University of Anbar

College of Dentistry

Curriculum

رؤية الكلية

(التميز والصدارة في تحقيق المراتب العلمية الأولى بين كليات طب الأسنان محلياً وعربياً وصولاً للعالمية)

رسالة الكلية

(التميز العلمي والإداري للعاملين والخريجين وتخريج طلبة ذات كفاءة عالية ومتنوعة في مجال الاختصاص وخدمة المجتمع لتحقيق شعار الجامعة في خدمة المجتمع)

اهداف الكلية

١- أعداد ملاكات كفؤة من أطباء الأسنان لسد حاجة المجتمع وتحقيق الاعتمادية .
٢- تطوير ملاكات الكلية من خلال اشتراكهم في الندوات والمؤتمرات والدورات داخل وخارج العراق .
٣- تطوير مختبرات الكلية واستحداث مختبرات جديدة تحتوي على احدث التقنيات العالمية .
٤- تقديم الخدمات الاستشارية من قبل الأطباء الاختصاص لباقي الاطباء الخريجين من خلال دورات التعليم المستمر.
٥- خدمة المجتمع من خلال الخدمات الطبية والعلاجية التي يقدمها المستشفى التعليمي في الكلية .
٦- تحقيق اواصر التعاون العلمي بين كليتنا وكليات طب الاسنان الاخرى من خلال عقد الاتفاقيات الثنائية وتفعيلها.
٧- تبادل الخبرات العلمية والبحثية مع الجامعات والمؤسسات المتخصصة على جميع المستويات.
٨- توفير مناخ جامعي يساعد على تحقيق التميز وضمان جودة التعليم الاكاديمي .
٩- العمل على استحداث شعبة للدراسات العليا ولكافة فروع الاختصاص .
١٠- التأكيد على دور الارشاد الاكاديمي وتنمية روح الانتماء للوطن وإشاعة مبدأ العمل بروح الفريق الواحد.

University of Anbar
College of Dentistry
1st Year Curriculum

المرحلة الاولى

المادة : تشريح الاسنان عدد الوحدات: ٤ ترميز المقرر: 060101		
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
Total hours: 30		

المادة : الكيمياء الطبية عدد الوحدات: ٨ ترميز المقرر: 060103		
No.	**Subjects**	**Hours**
1	Inorganic chemistry: a- Acid-Base and salts. b- Ions in body fluids. c- Buffer – PH and acid-base balance. d- Solutions colloidal system. e- Concentrations (preparation of solutions). f- Chelating and medical interest. g- Pollution. h- Radiochemistry.	40
2	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 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,..)	40
3	Bio chemistry: a- Carbohydrates. b- Lipids. c- Proteins. d- Nucleic acids.	10
Total hours: 90		

المادة: الفيزياء الطبية عدد الوحدات ٦ ترميز المقرر: 060104		
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, Composition and remodeling) b- Compact and trabecular bone. c- Stress-strain curve: (compressive and tensile stress, young modulus). d- Bone Joints: (synovial fluid, joint friction coefficient).	3
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.	4

	f- Pressure in the urinary bladder. g- Boyle's law: (pressure while diving). HOT (hyperbaric oxygen therapy).	
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. h- physics of lung diseases.	5
7	Physics of cardiovascular system: a- Work done by the heat. b- Blood pressure and its measurement (indirect measurement, sphygmomanometer). c- Pressure across the blood vessel wall (Laplace wall). d- Bernoulli's principle applied to the cardiovascular system. e- Poiseuilles equation, laminar and turbulent flow, viscosity, Renyolds number. f- Physics of cardiovascular diseases.	5
8	Electricity within the body: a- Electrical potential of nerves (resting potential, action	5

	potential in myelinated and unmyelinated nerves). b- Electromyogram (EMG). c- Electrical potential in the heart (electrocardiogram ECG). d- Electroencephalogram (EEG). f- Biofeedback. 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).	
9	Sound in medicine: a- Properties of sounds. b- Stethoscope (including heart sound). c- Ultrasound (A-scan, B-scan, M-scan and Doppler effect). d- Physiological effects of ultrasound in therapy.	4
10	Physics of the ear and hearing: a- Structure of the ear (outer ear, middle ear, inner ear). b- Sensitivity of the ears.	3
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). Ophtalmoscope.	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. c- Brachtherapy, quality factor (QF).	3

