concentrating & diluting of urine mechanism of excreting a concentrated urine, fluid

volume excretion. Body fluids, total body water, distribution of body water, function of body water. Composition of ecf & icf, distribution of fluid volume between plasma & the interstitial fluid, regulation of water balance.

Physiology of endocrine:

Nature of hormones, function of hormones, mechanism of action,

4- hypothalamus. The pituitary gland, hormones of the anterior lobe, abnormal secretion, hormones of posterior lobe. The thyroid gland, function of the thyroid hormones. Diseases of the thyroid

gland. the parathyroid glands. Absorption of calcium &phosphate, metabolic factors in development of teeth & mineral exchange, abnormalities of parathyroid glands. The adrenal gland, mineralcorticoid & glucocorticoid hormones, abnormalities of adrinocortical secretion. pancreas gland, pineal gland

5- **Physiology of the cardiovascular system:**

Anatomy of cvs, anatomy of the heart, cardiac muscle physiology. Conduction system of the heart, sa&av nodes anatomy & physiology, conductive abnormalities. Cardiac cycle, ecg, systole & diastole. Heart rhythm & cardiac muscle action potential. The circulation of blood, cardiac output, blood physiology, blood flow. Factors controlling blood flow, rank-starling law. Dynamic anatomy of blood vessels, blood flow measurement, types of blood flow. Blood pressure, methods of measuring blood pressure. Local circulation. Factors controlling blood pressure, rapid factors, neural. Humoral. Long term regulation of blood pressure, hypertension, types, causes. Treatment. Circulatory shock: types, stages, treatment. Fainting. Cardiac arrest.

6- **Physiology of muscle & nerve:**

General physiology of the cell. Ions & ions transport. Anatomy of the nerve fiber. Electrical physiology of nerve fiber. Local anesthesia & nerve fiber & action potential. Anatomical physiology of the nerve fiber. Types of muscle fiber. Contraction of muscle fibers. Energy sources. Excitation contraction coupling, electrical properties action potential, emg, neuromuscular junction.

7- **Physiology of the gastrointestinal tract:**

Movements of the food in the GIT, swallowing, gut innervating, mastication (i). Mastication (2), saliva, secretions of the stomach. Secretions of the small intestine. Digestion of the food, absorption of the food through the alimentary canal. Physiology of the nervous system: levels of integration: higher brain level (cerebrum & cerebral cortex), spinal cord, lower brain level (cerebellum & brain stem). somatosensory system: types & classification of receptors, types of sensations(pain sensation, thermal sensations, touch & pressure sensations).continued on

somatosensory system, motor system (spinal cord):reflex arc, & reflexes. Chemical sensation: olfactory sens. (smelling), gustatory sens. (taste). Special sensations: hearing, vision. & 47: autonomic nervous system: sympathetic & parasympathetic systems.

ANATOMY

No.	Subjects	Hours
1-	Parotid region.	2
2-	Temporal and infratemporal region.	3
3-	Main vessels of the neck.	3
4-	Mandibule.	2
5-	Submandibular region.	3
6-	Trigenimal nerve.	3
7-	Deep neck. a- Root of the neck: b- Cervical compartments (units). c- Cervical fascia. d- Cervical vescera, thyroid. e- Parathyroid.	4
8-	Base of the skull: a- Prevertebral region. b- Scalenus muscle. c- Retropharyngeal spaces.	2
9-	Pharynx: a- Wall. b- Division.	2
10-	Nasal cavity and Paranasal sinuses.	2
11-	Maxilla.	2
12-	Larynx.	2

13-	Nervous system. a- Anatomically: Central Nervous System. Peripheral nervous system. b- Functionally somatic: Autonomic. Sympathetic. Parasympathetic.	8
14-	Thorax: a- Thoracic wall, bony thorax: - ribs and sternum. b- Thoracic cavity, pleura and lungs. c- Mediastinum, superior and inferior mediastinum.	8
15-	Abdomen: a- The anterior abdominal wall and the ingniual canal. b- The abdominal pelvic cavity, development of digestive tube and peritoneum, general arrangement of the peritonium. c-The abdominal viscera: d- Stomach. e- Spleen. f-Liver. g- Duodenum. h- Pancreas. i- Gall bladder. j- Small intestine. k- Large intestine. l- The infra colic abdominal wall. m- Visera of posterior abdominal wall: n- Kidney. o-Ureter. p-Suprarenal glands. q- Major blood vessels:	10

	Aorta and its branches. Inferior vena cava and its tributaries.	
16-	Pelvis: a- Bony pelvis. b- Pelvic walls. c- Pelvic viscera.	4

BIOCHEMISTRY

No.	Subjects	Hours
1-	Enzymes : a-Definition. b- Terminology. c- Classification. d- Enzymes in clinical diagnosis. e- Kinetic properties of enzyme. f- Enzyme inhibition. g- Model of enzyme-substrate binding. h- Enzyme regulation. i- Mechanisms of enzyme catalysis. j- Plasma enzyme in diagnosis. k- Isoenzymes.	4
2-	Lipids : a- Lipid classes. b- Lipid metabolism: c- Triacyiglycerol synthesis. d- F.A. degradation. e- F.A. biosynthesis. f- Regulation of F.A. metabolism in mammals. g- Cholesterol metabolism.	3
3-	Vitamins: a- Definition.	4

	b- The major groups (fat & water-soluble vitamins).	
	c- Study the individual vitamins under certain general headings: - sources, chemistry, metabolism, physiological functions, deficiency diseases, daily requirements, hypervitaminosis, vitamin antagonists, vitamin A, D, E, K, C and B, niacin, pyridoxine, pantothenic acid, biotin, folic acid.	
	d- Brief definition of enzyme cofactors, coenzyme and the function of the coenzyme.	
	Biosynthesis and metabolism of protein:	
	a- Review of chemistry of protein and amino acids.	
	b- Digestion and absorption of protein.	
	c- Dynamic equilibrium.	
	d- Sources and utilization of blood amino acids.	
	e- Nitrogen balance (positive & negative).	
	f- Concentration of amino acids.	
	g- Some hormones that stimulate the uptake of amino acids by tissues.	
	h- Protein synthesis.	
4-	i- Inhibition of protein synthesis.	4
	j- Brief definition of the operon concept.	
	k- Oxidation of amino acids (glycogenic & ketogenic A.AS).	
	l- The general reaction applicable to an A.A: (tranamination, transamidation , Deamination, Decarboxylation).	
	m- Metabolism of the carbon skeleton.	
	n- Sources & Metabolism of ammonia.	
	o- Methods for removal of NH3.	
	p- Mechanism of H3 intoxication.	
	q- Types of hyperammonemia.	
	Carbohydrate metabolism:	
	a- Glycogen metabolism.	
5-	b- Glycolysis.	3
	c-Gluconeogenesis.	

	d- Metabolism of other important sugars. e- Citric acid cycle. f- Electron transport. g- Oxidative phosphorylation. i- Oxidative stress. j- Glucose -6- phosphate dehydrognase deficiency.	
6-	Digestion and absorption: a- Saliva. b- Gastric juice. c- Pancreatic juice. d- Intestinal secretion. e- Biosynthesis of bile. f- Biosynthesis of bile pigment, bilirubin and its fate.	3
7-	Detoxification : a- Mechanism of detoxification. b- Reduction mechanism. c- Conjugation reactions: d- Glucuronic acid. e- H2SO4. f- Methylation. g- Glutamins. h- Acetic acid acetylation.	3
8-	Urea formation: Krebs- Henseleit cycle (five steps). Blood urea. Deficiency of the five enzymes which concerned in urea synthesis and genetic defect.	3
9-	Metabolism of individual amino acids and abnormalities of A.As metabolism: Glicine, Alanine, Serine, Threonine, Aspartic, glutamic acids, Aeginine, Ornithine and eitrulline. Branched chain aminoacids: praline, hydroxyl praline, histidine, Phenyl alanine and tyrosin.	3

Tryptophana, creatine and creatinine.

Glutathion (composition & functions).