16	Pollution: a- Natural occurrence of radioactive materials (Radon gas). b- Biological effects of ionizing radiation. c- Radiation protection. d- Radiation detection.	3
Total hours: 60		

المادة: علم الاحياء عدد الوحدات ٦ ترميز المقرر: 060102		
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	12

	Leishmania tropica. f- Morphology, life cycle and clinical manifestation of plasmodium vivax 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.	
3	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, Exocytosis , inter cellular junction, extracellualr matrix. 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.	15

	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.	
4	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. e- Classification of connective tissues, type of connective tissues. (loose 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.	13
5	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. d- Structure of chromosome, structure of DNA, Replication	10

	of DNA. 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 .	
Total hours: 60		

المادة: حقوق الانسان عدد الوحدات: ٢ ترميز المقرر: 060105		
No.	Subjects	Hours
1	مفهوم الحقوق	1
2	حقوق الانسان في الحضارات القديمة	1
3	حقوق الانسان في وادي الرافدين	1
4	حقوق الانسان في الشرائع السماوية	1
5	حقوق الانسان في الاسلام	1
6	حقوق الانسان في العصور الوسيطة	1
7	مفكرين وكتاب العصور الوسطى	1
8	حقوق الانسان في العصر الحديث	1
9	مفكرين وكتاب العصر الحديث	1
10	الصراعات والثورات	1
11	الاعتراف المعاصر بحقوق الانسان	1
12	مفكرين وكتاب معاصرين	1

13	سمنار (تقرير)	1
14	سمنار (تقرير)	1
15	سمنار (تقرير)	1
16	الصراعات والثورات	1
17	مضامين حقوق الانسان	1
18	حقوق الانسان في المواثيق الدولية	1
19	حقوق الانسان في المواثيق الاقليمية	1
20	حقوق الانسان في التشريعات الوطنية	1
21	اشكال واجيال حقوق الانسان	1
22	ضمانات حقوق الانسان وحمايتها على الصعيد الوطني	1
23	ضمانات حقوق الانسان وحمايتها على الصعيد الاقليمي	1
24	ضمانات حقوق الانسان وحمايتها على الصعيد الدولي	1
25	الاعلان العالمي لحقوق الانسان	1
26	حقوق الانسان على الصعيد الاسلامي	1
27	حقوق الانسان على الصعيد العربي	1
28	سمنار (تقرير)	1
29	سمنار (تقرير)	1
30	سمنار (تقرير)	1
Total hours: 30		

المادة: الحاسبات عدد الوحدات :٤ ترميز المقرر: 060106		
No.	**Subjects**	**Hours**
1	Introduction about Computer: a- Hard ware. b- Software. c- Computer structure. 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.	6
2	Introduction about MS-DOS: a- Operating System. b- Dos drive. c- Key board. d- Dos command. 1- Internet command. 2- External command. Ex. 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
Total hours: 30		

المادة: اللغة العربية عدد الوحدات: ٢ ترميز المقرر:060107		
No.	**Subjects**	**Hours**
1	اهمية اللغة العربية	1
2	التوابع: ١. العطف	1
3	التوابع: ٢. النعت	1
4	التوابع: ٣. التوكيد	1
5	التوابع: ٤. البدل	1
6	تطبيق	1
7	معانى الحروف: الاحادية	1
8	معانى الحروف: الثنائية	1
9	معانى الحروف: الثلاثية	1
10	معانى الحروف: الرباعية	1
11	تحليل نص ادبي	1
12	قراءة في نص شعري	1
13	تحليل النص	1

14	تطبيق	1
15	تطبيق	1
16	قراءة في نص نثري	1
17	تحليل النص	1
18	الخبر و الانشاء	1
19	انواع الخبر	1
20	تطبيق	1
21	انواع الانشاء	1
22	تطبيق	1
23	تحليل نص قرآني	1
24	قراءة في نص قراني	1
25	تحليل النص	1
26	الأخطاء النحوية و اللغوية و الاملائية الشائعة	1
27	الأخطاء النحوية	1
28	الأخطاء اللغوية	1
29	الأخطاء الاملائية	1
30	مراجعة عامة	1
Total hours: 30		

المادة: اللغة الانكليزية عدد الوحدات: ٢ ترميز المقرر:060108		
No.	**Subjects**	**Hours**
1	اللغة الانكليزية حسب منهاج اوكسفورد (Advanced, New Headway English Course)	30
Total hours: 30		

University of Anbar

College of Dentistry

2nd year Curriculum

المرحلة الثانية

المادة: صناعة الاسنان عدد الوحدات: ٦ ترميز المقرر: 060206		
No.	**Subjects**	**Hours**
1	Complete denture prosthesis: 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
4	Impression trays: a- Definition. b- Stock tray.	1
5	Primary impression: a- Production of study model. b- Common fault in impression making.	1
6	Study cast: Special trays, materials, importance and advantages.	1
7	Secondary of final impression: a- Mucostatic impression technique. b- Functional impression technique.	1
8	Final impression materials: a- Plaster impression. b- Zinc/oxide eugenol paste. c- Elastomere impression. d- Boxing and production of master cast.	1
9	Occlusion blocks:	1

	a- Record bases. Occlusion rims. b- Uses of bite rims, occlusal plane.	
10	Recording jaw relations: a- Maxillo-mandibular relation. b- Vertical dimensions.	1
11	Methods of recording vertical and horizontal relations: a- Mechanical method. b- Physiological method. c- Centric jaw relation, methods of recording. d- Center occlusion. e- Eccentric jaw relation.	1
12	Articulators: a- Types of articulators. b- Face-bow, definition, types.	1
13	Mounting the cast on the articulator. Method, common errors.	1
14	14- Selection of artificial teeth: a- Anterior teeth. b- Posterior teeth. c- Types of teeth according to material, cusp inclination.	1
15	Arrangement of artificial teeth: a- Guides. b- Arrangement of upper and lower six anterior teeth.	1
16	Arrangement of posterior teeth: a- Orientation of occlusion plane. b- Balanced occlusion.	1`
17	Wax contouring of denture. Waxing carving upper and lower denture.	1

18	Flasking of denture. Definition half and full flasking of denture.	1
19	Wax elimination: a- Preparing the mold for packing. b- Separating medium.	1
20	Preparation and packing of acrylic resin: a- Mixing, packing. b- Processing of dentures.	1
21	Deflasking of dentures: a- Removing of dentures. b- Reprocessing of dentures.	1
22	Abrasive and polishing agents: a- Types of burs. b- Carbrandum, pumice and rouge.	1
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
Total hours: 30		

المادة: الكيمياء الحياتية عدد الوحدات : ٦ ترميز المقرر: 060201		
No.	**Subjects**	**Hours**
1	Enzymes : a-Definition. b- Terminology.	4

	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.	
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. 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.	4

4	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. i- Inhibition of protein synthesis. 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.	4
5	Carbohydrate metabolism: a- Glycogen metabolism. b- Glycolysis. c-Gluconeogenesis. d- Metabolism of other important sugars. e- Citric acid cycle.	3

	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.	3

	Branched chain aminoacids: praline, hydroxyl praline, histidine, Phenyl alanine and tyrosin. Tryptophana, creatine and creatinine. Glutathion (composition & functions).	
Total hours: 30		

المادة: المادة السنية عدد الوحدات: ٢ ترميز المقرر: 060207		
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.	1

	b- Metals for crown and bridge.	
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
22	Polishing and abrasive. Denture cleaners.	2
Total hours: 30		

المادة: التشريح العام عدد الوحدات ٦ ترميز المقرر: 060204		
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).	4

	c- Cervical fascia. d- Cervical vescera, thyroid. e- Parathyroid.	
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	10

	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: Aorta and its branches. Inferior vena cava and its tributaries.	
16	Pelvis: a- Bony pelvis. b- Pelvic walls. c- Pelvic viscera.	4
Total hours: 60		

المادة: أنسجة الفم عدد الوحدات: ٤ ترميز المقرر: 060205		
No.	**Subjects**	**Hours**
1	Development of the oral cavity: a- Fertilization. b- Basic germ layer: c- Ectoderm. d- Mesoderm. e- Endoderm. f- Neural crest formation, migration and derivative. g- Brachial arches.	1
2	Development of face and oral cavity: a- Development of the facial process. b- Development of the tongue. c- Clinical considerations: d- Facial clefts. e- Development cyst. f- Lingual anomalies. g- Labial anomalies.	2
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.	1

	f- Histodifferentiation. g- Morphodifferentiation. h- Apposition.	
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. c- Different kinds of dentine.	1
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.	2

	c- Structure elements. d - Pulp stones. e- Defense cell neural system. f - Clinical consideration.	
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. c- Clinical considerations.	3
16	Dentino-gingival junction. Development of the epithelial attachments.	1
17	Salivary gland: a- Classification. b- Structure elements.	2

	c- Clinical considerations.	
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
Total hours: 30		