University of Basrah

College of Dentistry

3rd year Curriculum

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	25.9.2011	**Definitions:** **-Introduction to Fixed Prosthodontics.** **-Types of crowns.** **-Purposes of crown construction.** **-Steps in crown construction.** **-Components of bridge.**	**Introduction on the lab work, phantom heads and teeth manikins.**	**Every week there is one hour lecture and three hours practical lab.**
2	2.10.2011	**Definitions (continued):**	**Demonstration about the rotary instrument and how to cut geometrical cavities (Part 1).**	
3	9.10.2011	**Definitions (continued):**	**Demonstration about the rotary instrument and how to cut geometrical cavities (Part 2).**	

4	16.10.2011	Biomechanical principles of tooth preparation: -Preservation of sound tooth structure. -Retention and resistance form. -Marginal integrity. -Structural durability.	Demonstration on full metal crown preparation on lower 1st molar.
5	23.10.2011	Biomechanical principles of tooth preparation (continued):	Demonstration on full metal crown preparation on lower 2nd molar.
6	30.10.2011	Biomechanical principles of tooth preparation (continued):	Practicing lab under supervision.
7	6.11.2011	Full metal crown: Indications,contra-indications, advantages, disadvantages, steps of preparation.	Practicing lab under supervision.
8	13.11.2011	Full metal crown (continued):	Practical assessment of full metal crown preparation on lower 1st molar.
9	20.11.2011	Porcelain fused to metal crown: Indications,contra-indications, advantages, disadvantages, steps of preparation.	Demonstration on porcelain fused to metal crown preparation on upper central incisor.
10	27.11.2011	Porcelain fused to metal crown (continued):	Demonstration on porcelain fused to metal crown preparation on

			upper lateral incisor.
11	4.12.2011	Complete ceramic crown (Porcelain Jacket Crown): Indications,contra-indications, advantages, disadvantages, and steps of preparation.	Practicing lab under supervision.
12	11.12.2011	Complete ceramic crown (Porcelain Jacket Crown) (continued):	Practicing lab under supervision.
13	18.12.2011	Partial veneer crown (three-quarter crown): Indications, contra-indications, advantages, disadvantages, steps of preparation.	Practical assessment of porcelain fused to metal crown preparation on upper central incisor.
14	25.12.2011	Partial veneer crown (three-quarter crown) (continued):	Demonstration on post crown preparation on extracted root canal filled upper canine.
15	2.1.2012	Post crown: Indications, contra-indications, factors to be considered in the assessment of a tooth for post crown, components of post crown, types of post crown, steps of preparation.	Demonstration on post crown preparation on extracted root canal filled lower 1st premolar.

Half-year Break

16	19.2.2012	Post crown (continued):	Practicing lab under supervision.
17	26.2.2012	Impression for crown and bridge work: -Objectives of taking impression. -Requirements of an acceptable impression. -Impression materials, -Impression techniques.	Practicing lab under supervision.
18	4.3.2012	Impression for crown and bridge work (continued):	Practical assessment of post crown preparation on extracted root canal filled upper canine.
19	11.3.2012	Impression for crown and bridge work (continued):	Demonstration on special tray construction.
20	18.3.2012	Provisional restoration: Definition, objectives, types (prefabricated, custom-made, and laboratory-made).	Demonstration on impression materials used in Fixed Prosthodontics.
21	25.3.2012	Provisional restoration (continued):	Demonstration on impression techniques in Fixed Prosthodontics.
22	1.4.2012	Working cast and dies: Advantages of working cast, definition of die, types of die	Demonstration on die construction using dowel pin.

		material, techniques of producing die.	
23	8.4.2012	Working cast and dies (continued):	Demonstration on provisional restoration (Part 1): Materials.
24	15.4.2012	Waxing.	Demonstration on provisional restoration (Part 2): Techniques.
25	22.4.2012	Investing.	Demonstration on direct waxing for post crown construction on upper canine.
26	29.4.2012	Casting.	Demonstration on indirect waxing technique.
27	6.5.2012	Finishing of the casting.	Demonstration on investing and casting.
28	13.5.2012	Clinical try-in.	Demonstration on cleaning and finishing of the cast restoration.
29	20.5.2012	Cementation: -Types of cements used for cementation of crown restoration. -Techniques of cementation.	Final assessment of the practical work.
30	27.5.2012	Cementation (continued):	Final practical exam.

RESTORATIVE DENTISTRY

*Operative

No.	Subjects (Operative)	Hours
1-	Definition of operative dentistry: a- Aim of operative dentistry. b- General terminology.	1
2-	Instruments and general instrumentation of cavity preparation: a- Hand instruments. b- Rotary instruments.	1
3-	Control of operative instruments: a- Handling. b- Sharpening. c- Sterilization.	2
4-	Principles of cavity preparations: a- Steps of cavity preparation. b- Types of caries.	1
5-	Amalgam cavity preparations for class I and V.	2
6-	Amalgam cavity preparations for class II.	2
7-	Amalgam cavity preparation for complicated cavities.	2
8-	Cavity liners and cement bases (dental material).	2
9-	Manipulation of cavity liner and bases insertion into the cavity.	2
10-	Dental amalgam alloys (material).	1
11-	General characteristics.	1
12-	Manipulations.	1
13-	Insertion into the cavity (advantages and disadvantages).	1
14-	Matrix bands.	1
15-	Polishing of amalgam.	1
16-	Failures in amalgam restorations.	1
17-	Tooth colored restorations composite.	1

18-	Cavity preparation for the tooth colored restorations class III, IV and V.	2
19-	Composite: a- Manipulation. b- Application. c- Finishing and polishing. d- Types of liners.	2
20-	Failures in the anterior restorations.	2
21-	Acid etch technique for the anterior restorations, pins in restorative dentistry.	1

*Crowns and Bridges

No.	Subjects (Crowns and Bridges)	Hours
1-	Crowns and bridges history, definitions, indications in general.	1
2-	Crown types, indications and contra indications.	1
3-	Types of finishing lines, general factors in crown and bridge preparation.	1
4-	Full crown preparation and some clinical modification.	1
5-	¾ crown, post.	1
6-	Post crown-dowel crown.	1
7-	Temporary crowns.	1
8-	Impression for crowns.	1
9-	Die construction articulation.	1
10-	Waxing, investing and casting.	1
11-	Try-in and cementation.	1
12-	Pontics.	1
13-	Steps in bridge construction.	1
14-	Porcelain material.	1
15-	Porcelain jacket crown.	1

* Endodontic

No.	Subjects (Endodontic)	Hours
1-	Definition, history of root canal therapy and histopathology.	1
2-	Preparation of laboratory teeth: a- Selection of teeth. b- Mounting of teeth. c- Radiographic procedure.	2
3-	Anatomical consideration (pulp canal) of all teeth.	2
4-	Cavity preparation (access opening): a- Basic principles to all access openings. b- Outline form through enamel. c- Removal of pulp chamber. d- Location of root canal.	2
5-	Endodontic instruments: a- Types. b- Standardization of intra-canal instruments. c- Length style. d- Spreader & pluggers.	2
6-	Length determination.	2
7-	Cleaning and shaping canals: a- Principles of root canal. b- Techniques of shaping. c- Errors. d- Principles of cleaning by chemical materials.	2
8-	Filling the root canal : a- Basic lateral condensation. b- Materiel used for filling. c- The principles of using the sealer. d- Its composition. e- Modification of lateral condensation technique.	2

ORAL SURGERY

	Topics Covered
1	Diagnosis in oral surgery
2	Diagnosis in oral surgery
3	Extraction of teeth
4	Extraction of teeth
5	Contraindications of Exodontia
6	Contraindications of Exodontia
7	General arrangement for extraction
8	Dental forceps
9	Dental forceps
10	Elevators
11	Elevators
12	Technique of forceps extraction
13	Technique of forceps extraction
14	Complications of teeth extraction
15	Complications of teeth extraction
16	Complications of teeth extraction
17	Basic surgical instruments
18	Basic surgical instruments
19	Basic surgical instruments
20	Local anesthesia: Introduction
21	Pharmacology of local anesthesia
22	Pharmacology of local anesthesia
23	Surgical anatomy in local anesthesia

24	Instruments of local anesthesia
25	Techniques of local anesthesia
26	Techniques of local anesthesia
27	Techniques of local anesthesia
28	Complications of local anesthesia
29	Complications of local anesthesia
30	Complications of local anesthesia

COMMUNITY DENTISTRY

No.	Subjects	Hours
1-	Introduction to dental public health, definition and scope of community dentistry personnel versus community health.	2
2-	Dental caries and periodontal disease as a community and economic problem.	2
3-	Dental epidemiology and survey procedures: a- Dental decay diagnosis, measurement, indices used for primary and permanent teeth. b- Indices used for measurement of dental plaque. c- Indices used for measurement of gingivitis. d- Indices used for measurement of periodontal destruction. e- Indices used for measurement of mottled enamel and fluorosis. f- Indices used for measurement of treatment need. g- Survey procedures: 1- Objectives. 2- Sampling. 3- Standardization and calibration of examiners. 4- Approval. 5- Conducting the survey.	4
4-	Statistics:	2

	a- Variables and graphs.	
	b- Frequency distribution.	
	c- Measuring of central tendency (mean, medium, and mode).	
	d- Range and standard deviation.	
	e- Probability and normal distribution.	
	f- Sampling distribution.	
	g- Test of hypothesis and significance (T-test) (H-CHI-square test).	
	Dental health education:	
	a- Definition.	
5-	**b- Methods of providing DHE.**	**3**
	c- Health education models.	
	d- Dental health education to school children.	
	Dental ancillaries personnel:	
	a- Definition.	
6-	**b- Classification.**	**2**
	c- The dental team (for hand dentistry).	
	d- The future delivery of dental care services.	
7-	**Primary teeth care.**	**2**
	Planning for manpower requirements in dental public health:	
	a- International manpower variation.	
	b- Growth trends and supply of dental manpowers.	
8-	**c- Productivity of dentist.**	**3**
	d- The utilization.	
	e- Policy formulation for dental health manpower planning.	
	f- Evaluation of dental services.	
	Dental treatment, needs, demands and utilization:	
	a- Definition.	
9-	**b- Assessment of treatment needs of dental caries, periodontal diseases orthodontic needs and dental prosthetic.**	**4**
	c- Determination of demand:	

	d- Knowledge.	
	e- Attitudes.	
	f- Past dental experience.	
	g- Availability of services.	
	h- Meeting the demands for care (increased demand).	
	i- Factors affecting utilization of dental services.	
10-	Public dental health program for: a- Elderly people. b- Handicapped. c- School children. d- Mobile clinic.	3
11-	Forensic dentistry and professional ethics: a- Definition. b- Determinations of age, sex and blood group. c- Lip prints. d- The edentulous remains. e- Radiology records and photographic records. f- Bite mark. g- Racial and familial dental characteristics. h- Mass disasters. i- Ethics.	3

PHARMACOLOGY

No.	Subjects	Hours
1-	General pharmacology Introduction. Definitions. Pharmacodynamics. Receptors.	1
2-	Macromolecular nature of receptors. a- Types and locations of receptors. b- Theories of drug receptor interaction. c- Agonist Antagonist, Partial agonist. d- Types of antagonism.	1

	Relation between drug dose & clinical response.	
3-	a- Pharmacokinetics.	1
	b- Plasma T1/2 , and Steady state.	
	Factors affecting T1/2.	
	a- Pharmacokinetic processes.	
4-		1
	b- Absorption.	
	c- Systemic availability bioavailability.	
	Distribution.	
	a- Factors determining drug distribution.	
5-	b- Metabolism of drugs.	1
	c- Factors delay in metabolism of drugs.	
	d- Elimination of drugs.	
	Prolongation of drug action.	
	a-Intolerance. Tachyphylaxis.	
6-	b- Accumulation. Idiosyncracy.	1
	c- Drug interactions.	
	d- Pharmacogenetics.	
	Cholinergic Transmission	
	a- Synthesis. Storage. Release. Action. Fate.	
7-	b- Muscarinic receptors & Nicotinic receptors.	1
	c- Cholinergic drugs , Methacholin, Carbachol,	
	d- Bethanichol.	
	Intraocular pressure.	
	a- How to decrease IOP.	
	b- Mechanical action of ciliary body.	
8-	c- Pilocarpine, Muscarine, Nicotine.	1
	d- Indirectly acting cholinergic drugs;	
	e- Physostigmine, Neostigmine.	
	f- Edrophonium.	
9-	Irreversible cholinesterase inhibitors.	1

	a- Organophosphorous.	
	b- Manifestations of organophosphorous poisoning.	
	c- Treatment of organophosphorous poisoning.	
	d- Cholinergic antagonists.	
	e- Nicotinic blockers, Muscarinic blockers.	
	f- Atropine poisoning.	
	g- Non competitive depolarizing blockers.	
10-	Adrenergic Transmission. a- Transmitters. Synthesis of Noradrenaline. b- Storage of NA in the granules & Cytoplasim. c- Release of NA.	2
11-	Elimination of NA. Adrenergic receptors. a- a_ receptors. The mechanism of action of a_ receptors. b- Mechanism of action of p_receptors. c- Adrenergic agonist drug classification. d- Baro receptors. Catecholamines as drugs.	1
12-	P_ Agonist; Bronchodilators. Vasodilators. a- Adrenergic blockers. a1 _ Blockers. b- Indications. Side effects. c- a2_Blockers; uses d- P_ Blockers; classification. Indications. Side effects. Contraindications.	1
13-	Systemic Hypertention. a- Etiology, Complications. Antihypertensive drugs. b- Sympathoplegic drugs; Mechanism of action. c- Indications. Side effects. Contraindications. d- Diuretics. Arterial vasodilators. Ca channel Blockers. e- Angiotensine converting enzyme inhibitors.	2
14-	Angina pectoris. DeFinidon. Types of Angina. Antianginal drugs; Nitrates. p_Btockers. Ca channel blockers; Mechanism of action. Indication. Side effects. Contraindications.	1

	Nicorandil.	
15-	Histamin & Antihistamine drugs. a- Release of histamine.Mechanism of action. b- Effects of hlistamine on tissues & organ system. c- Histamine agonists, clinical uses. Adverse effects. Contraindications. d- Histamine antagonists, H1_ receptor antagonists. e- Mechanism of action. Actions not caused by H_receptor blockers. f- Clinical uses H1 antagonists. g- Adverse effects.	1
17-	H2_receptor antagonists; Mechanism of action. a- Effects of H2 antagonists on organ systems. b- Clinical uses. Adverse effect. Drug interactions. c- Serotonin; Mechanism of action.	1
18-	Pharmacological effects of serotonin on tissues & organ systems. Serotonin Agonists; clinical uses. Serotonin Antagonists; Cyproheptadine; clinical uses. Ketanserin; clinical uses. Ritanserin, Ondansetron, Granisetron.	1
19-	Antianxiety Drugs. Actions of Benzodiazcpines. Pharmacokinetics of Benzodiazepines. Clinical uses. Interactions. Adverse effects.	1
20-	Other special Benzodiazepines ;Lorazepam. a- Alprazolam. Benzodiazepines Antagonists. b- Flumazenil ; Adverse effects. c- Buspiron; Adverse effects. d- Hypnotic drugs;Barbiturates.Actions.Tolerance. e- Physiological & physical dependence. f- Pharmacokinetics. Contraindications. Clinical uses. Adverse effects.	2

	g- Trichloroethanol derivatives.	
	h- Paraldehyde, Chlormethiazole. Phenothiazines.	
	Depression	
	A -Monoamine hypothesis. Mechanism of action	
	b- Imipramine. Amitriptyline. Desipramine.	
21-	C -Nortriptyline. Doxepin.	1
	d- Action on CNS. Uses. Kinetics of drugsInteractions.	
	e- Selective Serotonin receptor inhibitors. Indication . Kinetic. Side effects.	
	f- MAO I ; Uses. Actions. Side effects.	
	Schizophrenia	
	a- Neuroleptics, mode of action. Therapeutic uses	
22-	b- Kinetics of Neuroleptics. Adverse effects.	1
	c- Treatment of Mania ; Pharmacokinetics.	
	d- Uses. Side effects.	
	Nonsteroidal anti-inflammatory drugs	
	a- Aspirin; Kinetics. Pharmacodynamics.	
23-		2
	b- Clinical uses of Aspirin. Dosage.	
	c- Adverse effect. Contraindications.	
	Overdose and Toxicity	
	a- Drug interactions. Newer NSAIDs	
	b- Ibuprofen. Side effects. Contraindications	
24-	c- Naproxen. Fenprofen. Indomethaccine.	2
	d- Diclofenac sod. ,Mefenamic acid, Piroxicam.	
	e- Diflunisal. Non narcotic analgesics,	
	f- Acetaminophen ; Uses. Kinetics. Adverse effects.	
	Narcotic analgesics	
	Opioid receptors. U_preceptors, 5_rcceptor. K_receptor.	
25-	Mechanism of action. Organ system effect of morphine & related drugs.	2
	Clinical uses of opioid analgesics. Contraindication	