المادة: الفسلجة عدد الوحدات: ٦ ترميز المقرر: 060202		
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,	10

	extrinsic & intrinsic mechanisms. g- Prevention of blood clotting, intravascular anticoagulant, blood diseases. h- Blood groups, agglutinins & agglutinogens, blood typing, cross matching test.	
2	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 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.	10
3	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 different points in the tubules, the plasma	10

	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.	
4	Physiology of endocrine: Nature of hormones, function of hormones, mechanism of action, 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	10
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.	10

	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.	5
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.	5

	(taste). Special sensations: hearing, vision. & 47: autonomic nervous system: sympathetic & parasympathetic systems.	
Total hours: 60		

المادة: الانسجة العامة عدد الوحدات: ٦ ترميز المقرر: 060203		
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: a- Cellular & humoral immunity, antigen & antibody, differentiation & b- b- lymphocytes. c- Thymus, lymph node. d- Spleen, tonsil, encapsulated lymphoid, liver.	6
4	Digestive system: a- General structure & digestive tract, lip. b- Pharynx, esophagus, cardiac & pyloric parts & stomach.	6

	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.	
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
Total hours: 60		

المادة: حرية و ديمقراطية عدد الوحدات: ٢ ترميز المقرر: 060208		
No.	**المواضيع**	**Hours**
1	مفهوم الحرية	1
2	تطور الحريات الفردية عبر التأريخ	1
3	حرية الاقتصاد	1
4	حرية التجارة	1
5	الحرية السياسية	1
6	الحرية العامة	1
7	الحرية الدولية	1
8	حرية الدين	1

9	الحرية في الاسلام	1
10	اقسام الحريات الفردية في الاسلام	1
11	حرية التعبير والتفكير	1
12	ضوابط ممارسة الحرية في ضوء الشريعة الاسلامية	1
13	سمنار(تقرير)	1
14	سمنار(تقرير)	1
15	سمنار(تقرير)	1
16	مفهوم الديمقراطية	1
17	مبادئ الديمقراطية	1
18	نماذج الديمقراطيات المعاصرة	1
19	انواع الحكم الديمقراطي	1
20	ملامح الديمقراطية	1
21	ايجابيات الديمقراطية	1
22	سلبيات ونقد الديمقراطية	1
23	القيادة الديمقراطية والقيادة الدكتاتورية	1
24	الرأي العام –درجات –حدود–عوامل	1
25	ادوات تحقيق الديمقراطية	1
26	النظريات الديمقراطية لنشوء الدولة–هوبنز–لوك–جاك روسو	1
27	توزيع السلطة في المجتمع الديمقراطي	1

28	سمنار(تقارير)	1
29	سمنار(تقارير)	1
30	سمنار(تقارير)	1
Total hours: 30		

University of Anbar

College of Dentistry

3rd year Curriculum

المرحلة الثالثة

المادة: صناعة الاسنان عدد الوحدات: ٦ ترميز المقرر: 060306		
No.	**Subjects**	**Hours**
1	Introduction and component parts of removable partial denture, the way it is used and the different types with the nominations.	3
2	Terminology: Definitions for most of the terms used during the course with proper diagrams.	2
3	Classification of the partially edentulous arches as a mean of identification types of R.P.D. to occupy such different classifications.	3
4	Surveying: a- As procedures. b- Types of surveyors. c- Surveyor tools. d- Objectives of surveying.	3
5	Means of surveying: a- Detailed description of the procedure. b- Slides projection.	2
6	Major connector as a component part of R.P.D. function, general requirements and characteristics.	2
7	Maxillary and mandibular major connector: a- The different types and their preference. b- Advantage and disadvantages of each.	3

8	Slide presentation (for lecture 6&7).	2
9	Minor connector: a- Requirements for proper designing, function and types according to function. b- Occlusal rest and Occlusal rest seat. c- Proper angulation of resting, its importance.	3
10	Retainer for R.P.D., anchorage: a- Precision attachments, types. b- Usage, disadvantages.	3
11	Clasps: a-Requirement of a properly designed clasp. b-Properties of clasp in general. c- Factors affecting clasping.	4
Total hours: 30		