26-	Toxic effects of opioid. Tolerance & Dependence. a- Classification of opioid analgesics. Phenanthrene. b- Phenylheptylamine , Clinical uses . c- Phenylpiperidine ; Clinical uses . d- Morphinans ; Clinical uses . e- Opioid antagonists; Naloxon. Naltrexone.	2
27-	General Anesthetics. a- Inhalation anesthetics. Stages & Planes of general anesthesia .Method of administration. b- Liquid inhalar anesth., Gaseous inhalated anesthetics. Mechanism of action. c- Dose response characteristics.	1
28-	Effects of general anesthesia. a- Halothine. Desflurane. Enflurane. Sevofluranea b- Mcthoxyflurane. Nitrous oxide. Contraindication c- Intravenous Anesthetics. Etomidate. Ketamine. Midazolam. Propofo1. d- Thiopental. Fentanyl. e- Adjunctive drugs for general anesthesia. f- Toxicity of general anesthesia.	1
29-	Local Anesthetics. a- Pharmacokinetics. Mechanism of action. b- Pharmacological effects. Vasoconstrictor effects. c- Techniques of local anesthetics. Uses of L.A. d- Toxic reaction of L.A., Treatment of adverse effects of L.A. e- Precaution & contraindication of L.A.	1
30-	Anti microbial Agents a- Mechanism of action. General principles in using antimicrobial. Drug of choice. Combination of antimicrobials . Problems with antimicrobials.	1

	b- Antibacterial agents. Mechanism of action. c- Penicillin; Uses. Dose. Kinetics. Semi synthetic penicillin's; Ampicilline; uses. a- Kinetics. Amoxicillin ; uses.	
31-	b- Adverse effects of penicillin's. c- Carboxypenicillines.	1
32-	Cephalosporins. First generation, Second generation. Third generation Spectrum . Uses. Kinetics. Side effects. Aztreonam ;uses. Carbapenems ; Imipenem, Meropenem. Bacitracine . Cycloserine. Vancomycin Mupirocin. Antibacterial; Polymixin.ramicidin.	1
33-	Antimicrobials that act on nucleic acid. a-Trimetheprim ; Uses. Side effects. b- Sulphonamides ; Uses. Side effects. c- Co-Trimoxazole ; Uses . Side effects. Contraindications.	1
34-	Sulphones. a- Dapson. Thiacetazone.Rifampicin;Mechanism of action.Uses. Side effects. b- Drugs acting directly on DNA ;Metronidazole. c- Tinidazole. Side effects. d- Quinolones ; Naldixic acid. Side effects. e- Fluoroquinolones. Norfloxacin. Ciprofloxacine.	1
35-	Drugs acting on Ribosomes. a- Amino glycosides. Kinetics. Dose. Toxicity. b- tetracycline's; Uses. Kinetics. Toxic effects of Tetracyclines.	1
36-	Drugs acting on 50s ribosome; a- Erythromycin; Uses. Kinetics. Side effects. Dose. b- Chloramphenicol; Mechanism of action. Uses. Kinetics. Toxic effects.	1

	Lincomycin. Side effects. Fucinic acid.	
37-	Anti T.B. drugs; lzoniazide; Mechanism of action Side effects. Ethambutol. Pyrazinamide.	1
	Anti leprosy drugs.	
	Antiviral Agents.	
	a- Viral replication. Antiherpes agents; Mechanism of action. Resistance. Clinical uses. Adverse reactions.	
	b- Antiretroviral agents; Mechanism of action. Resistance. Clinical uses. Adverse reactions. Interactions.	
38-	c- Protease inhibitors; Mechanism of action. Resistance. Clinical uses. Adverse reactions.	1
	d- Other Antiviral agents; Mechanism of action.	
	Side effects.	
	e- Interferons; Mechanism of action.	
	f- Ribavirin: Mechanism of action.	
	Antifungal drugs.	
	a- Superficial fungal infections.	
39-	Imidazoles. Polyenes; Nystatine. Amphotericin B Allylamines.Tolnaftate.Ketoconazole. Fluconazol1	1
	Griseofulvin. Dose .Side effects.	
	b- Deep or systemic fungal infections. Drug of choice. Flucytocin.	
	Anti diabetic drills	
40-	Diabetes Mellitus. Insulin; Mechanism of action	2
	Degradation. Receptor. Effects of Insulin on its targets.	
	Characteristics of Insulin preparations.	
	a- Insulin delivery systems. Side effects.	
41-	b- Oral Hypoglycemic agents ; Sulfonylureas ;	2
	c- Mechanism of action. Side effects.	
	d- Biguanides ; Mechanism of action. Side effects.	
42-	Drugs acting on the Gastrointestinal tract.	2

43-	a- Peptic ulcer. Antimicrobial agents. Regulation of gastric secretion. b- H2_receptor antagonists ;Therapeutic uses. c- Pharmacokinetics. Side effects. d- Inhibition of H_KATPase proton pump. e- Therapeutic uses. Kinetic of Omprazole. Side effects. Antimuscarinic agents ; Pirenzepine. Side effects. PGE2 & PGI2 ; Misoprostol . Side effects. Contraindication. Antacids; Adverse effects. Mucosal protective agents; Sucralfate. Colloidal Bismuth.	1
44-	Vomiting; Physiology. Classification of Antiemetic drugs. 1- Metoclopramide ; Clinical uses. Adverse effects. 2- Domperidone ; Clinical uses. 3- Cispride ; Clinical uses. Side effects. 4- Ondansetron.Nabilon; Adverse effects. 5- Constipation;Bulk purgatives .Osmotic Laxatives. 6- Faecal softeners Stimulant purgatives. 7- Diarrhea; Drug treatment. Codeine. Diphenoxylate. 8- Side effects .Contraindications Loperamide ; Side effects.	2
45-	Drugs used in clotting disorders. a- Anticoagulants ; Heparin ; Mechanism of action. b- Pharmacological action. Kinetics. Adverse effects. c- Heparin antagonist. Contraindications. d- Warfarin Mechanism of action . Side effects. e- Contraindications. Warfarin antagonists. f- Uses of anticoagulants . Antiplatelet drugs.	2
46-	Adrenal Corticosteroids. Mechanism of action. Glucocorticoids. Mineralocorticoids Therapeutic uses of adrenal corticosteroids. Short _acting glucocorticoids; Cortisone Hydrocortisone. Intermediate_acting glucocorticoids. Prednisone.Prednisolone. Methylprednisolone.	2

	Triamcinolone. Long _acting glucocorticoids. Betamethasone. Dexamethasone. Paramethasone. Pharmacokinetics. Adverse effects.	
	Diuretic Drugs.	
47-	Normal regulation of fluid and electrolytes by the kidneys. Kidney function in disease. Carbonic anhydrates inhibitors ; Acetazolamide; Mechanism of action.Therapeutic uses. Pharmacokinetics. Adverse effects. High_Ceiling diuretics;Bumetanide. Furosemide. Torsemide. Ethacrynic acid; Mechanism of action. Therapeutic uses. Pharmacokinetics. Adverse effects. Thiazides; Chlorothiazide. Mechanism of action. Therapeutic uses. Pharmacokinetics. Adverse effects. Potassium_Sparing diuretics; Spironolactone; Mech. Of action.Therapeutic uses. Kinetic. side effects. Triamterene & Amilride . Osmotic diuretics.	2

GENERAL PATHOLOGY

No.	Subjects	Hours
1-	Introduction.	1
2-	Cell damage.	3
3-	Inflammation.	4
4-	Healing and repair.	2
5-	Deposits and pigmentation.	1
6-	Infections.	5
7-	Immunopathology.	5
8-	Tumors.	5
9-	Genetics.	5
10-	Disturbances in body fluids and blood flow.	4
11-	Effects of ionizing radiation.	1

12-	Disease of the cardiovascular system.	3
13-	Diseases if the respiratory system.	4
14-	Diseases if lymph-reticular system.	5
15-	Haematopoietic system.	5
16-	Diseases G.I.T.	4
17-	Diseases of liver, pancreas and gall bladder.	3

BACTERIOLOGY

No.	Subjects	Hours
1-	Morphology and Ultra-structures of M.Os. a- Eukaryotic Vs prokaryotic cells: b- Cell structure of prokaryotes. c- Bacterial genome Vs nucleus & nuclear membrane. d- Cytoplasmic structure, Mesosome & Ribosome, Cytoplasmic granules, volutine granules. e- Cell envelope , cytoplasmic membrane , its function , peptidoglycan layers in G+ , G- bacteria , LPS , teichoicacids polysaccharides , surface age , function of cell wall microbial growth , cell division , survival and death of M.O.	3
2-	Growth curve (diagram) phases. a- Macrocapsule, definition, function. b- Microcapsule, definition, function. c- Pilli, function.	3
3-	Physiology and metabolism of M.O.	3
4-	The relation of bacteria to diseases: Host defenses, infection, adhesion & colonization of M.Os. Pathogenicity, virulence, major component of virulence, invasiveness, Toxigenicity, aggressins, adherence factors, antiphagocytic mechanism.	3
5-	Ecology of the oral flora: Indigenus flora.	2

	Supplemental flora.	
	Germs free animals, factors operating on the oral flora.	
6-	Oxidation – reduction potential (Eh), nutrient sources in the oral cavity.	3
	Dental plaque and dental caries.	
7-	Host – parasite relationships, symbiosis, antibiosis, amphibious, synergism, antagonism.	3
	Immunology:	
	a- Non Specific defense mechanism.	
	b- Natural, acquired, active and passive immunity, antigens, immunogens, immunogenicity, antigenic determinants, hapten, adjuvant.	
	c- Specific immune system, humoral, cellular, immunoglobulins, Ab structure, classes, subclasses, biological activity, monoclonal antibody, myeloma, T * B cooperation, T cell subjects.	
8-		5
	d- Primary and secondary immune response, lymphokines, antigen presenting cell, HLA.	
	E- Immunity of the oral cavity, antimicrobial activity of saliva.	
	F- Complement system, classical and alternative pathways, biological activity of complement test.	
	g- Antigen – antibody reactions, clinically important immunological tests, precipitation, agglutination.	
	h- Hypersensitivity, autoimmunity, tumor immunity.	
	The streptococci:	
	a- Lance field groups of streptococci, hemolysis.	
	b- Pathogenicity of streptococci.	
	c- Epidemiology.	
9-	e- Treatment & prevention.	3
	f- Oral streptococci, st. salivarius , st. sanguis , st. mitis , st. mutans.	
	st. pneumoniae , diagnosis , serology , capsular , polysaccharides , swelling teas.	

10-	The staphylococci: a- Physiology, virulence factors, hemolysis. b- Pathogenicity, hospital infection, antibiotic resistance.	3
11-	Gram Negative (Neisseria): N.gonorrhonea, N. meningitides.	2
12-	Corynebacterium: C. diphtheriae.	2
13-	Mycobacterium: a- M. Tuberculosis. b- M. leprae.	2
14-	Enterobacteria: Klebsiella, E-coli, shigella, sal-typhi and paratyphi, vibriocholera, Brucellu, homophiles, proteus, yersinia.	3
15-	Bacillus and clostridium: a- B. anthracis , B. subtilis. b- Cl. perfringens. c- Cl. Letani.	2
16-	Lactobacilli: a- Homofermentative L. lactis, L. acidophilus. b- Hetero fermentative L.fermentum.	3
17-	Fusiform and spiochaetes: a- Fusobacterium, leptotrichia. b- Treponema pallidum isolation, virulence, treat,ent.	2
18-	Actinomyces and other filamentous bacteria, classification, identification, pathogenicity, actinomycosis, periodontal diseases.	2
19-	Actinobacillus: A. Actinomycetem comitans.	2

20	Bacteroides.	2
21-	Miscellaneous micro organism a- Veillonella. b- Mycoplasma. c- Rickettsia and Chlamydia.	2
22-	Virology: a- General structure of viruses. b- Classification, RNA, DNA. c- Virus replication, isolation. d- Cultivation, infection X diagnosis. e- Host response to viral infection. f- Oncogenic viruses.	3
23-	Oral mycology: The fungal cell, reproduction, hyphae, yeast, and mycosis with orofacial manifestation.	2

DENTAL RADIOLOGY

No.	Subjects	Hours
1-	Introduction, outline of the course, history of dental radiation, x-radiation properties, radioactivity, uses of x-radiation. The cathodes, anode, target, focal area, size into x-radiation.	2
2-	The x-ray beam, position and shape, inverse square law, rectification, x-ray spectrum, filtration and collimation. Unmodified scattering, modified scattering Compton effect, Characteristic radiation.Half, value layer For measurement, lionization chambers. Film. Dosimeter, chemical the thermoluminesscent.	2
3-	Dental x-ray films, intra oral films, construction, size and speed, extra oral films, screen and non-screen, chemistry of screens, speed cassettes, size.	1
4-	Film properties, density, contrast, detail or definition.	1

5-	Latent image and film processing, latent image formation. Developing, fixing, manual and automatic processing, developer, fixer.	1
6-	The darkroom, size and location, construction and design, equipment, safe light, testing for safe light (coin test), film identification, intraoral and extraoral films, film and equipment storage.	1
7-	The radiograph, radiograph quality, principles of shadow, casting, artifacts due to exposure, processing, fog and rough handling.	1
8-	Viewing of the radiograph, image quality and projection, Geometry, optical illusions, viewing equipment and mounts, viewing technique.	1
9-	X-radiation protection, protection of the patient, film speed, collimation, filtration, and developing techniques, film placement and angulation procedures,distance and kilovoltage, lined cylinders and protective aprons.	2
10-	Protection for the operator,position, distance , barriers, radiation protection for associated person, regulatory measurements, monitoring procedures.	1
11-	Hazards, effects of radiation on living tissue, ionization, direct and indirect effects, tissue variability, whole body radiation, specific area radiation, individual variability, latent period, radiation of genetic tissues, effects on somatic tissues.	2
12-	Intra oral radiographic technique, bisecting and paralleling techniques, theory of the paralleling technique, theory of the bisecting technique compared, position of patient, film placement and angulation procedures using the paralleling technique, horizontal and vertical angulation.	2
13-	Film placement and procedures using the bisecting technique compromise procedures combining paralleling and bisecting techniques.	1

14-	Film placement and angulation procedure using bite- wing films, alternative film holding devices.	1
15-	Film placement and angulation produces using occlusal film to radiograph occlusal, view-cross-occlusal view.	1
16-	Panoramic radiography.	2
17-	Extra oral radiography (essential).	1
18-	Extra oral radiography (specialized).	1
19-	Normal radiographic anatomical landmarks.	1
20-	Common diseases of teeth and surrounding tissues.	1
21-	Digital radiography: a- Physical principles. b- Clinical applications. c- Advantages and disadvantages. d- Radiographic interpretation.	1
22-	Computerized Tomography (CT): a- Physics. b- Clinical applications. c- Advantages and disadvantages. d- Radiographic interpretation.	1
23-	Magnetic Resonance Imaging(MRI): a- Physics. b- Clinical applications. c- Advantages and disadvantages. d- Radiographic interpretation.	1
24-	Sonography: a- Physics. b- Clinical applications. c- Advantages and disadvantages. d- Radiographic interpretation.	1

College of Dentistry

4th year Curriculum

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	25.9.2011	Definitions: -Introduction to Fixed Prosthodontics. -Types of crowns. -Purposes of crown construction. -Steps in crown construction. -Components of bridge.	Introduction on the lab work, phantom heads and teeth manikins.	Every week there is one hour lecture and three hours practical lab.
2	2.10.2011	Definitions (continued):	Demonstration about the rotary instrument and how to cut geometrical cavities (Part 1).	
3	9.10.2011	Definitions (continued):	Demonstration about the rotary instrument and how to cut geometrical cavities (Part 2).	
4	16.10.2011	Biomechanical principles of tooth preparation: -Preservation of sound tooth structure. -Retention and resistance form.	Demonstration on full metal crown preparation on lower 1st molar.	