المادة: الاشعة عدد الوحدات: ٣ ترميز المقرر: 060303		
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	2

	measurement, lionization chambers. Film. Dosimeter, chemical the thermoluminesscent.	
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	2

	radiation, specific area radiation, individual variability, latent period, radiation of genetic tissues, effects on somatic tissues.	
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.	1

	c- Advantages and disadvantages. d- Radiographic interpretation.	
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
Total hours: 30		

المادة: معالجة الاسنان عدد الوحدات: ١٠ ترميز المقرر: 060304		
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
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
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.	2

	c- Removal of pulp chamber. d- Location of root canal.	
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
Total hours: 60		

المادة: الامراض العامة عدد الوحدات: ٦ ترميز المقرر: 060305		
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
Total hours: 60		

المادة: الادوية عدد الوحدات: ٥ ترميز المقرر: 060301		
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
3	Relation between drug dose & clinical response.	1

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

9	Irreversible cholinesterase inhibitors. 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.	1
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.	2

	e- Angiotensine converting enzyme inhibitors.	
14	Angina pectoris. DeFinidon. Types of Angina. Antianginal drugs; Nitrates. p_Btockers. Ca channel blockers; Mechanism of action. Indication. Side effects. Contraindications. Nicorandil.	1
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
16	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
17	Pharmacological effects of serotonin on tissues & organ systems. Serotonin Agonists; clinical uses. Serotonin Antagonists; Cyproheptadine; clinical uses. Ketanserin; clinical uses. Ritanserin, Ondansetron, Granisetron.	1
18	Antianxiety Drugs. Actions of Benzodiazcpines. Pharmacokinetics of Benzodiazepines. Clinical uses. Interactions. Adverse	1

	effects.	
19	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. g- Trichloroethanol derivatives. h- Paraldehyde, Chlormethiazole. Phenothiazines.	2
20	Depression A -Monoamine hypothesis. Mechanism of action b- Imipramine. Amitriptyline. Desipramine. C -Nortriptyline. Doxepin. d- Action on CNS. Uses. Kinetics of drugsInteractions. e- Selective Serotonin receptor inhibitors. Indication . Kinetic. Side effects. f- MAO I ; Uses. Actions. Side effects.	1
21	Schizophrenia a- Neuroleptics, mode of action. Therapeutic uses b- Kinetics of Neuroleptics. Adverse effects. c- Treatment of Mania ; Pharmacokinetics. d- Uses. Side effects.	1
22	Nonsteroidal anti-inflammatory drugs a- Aspirin; Kinetics. Pharmacodynamics. b- Clinical uses of Aspirin. Dosage. c- Adverse effect. Contraindications.	2

23	Overdose and Toxicity a- Drug interactions. Newer NSAIDs b- Ibuprofen. Side effects. Contraindications c- Naproxen. Fenprofen. Indomethaccine. d- Diclofenac sod. ,Mefenamic acid, Piroxicam. e- Diflunisal. Non narcotic analgesics, f- Acetaminophen ; Uses. Kinetics. Adverse effects.	2
24	Narcotic analgesics Opioid receptors. U_preceptors, 5_rcceptor. K_receptor. Mechanism of action. Organ system effect of morphine & related drugs. Clinical uses of opioid analgesics. Contraindication Toxic effects of opioid.	2
25	Adrenergic Transmission. a- Transmitters. Synthesis of Noradrenaline. b- Storage of NA in the granules & Cytoplasim. c- Release of NA.	2
26	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.	1

	c- Dose response characteristics.	
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. b- Antibacterial agents. Mechanism of action. c- Penicillin; Uses. Dose. Kinetics.	1
31	Semi synthetic penicillin's; Ampicilline; uses. a- Kinetics. Amoxicillin ; uses. b- Adverse effects of penicillin's. c- Carboxypenicillines.	1
32	Cephalosporins. First generation, Second generation. Third generation	1

	Spectrum . Uses. Kinetics. Side effects. Aztreonam ;uses. Carbapenems ; Imipenem, Meropenem. Bacitracine . Cycloserine. Vancomycin Mupirocin. Antibacterial; Polymixin.ramicidin.	
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.	1
36	Toxic effects of Tetracyclines. Drugs acting on 50s ribosome; a- Erythromycin; Uses. Kinetics. Side effects. Dose. b- Chloramphenicol; Mechanism of action. Uses. Kinetics. Toxic effects.	1
37	Lincomycin. Side effects. Fucinic acid. Anti T.B. drugs; lzoniazide; Mechanism of action Side effects. Ethambutol. Pyrazinamide. Anti leprosy drugs.	1