		-Marginal integrity. -Structural durability.	
5	23.10.2011	Biomechanical principles of tooth preparation (continued):	Demonstration on full metal crown preparation on lower 2nd molar.
6	30.10.2011	Biomechanical principles of tooth preparation (continued):	Practicing lab under supervision.
7	6.11.2011	Full metal crown: Indications,contra-indications, advantages, disadvantages, steps of preparation.	Practicing lab under supervision.
8	13.11.2011	Full metal crown (continued):	Practical assessment of full metal crown preparation on lower 1st molar.
9	20.11.2011	Porcelain fused to metal crown: Indications,contra-indications, advantages, disadvantages, steps of preparation.	Demonstration on porcelain fused to metal crown preparation on upper central incisor.
10	27.11.2011	Porcelain fused to metal crown (continued):	Demonstration on porcelain fused to metal crown preparation on upper lateral incisor.
11	4.12.2011	Complete ceramic crown (Porcelain Jacket Crown): Indications,contra-	Practicing lab under supervision.

		indications, advantages, disadvantages, and steps of preparation.	
12	11.12.2011	Complete ceramic crown (Porcelain Jacket Crown) (continued):	Practicing lab under supervision.
13	18.12.2011	Partial veneer crown (three-quarter crown): Indications, contra-indications, advantages, disadvantages, steps of preparation.	Practical assessment of porcelain fused to metal crown preparation on upper central incisor.
14	25.12.2011	Partial veneer crown (three-quarter crown) (continued):	Demonstration on post crown preparation on extracted root canal filled upper canine.
15	2.1.2012	Post crown: Indications, contra-indications, factors to be considered in the assessment of a tooth for post crown, components of post crown, types of post crown, steps of preparation.	Demonstration on post crown preparation on extracted root canal filled lower 1st premolar.
			Half-year Break
16	19.2.2012	Post crown (continued):	Practicing lab under supervision.

17	26.2.2012	Impression for crown and bridge work: -Objectives of taking impression. -Requirements of an acceptable impression. -Impression materials, -Impression techniques.	Practicing lab under supervision.
18	4.3.2012	Impression for crown and bridge work (continued):	Practical assessment of post crown preparation on extracted root canal filled upper canine.
19	11.3.2012	Impression for crown and bridge work (continued):	Demonstration on special tray construction.
20	18.3.2012	Provisional restoration: Definition, objectives, types (prefabricated, custom-made, and laboratory-made).	Demonstration on impression materials used in Fixed Prosthodontics.
21	25.3.2012	Provisional restoration (continued):	Demonstration on impression techniques in Fixed Prosthodontics.
22	1.4.2012	Working cast and dies: Advantages of working cast, definition of die, types of die material, techniques of producing die.	Demonstration on die construction using dowel pin.

23	8.4.2012	Working cast and dies (continued):	Demonstration on provisional restoration (Part 1): Materials.
24	15.4.2012	Waxing.	Demonstration on provisional restoration (Part 2): Techniques.
25	22.4.2012	Investing.	Demonstration on direct waxing for post crown construction on upper canine.
26	29.4.2012	Casting.	Demonstration on indirect waxing technique.
27	6.5.2012	Finishing of the casting.	Demonstration on investing and casting.
28	13.5.2012	Clinical try-in.	Demonstration on cleaning and finishing of the cast restoration.
29	20.5.2012	Cementation: -Types of cements used for cementation of crown restoration. -Techniques of cementation.	Final assessment of the practical work.
30	27.5.2012	Cementation (continued):	Final practical exam.

RESTORATIVE DENTISTRY

*Operative

No.	Subjects	Hours

1-	Caries of enamel, classification and clinical aspects.	2
2-	Caries of dentine and clinical application.	3
3-	Defense mechanisms of dentine against injury.	2
4-	History and examination of patients in conservative dentistry.	2
5-	Basic principles of treatment of caries as manifested in cavity preparation.	3
6-	Sterilization of instruments in conservative dentistry.	3
7-	Pain control in conservative dentistry.	3
8-	Systemic disease in relation to conservative dentistry.	3
9-	Irritation, types of irritants, immediate reaction to the pulp and the long term effect.	3
10-	Inflammatory conditions of the pulp, clinical manifestation. a- Acute inflammation of the pulp. b- Chronic inflammation of the pulp. c- Degenerative changes and necrosis of pulp tissue.	6
11-	Differential diagnosis of pulpitis and histopathological assessment.	2
12-	Pulpal exposures-traumatic exposures and treatment.	2
13-	Pathological exposures, treatment and the management of deep seated caries.	2
14-	Reaction of the pulp to operative procedures and material and the lines of prevention.	2
15-	Capping agents and healing process on the pulp following trauma.	2
16-	Pulpotomy in the adult teeth.	2

ORAL SURGERY

Topics Covered	
Dental pain	1

Cardiovascular diseases	2
Cardiovascular diseases	3
Cardiovascular diseases	4
Bleeding disorders	5
Bleeding disorders	6
Blood dyscrasias	7
Thyroid diseases	8
Adrenal insufficency	9
Diabetes mellitus	10
Pulmonary diseases	11
Arthritis	12
Allergy	13
Renal diseases	14
Liver diseases	15
C.N.S. diseases	16
Pregnancy	17
AIDS	18
Management of patients receiving chemotherapy & radiotherapy	19
Intraoral incisions, flaps and suturing	20
Intraoral incisions, flaps and suturing	21
Principles of management of impacted teeth	22
Principles of management of impacted teeth	23
Pyogenic infections	24
Pyogenic infections	25
Pyogenic infections	26

Inflammatory diseases of bone	27
Inflammatory diseases of bone	28
Complications of exodontia	29
Complications of exodontia	30

PERIODONTOLOGY

Topics Covered	Week
Definition of pedodontics Eruption of teeth , normal eruption process	1
Teething and difficult eruption	2
Eruption hematoma , sequestrum ,ectopic eruption	3
Natal and neonatal teeth Local factors influence eruption	4
Systemic factors influence eruption	5
Morphology of the primary teeth	6
Normal morphology of all primary teeth and their clinical consideration	7
Morphologic differences between primary and permanent teeth	8
Functions of primary teeth	9
Dental caries; Definition and Classification	10
Etiology of dental caries	11
Early childhood caries,	12
Nursing caries ,baby bottle tooth decay	13
Severe childhood caries	14
Rampant dental caries	15
Half-year Break	
Restorative dentistry for children	16

Isolation & maintenance of dry field and application of the rubber Dam	17
Morphological consideration ,cavity preparation and instrumentation	18
Cavity preparation ,	19
restorative materials, Matrices & retainers used in primary teeth	20
Chrome steel crowns	21
Atrumatic Restorative Therapy (ART)	22
Treatment of deep caries	23
Diagnosis aids in the selection of teeth for pulp therapy	24
Indirect pulp treatment	25
Vital pulp therapy	26
pulpotomy	27
Non vital pulp therapy technique	28
Reaction of pulp to various capping material	29
Failure after vital pulp therapy	30

ORTHODONTICS

No.	Subjects	Hours
1-	Introduction general overview: a- Definition of orthodontics. b- Definition of malocclusion in comparison with normal. c- Orthodontic. d- General outline. e- Description of various conditions requiring orthodontic treatment.	4
2-	Orthodontic appliances: a- General description.	12

	b- Removable.	
	c- Fixed.	
	d- Myofunctional.	
	e- Removable orthodontic appliances.	
	1- Description, function and requirements.	
	2- Properties of various components with emphasis on stainless steel wires and their manipulation.	
	3- Retention and anchorage.	
	4- Types.	
	5- Active components to move teeth.	
	Labia-lingual movement.	
	Mesio-distal movement	
	Expansion and construction.	
	Inter maxillary retractions.	
	Retainer plates and other auxiliary appliance.	
	The acrylic base plate.	
	Requirements to allow function of the appliance.	
	f- Repair and modification of Removable appliance.	
3-	Growth and development: a- Embryology and growth of the face and jaws. b- Development relationship of the dental apparatus to the skeletal and cranial structures.	5
	Development relationship of the soft tissues.	
4-	a- Tooth eruption. b- Process of eruption. C -Sequence of eruption.	5
5-	Stages of occlusion – definition of normal occlusion.	4

ORAL PATHOLOGY

No.	Subjects	Hours
1-	Introduction.	1

2-	Healing.	1
3-	Dental caries.	2
4-	Pulp pathology.	2
5-	Periapical pathology.	2
6-	Bone infection.	2
7-	Fibro-osseous lesions.	5
8-	Endocrine and metabolic disturbances.	2
9-	Developmental disturbances.	3
10-	Bone neoplasms.	4
11-	Developmental disturbances.	4
12-	Cysts of the jaw.	3
13-	Odontogenic tumors.	4
14-	Oral mucosal lesions.	2
15-	White lesions.	3
16-	Vesicule-bulbous lesions.	3
17-	Oral malignancies.	4
18-	Diseases if salivary glands.	2
19-	Tumors of salivary glands.	2
20-	Benign tumors and tumor like lesions.	3
21-	Oral manifestation of systemic diseases.	2
22-	Forensic odontology.	2
23-	Laboratory investigations.	2
24-	Disease of the tongue.	2
25-	T.M.J. pathology.	4
26-	Hematopoietic malignancies.	4
27-	Oral cytopathology.	2

GENERAL MEDICINE

No.	Subjects	Hours
1-	Systemic hypertension: a- Definition. b- Etiology. c- Risk factors. d- Treatment.	2
2-	Ischemic heart disease: a- Coronary circulation. b- Etiology. c- Angina pectoris. d- Types of angina. e- Myocardial infarction. f- Prevention of ischemic heart disease.	2
3-	Hematemesis, definition and causes. Hemoptysis, definition and causes.	1
4-	Rheumatic fever: a- Definition. b- Clinical features. c- Investigations. d- Diagnosis. e- Prevention.	1
5-	Infective endocarditis: a- Definition. b- Clinical features. c- Investigations. d- Diagnosis. e- Prevention.	2
6-	Diseases of the heart valves: a- Mitral valve stenosis, regurgitation.	2

	b- Aortic valve stenosis, regurgitation.	
	c- Definition.	
	d- Clinical features.	
	e- Investigations.	
	f- Diagnosis.	
	g- Prevention.	
7-	Hemorrhagic diseases: a- Mechanisms. b- Classifications. c- Investigations. d- Hereditary hemorrhagic telangectasia. e- Idiopathic thrombocytopenic purpura. f- Hemophilia. g- Christmas disease.	2
8-	Anemias: a- Clinical features. b- Iron deficiency anemia. c- B12, folate deficiency anemia. d- Pancytopenia.	2
9-	Hemolytic anemia: a- Spherocytosis. b- G6PD deficiency. c- Sickle cell anemia. d- Thalassemia. e- Autoimmune hemolytic anemia. f- Transfusion incompatibility.	2
10-	Erythrocytosis and polycythemia.	1
11-	Leukemia: a- Acute leukemia. b- Chronic leukemia. c- Multiple myeloma.	2

	d- Etiology, clinical features and treatment.	
12-	Esophagitis: Reflux esophagitis, clinical features, hiatus hernia, types of treatment, achalasia, dysphagia, causes and differential diagnosis.	1
13-	Acute abdomen: Definition, causes, history, examination and diagnosis.	2
14-	Diabetes mellitus: a- Etiology. b- Clinical features. c- Investigations. d- Diagnosis. e- Manegmanet. f- Hypoglycemia.	2
15-	Tuberculosis: a- Etiology. b- Clinical features. c- Investigations. d- Pathology. e- Treatment. f- Prevention.	2
16-	Symptoms of alimentary tract diseases: a- Pain. b- Loss of appetite. c- Heart burn. d- Regurgitation. e- Dysphagia. f- Flatulent. g- Investigations of G.I.T.	2
17-	Bronchial asthma: a- Clinical features.	2

b- Investigations.

c- Course and prognosis.

d- Dyspnea.

e- Orthopnea.

GENERAL SURGERY

	Topics Covered
1	Dental pain
2	Cardiovascular diseases
3	Cardiovascular diseases
4	Bleeding disorders
5	Bleeding disorders
6	Blood dyscrasias
7	Thyroid diseases
8	Adrenal insufficency
9	Diabetes mellitus
10	Pulmonary diseases
11	Arthritis
12	Allergy
13	Renal diseases
14	Liver diseases
15	C.N.S. diseases
16	Pregnancy
17	AIDS
18	Management of patients receiving chemotherapy & radiotherapy
19	Intraoral incisions, flaps and suturing
20	Intraoral incisions, flaps and suturing

21	Intraoral incisions, flaps and suturing
22	Intraoral incisions, flaps and suturing
23	Principles of management of impacted teeth
24	Principles of management of impacted teeth
25	Pyogenic infections
26	Pyogenic infections
27	Pyogenic infections
28	Inflammatory diseases of bone
29	Inflammatory diseases of bone
30	Complications of exodontias

University of Basrah

College of Dentistry

5th. year Curriculum

PROSTHODONTICS

Week	Topics Covered	Lab. Experiment Assignments
1	Occlusion in complete denture	
2	Occlusion in complete denture(cont.)	Clinical and technical steps of complete denture construction
3	Occlusion in complete denture(cont.)	
4		

Retention Support &Stability

Retention, Support &Stability(cont.) 5

Posterior Palatal seal determination 6

Complications in complete denture 7

Complications in complete denture(cont.) 8

Post insertion problems 9

Post insertion problems(cont.) 10

Immediate denture 11

Immediate denture (cont.) 12

Immediate denture (cont.) 13

Geriatric prosthodontics 14

15

	Esthetics in complete denture	
	Half-year Break	
	Single complete denture	16
	Single complete denture (cont.)	17
	Facial prosthesis	18
	Facial prosthesis (cont.)	19
	Facial prosthesis (cont.)	20
	Alveolar ridge atrophy	21
Clinical and technical steps of complete denture construction	Alveolar ridge atrophy (cont.)	22
	Alveolar ridge atrophy (cont.)	23
	Characteristics of ideal material of Dental implantoloyg	24
	Dental implantoloyg	25
	Dental implantoloyg (cont.)	26

	Dental implantoloyg (cont.)	27
	Dental implantoloyg (cont.)	28
	Overdenture	29
	Overdenture (cont.)	30
	Precision attachments(cont.)	31

RESTORATIVE DENTISTRY

Crowns and Bridges

No.	Subjects	Hours
1-	Introduction and definition of fixed bridges and comparison with partial denture.	2
2-	Clinical considerations for bridge construction.	2
3-	Definitions of advantage and disadvantage.	2
4-	Patient selection and examination: a- Intraoral. b- Radiograph. c- Diagnostic casts.	2
5-	Types of retainer and preparation.	2
6-	Impression materials and procedure.	2
7-	Bridge designs.	1
8-	Bits registration and articulation.	1
9-	Temporary restoration construction.	1

10-	Temporary bridges.	1
11-	Pontics and pontic designs.	1
12-	Porcelain material.	1
13-	Porcelain restorations.	1
14-	Occlusion and articulation.	1
15-	Try in and esthetic problems.	1
16-	Failures in crown and bridge.	1

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Endodontic

No.	Subjects	Hours
1-	Scope of endodontics: a- Indication for Endodontic therapy. b- Contra indication for Endodontic therapy.	2
2-	Introduction and treatment plan: a- Examination of the patient. b- Dental pain and referred pain. c- Differential diagnosis. d- Diagnosis errors.	2
3-	Endodontic radiography: a- Basic radiographic concepts. b- Examples of endodontic information from radiographs. c- Radiographic errors.	2
4-	Endodontic instruments.	1
5-	The rubber dam and its application: a- Rubber dam tools. b- Applying the rubber dam. c- Errors.	2
6-	Endodontic entries: a- Objectives of entries.	1

	b- Guides for entries. c- Instruments needed. d- General techniques for access preparation. e- Techniques for locating and exploring canal. f- Errors.	
7-	Preparation of root canals: a- Objectives in canal preparation. b- Aid in canal preparation. c- Determination of working length. d- Canal enlargement procedures. e- Chelating agents. f- Intra canal medicaments. g- Sealing agents for inter treatment dressing. h- Errors.	2
8-	Filling the root canal: a- Objectives. b- Criteria for filling. c- Gutta- percha material & techniques. d- Silver points. e- Errors.	2
9-	Endodontic culture: a- What cultures to be used. b- When to culture. c- Materials and instruments needed.	1
10-	Endodontic emergency treatment: a- Differential diagnosis. b- Treatment of common Endodontic emergencies.	1
11-	Restoration of endodontically treated teeth: a- Restoration considerations. b- Restorative of anterior teeth. c- Restoration of posterior teeth.	2

	Bleaching:	
12-	a- Instruments needed.	2
	b- Technique.	