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

	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.	
43	PGE2 & PGI2 ; Misoprostol . Side effects. Contraindication. Antacids; Adverse effects. Mucosal protective agents; Sucralfate. Colloidal Bismuth. Vomiting; Physiology. Classification of Antiemetic drugs.	1
44	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.	2

	Mineralocorticoids Therapeutic uses of adrenal corticosteroids. Short _acting glucocorticoids; Cortisone Hydrocortisone. lntermediate_acting glucocorticoids. Prednisone.Prednisolone. Methylprednisolone. Triamcinolone. Long _acting glucocorticoids. Betamethasone. Dexamethasone. Paramethasone. Pharmacokinetics. Adverse effects.	
47	Diuretic Drugs. 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
Total hours: 60		

المادة: الاحياء المجهرية عدد الوحدات: ٥ ترميز المقرر: 060307		
No.	**Subjects**	**Hours**
1	Morphology and Ultra-structures of M.Os. a- Eukaryotic Vs prokaryotic cells:	3

	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.	
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. Supplemental flora.	2
6	Germs free animals, factors operating on the oral flora. Oxidation – reduction potential (Eh), nutrient sources in the oral cavity.	3
7	Dental plaque and dental caries. Host – parasite relationships, symbiosis, antibiosis, amphibious, synergism, antagonism.	3

8	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. 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.	5
9	The streptococci: a- Lance field groups of streptococci, hemolysis. b- Pathogenicity of streptococci. c- Epidemiology. e- Treatment & prevention. f- Oral streptococci, st. salivarius , st. sanguis , st. mitis , st. mutans. st. pneumoniae , diagnosis , serology , capsular , polysaccharides , swelling teas.	3
10	The staphylococci:	3

	a- Physiology, virulence factors, hemolysis. b- Pathogenicity, hospital infection, antibiotic resistance.	
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:	2

	A. Actinomycetem comitans.	
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
Total hours: 60		

المادة: جراحة الفم عدد الوحدات: ٢ ترميز المقرر: 060302		
No.	**Subjects**	**Hours**
1	Elevators: a- Definition. b- Line of withdrawal. c- Point of applications. d- Mechanical principles of using elevators. e- Type of elevators. f- Clinical uses of elevators.	3

	g- Guiding principles for use of elevators. h- Complication of using elevators.	
2	Instruments for basic oral surgery: a- Instrument to incise tissue. b- Instrument to elevate mucoperiosteum. c- Instrument to control hemorrhage. d- Instrument to grasp tissue. e- Instrument to remove bone. f- Instrument for suturing. g- Instrument for retraction of soft tissue. h- Instrument for irrigation and suction.	3
3	Oral and maxillofacail surgery: a- Definition. b- Tooth extraction. c- Methods of extraction. d- Indication for forceps and surgical extraction.	3
4	Limitation of exodontia: a-Local. b- Systemic. c- Position of the operator and the patient. d- Sterilization. e- Instrument used for extraction. f- Diagnostic instrument.	3
5	Extraction of teeth: a- Methods of extraction. b- Instrument used for extraction. c- Dental forceps. d- Properties and requirements of dental forceps.	3

	e- Type of dental forceps. f- Common errors in forceps extraction.	
6	Mechanical principles of extraction: a- Extraction with the left hand dentist. b- Post operative care of extraction wound. c- Instruction of the patient after extraction.	3
7	Surgical anatomy in exodontia.	3
8	Evaluation of local and systemic difficulties prior to extraction, blood diseases, cardiovascular, respiratory, liver, kidney, endocrine, mental disorders, steroids, pregnancy, allergies to drugs, anticoagulants, and antidepressants.	3
9	Pre-extraction treatment. Antibiotic cover, drugs control improvement of oral hygiene, surgical procedures and sedation.	3
10	Surgical extraction. a- Indications, flaps design, bone removal, suturing, post-operation care. b- Complication of extraction. c- Bleeding, fracture fistula and dry socket.	3
Total hours: 30		