ORAL SURGERY

Number of lecture	Topics Covered	
2	Endodontic surgery	1
1	Orofacial pain	2
1	Benign cystic lesions	3
2	Preprosthetic surgery	4
2	Salivary gland diseases	5
1	Diseases of TMJ	6
3	Facial injuries	7
1	Premalignant conditions	8
2	Oral cancer	9
2	Implants in oral surgery	10
1	Biopsy in oral surgery	11
1	Odontogenic tumors	12
1	Non-odontogenic tumors	13
1	Fibro-osseous lesions	14
1	Diagnostic imaging	15
1	Surgical aids to orthodontics	16
2	Orthognathic surgery	17
1	Cleft lip & palate	18
1	LASER & Cryosurgery	19
1	Management of foreign bodies	20
2	Reconstructive surgery	21

ORAL MEDICINE

No.	Subjects	Hours
1-	The principles of diagnoses.	2
2-	Laboratory investigations in dentistry.	2
3-	Facial pain.	2
4-	T.M.J disorders.	2
5-	Ulcerative. Vesiculo – bullus lesions.	2
6-	White lesions.	2
7-	Pigmented oral lesions.	2
8-	Oral medicine in children and geriatric.	2
9-	Neuromuscular disorders of the face.	2
10-	Occupational hazards in dentistry.	1
11-	Salivary glands and their diseases.	2
12-	Odontogenic diseases.	1
13-	Sex related oral diseases.	1
14-	Drugs in dentistry.	2
15-	Immunological aspects of oral diseases.	1
16-	Oral aspects of systemic diseases.	2
17-	Bleeding disorders and blood dyscrasias.	1
18-	Granulomatous diseases of the oral cavity.	1
19-	Viral infection.	1
20-	Bacterial and fungal infections.	1
21-	Oral manifestations of systemic diseases.	2
22-	Cardio-Vascular diseases.	1
23-	Endocrine diseases: a- Diabetics. b- Thyroid and growth hormones. c- Adrenal insufficiency.	1

	Hematological diseases:	
24-	a- Anemias. b- kemia.	1
25-	GIT diseases.	1
26-	Hepatitis.	1
27-	Respiratory and renal diseases.	1
28-	Drugs in dentistry.	1
29-	Benign and malignant lesions of the oral cavity.	1

PERIODONTOLOGY

No.	Subjects	Hours
1-	Diagnose of periodontal disease.	2
2-	Classification of periodontal disease.	3
3-	Epidemiology of periodontal disease.	2
4-	Prevention of periodontal disease.	2
5-	Periodontal disease and the immune system.	3
6-	Tooth mobility.	2
7-	The involvement of furcation in periodontal disease and it is management.	2
8-	Dentine hypersensitivity.	2
9-	New attachment and GTR.	3
10-	Crevicular fluid.	2
11-	Periodontal disease and other aspects of dentistry.	2
12-	The periodontal management of patients with systemic disease.	2
13-	Dental implants and the peri-implanted tissues.	3
14-	Antibiotic in periodontal treatment (seminar and discussion).	1
15-	Antiseptic in periodontology (seminar and discussion).	1

16-	Cause related to periodontal therapy (seminar and discussion).	2
17-	Treatment planning (seminar and discussion).	2
18-	Endodontics and periodontics (seminar and discussion).	2
19-	Surgical Vs. non-surgical treatment (seminar and discussion).	2
20-	Systemic disease with periodontium (seminar and discussion).	2

PAEDODONTICS

Lab. Experiment Assignments	Topics Covered	Week
	Occlusion in complete denture	1
	Occlusion in complete denture(cont.)	2
	Occlusion in complete denture(cont.)	3
	Retention Support &Stability	4
Clinical and technical steps of complete denture construction	Retention, Support &Stability(cont.)	5
	Posterior Palatal seal determination	6
		7

Complications in complete denture

Complications in complete denture(cont.) 8

Post insertion problems 9

Post insertion problems(cont.) 10

Immediate denture 11

Immediate denture (cont.) 12

Immediate denture (cont.) 13

Geriatric prosthodontics 14

Esthetics in complete denture 15

Half-year Break

Single complete denture 16

17

	Single complete denture (cont.)	
	Facial prosthesis	18
	Facial prosthesis (cont.)	19
	Facial prosthesis (cont.)	20
	Alveolar ridge atrophy	21
	Alveolar ridge atrophy (cont.)	22
Clinical and technical steps of complete denture construction	Alveolar ridge atrophy (cont.)	23
	Characteristics of ideal material of Dental implantoloyg	24
	Dental implantoloyg	25
	Dental implantoloyg (cont.)	26
	Dental implantoloyg (cont.)	27
	Dental implantoloyg (cont.)	28
	Overdenture	29

30

Overdenture (cont.)

31

Precision attachments(cont.)

ORTHODONTICS

No.	Subjects	Hours
1-	Malocclusion, Etiology - Genetic factors and inherited. - Environmental factors. Classification of etiologic factors: a- Skeletal. 1- Dental base and cranial base. 2- Variation of position and size of jaws. b- Soft tissue 1-Muscles of face and mastication. 2- Relationship to skeletal factors. 3-Abnormalities to oro-facial musculature. 4- Interference with soft tissue function. c- Tooth size, habits, arch size relationship, crowding and spacing. d- Local factors: 1-Extra teeth (supernumerary). 2-Missing teeth (decrease). 3- Early loss of deciduous teeth. 4- Abnormal eruptive behaviors. 5- Abnormality in size and shape of teeth. 6- Large labial fraenum.	14
2-	Classification of malocclusion: a- Angle's classification.	4

	b- Assessment of malocclusion. 1- Clinical. 2- Study casts. 3- Radiological, Intra – oral, extra- oral, O.P.G and cephalometrice.	
3-	Orthodontic tooth movement: a- Histology. b-Types of movement. 1- Tipping. 2- Bodily.	4
4-	Fixed and myofunctional appliances: a- Description and function. b- Comparisons between fixed and removable appliances. c- Mode of action myofunctional therapy. d- Space maintainers.	4
5-	Introduction to clinical orthodontics.	4

Preventive Dentistry

No.	Subjects	Hours
1-	Preventive dentistry (introduction).	1
2-	Prevention of dental caries.	2
3-	Fluoride in dentistry.	2
4-	Systemic fluoridation (history).	1
5-	Water fluoridation.	1
6-	Fluoride supplements.	2
7-	Safety of water fluoridation.	1
8-	Topical fluoride therapy (mechanisms).	1
9-	Types of topical fluoride.	1
10-	Toxicity of topical fluoride.	1

11-	Saliva.	1
12-	Saliva and dental caries.	1
13-	Microbiological aspect of dental caries.	1
14-	Streptococci.	1
15-	Lactobacilli.	1
16-	Immunization of dental caries.	2
17-	Diet.	2
18-	Diet and dental caries.	1
19-	Dietary counseling.	1
20-	Fissure Sealants (history).	2
21-	Uses of Fissure Sealants.	1
22-	New approach in restorative dentistry.	1
23-	Use of laser in dentistry.	2
24-	Oral hygiene measures.	2
25-	Prevention in aging dentition.	2
26-	Dental health of handicap children.	2
27-	Dental health education.	3
28-	Programs of preventive dentistry.	3