University of Anbar

College of Dentistry

4th year Curriculum

المرحلة الرابعة

المادة: جراحة الفم عدد الوحدات: ٦ ترميز المقرر: 060401		
No.	**Subjects**	**Hours**
1	Periapical surgery: a- Definition. b- Indications and contraindications. c- Surgical procedures.	3
2	Dental management of patient with G.I.T. disease: a- Peptic ulcer. b- Inflammatory diseases of the bowel including ulcerative colitis. c- Crohn's syndrome. d- Clinical features. e- Etiology. f- Medications. g- Patient and their relation to the dental treatment. h- Dental management.	3
3	Bleeding disorders: a- Causes. b- Pathophysiology. c- Functions of components of hemostatic mechanisms. d- Detection of bleeder patient. e- Hemophilia and Christmas disease, clinical features and dental management. f- Von-willebrand's disease, clinical features and dental management. g- Anticoagulant drugs, coumarin, heparin, clinical	3

	features and dental management. h- Thrombocytopenia, clinical features and dental management. i- Vascular wall alterations, clinical features and dental management. j- Disorders of platelets release, causes, clinical features and dental management. k- Disseminated intravascular coagulation (DIC), clinical features and dental management. l- Results of secreening tests. m- Selection of screening laboratory test according to disease.	
4	Blood dyscrasias: a- Definitions. b- Classification. c- Anemia classification, dental management. d- Polycythemia, dental management. e- Leukemia, classification, dental management. f- Lymphoma, classification, dental management. g- Multiple myeloma, dental management.	3
5	Inflammatory disease of the bone: a- Basic terms. b- Acute alveolar osteitis (dry socket). c- Osteomyelitis. d- Chronic osteomyelitis. e- Non suppurative sclerosing osteomylitis. f- Osteomylitis of the maxilla. g- Specific infections of the bone.	4

6	Intraoral incisions, flaps and suturing: a- Definitions. b- Requirements of the correct flap design. c- Types of intraoral flaps. d- Suturing. e- Needles. f- Techniques of suturing.	3
7	Thyroid disease: a- Relationship to the dentist. b- Categories of thyroid disease. c- Basic anatomic and physiologic terms. d- Control of blood level of T3, T4. e- Laboratory test. f- Thyrotoxicosis. g- Hypothyroidism. h- Dental management.	3
8	Adrenal insufficiency: a- Basic terms regarding anatomy and physiology of the gland. b- Regulation of cortisol secretion. c- Cortisol like drugs. d- Pathophysiology of adrenocortical insufficiency, primary and secondary. e- Clinical presentation of hypoadrenalism and hyperadrenalism. f- Laboratory findings, medical and dental management. g- Management of adrenal crisis.	3
9	Diabetes mellitus:	3

	a- Classification. b- Etiology. c- Sign and symptoms. d- Pathophysiology. e- Complications. f- Laboratory investigations. g- Medical management. h- Insulin shock. i- Dental management. j- Oral complications.	
10	Principles of management of impacted teeth: a- Introduction, indications, contraindications and classifications. b- Factors that make impaction surgery less, more difficult. c- Clinical examination. d- Radiological assessment. e- Removal of mandibular third molar. f- Impacted upper third molar. g- Impacted upper canine. h- Indications for removing unerupted canines. i- Surgical technique and other lines of treatment. j- Other impacted teeth.	3
11	Biogenic infections of the soft tissues: a- Acute alveolar abscess. b- Pericoronal abscess. c- Other abscesses. d- Bacteriology.	3

	e- Clinical features of periapical abscess.	
12	Spread infections of the soft tissues: a- The anatomical factors influencing the direction of spreading. b- Sites of pus accumulation. c- Spread infections to the facial spaces. d- Spread infections to the upper jaw. e- Treatment of abscess.	3
13	Pulmonary diseases: a- Chronic obstructive pulmonary diseases, emphysema and chronic bronchitis. b- Asthma. c- Tuberculosis.	3
14	Allergy: a- Definition. b- General description. c- Etiology. d- Pathophysiology. e- Types of allergic reactions. f- Medical and dental management.	3
15	Local anasthesia (LA): a- Mode of actions. b- Constitution. c- Dose. d- Failure of LA e- Complications of LA f- Block and infiltration techniques.	4
16	Complication of exodontia:	3

	a- Complications during surgery. b- Postoperative complications. c- Removal of roots. d- Localization of root. e- Displacement of root into maxillary sinus.	
17	Cyst of bone and soft tissues: a- Classifications. b- Enlargement. c- Clinical features. d- Diagnosis. e- Treatment.	3
18	Cardiovascular disease: a- Hypertension. b- Ischemic heart diseases. c- Congenital heart disease. d- Rheumatic fever and rheumatoid heart diseases. e- Infective endocarditis. f- Cardiac arrhythmia. g- Congestive heart diseases.	4
19	Arthritis: a- Rheumatoid arthritis. b- Osteoarthritis. c- Systemic lupus erythematosus.	3
20	Differential diagnosis of swelling of head and neck: a- Lymphatic swelling. b- Cystic swelling. Other swellings.	3
21	Soft tissues swellings of the oral mucosa:	3

	a- Swelling of the gingiva. b- Swelling of the buccal and palatal mucosa. c- Swelling of the tongue.	
22	Renal disease: a- Chronic renal failure. b- Peritoneal dialysis. c- Hemodialysis. d- Renal transplantation.	3
23	Dermatological diseases: a- Fungal infections. b- Drug eruptions. c- Skin pigmentation.	3
Total hours: 72		

المادة: أمراض اللثة عدد الوحدات: ٤ ترميز المقرر: 060404		
No.	**Subjects**	**Hours**
1	Terms and definitions frequently used in periodontology: a- Periodontology. b- Periodontium. c- Periodontal ligament. d- Gingival sulcus. e- Alveolar process. f- Papilla. g- Periodontal disease. h- Cementum. i- Lamina dura.	1

2	Periodontal ligament: a- Development. b- Classification. c- Function of the periodontal ligament. d- Nerve and blood supply.	2
3	Gingiva.	2
4	Alveolar process.	2
5	Cementum.	2
6	Etiology of periodontal disease: a- Local factors. b- Predisposing factors. c- Modifying factors.	2
7	Microbial dental plaque: a- Definition. b- Stages of plaque formation. c- Types of plaque: 1-Supragingival. 2- Subgingival. d- Mode of attachment of plaque. e- Composition of plaque. f- Types and consistency of diet and plaque. g- Microbial flora associated with: h- Health periodontium. i- Gingivitis. j- Chronic periodontitis. k- Aggressive periodontitis.	3
8	Dental calculus: a- Definition.	3

	b- Types of calculus: 1- Supragingival calculus. 2- Subgingival calculus. c- Mode of attachment of calculus. d- Theories of calculus formation	
9	Tooth stains: a- Endogenous. b- Exogenous.	2
10	Pathogenesis of periodontal disease: a- Direct effect: b- Bacterial exotoxines. c- Bacterial endotoxines. d- Cytotoxines. e- Indirect effect: f- Inflammatory response: 1-Vascular. 2-Cellular. G -Immune response: 1-Humoral. 2-Cell mediated.	4
11	Classification of periodontal diseases: a- Gingival diseases. b- Chronic periodontitis c- Aggressive periodontitis d- Periodontitis as manifestation of systemic diseases. e- Necrotizing Periodontal Diseases. f- Abscesses of Periodontium.	2

	g- Periodontitis associated with Endodontic Lesion. h- Development or Acquired Deformities & Conditions.	
12	Treatment of periodontal disease: a- Cause related therapy. b- Treatment phase: c- Root planing (blind). d- Surgical procedures 1- Replaced (modified widman's flap). 2- Sliding or laterally repositioned flap. 3- Distal wedge flap. e- Maintenance phase.	5
13	Anatomy of periodontium (seminar and discussion).	2
14	Dental plaque and calculus (seminar and discussion).	2
15	Bacteriology in periodontal disease (seminar and discussion).	2
16	Pathogenesis and periodontal disease (seminar and discussion).	2
17	Trauma from occlusion (seminar and discussion).	2
18	Drug and periodontal disease (seminar and discussion).	2
Total hours: 42		

المادة: أمراض الفم عدد الوحدات: ٥ ترميز المقرر: 060408		
No.		**Hours**
1	**Subjects**	1
2	Introduction.	1

3	Healing.	2
4	Dental caries.	2
5	Pulp pathology.	2
6	Periapical pathology.	2
7	Bone infection.	5
8	Fibro-osseous lesions.	2
9	Endocrine and metabolic disturbances.	3
10	Developmental disturbances.	4
11	Bone neoplasms.	4
12	Developmental disturbances.	3
13	Cysts of the jaw.	4
14	Odontogenic tumors.	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
Total hours: 72		

المادة: جراحة عامة عدد الوحدات: ٤ ترميز المقرر: 060407		
No.	**Subjects**	**Hours**
1	Preoperative assessment .	2
2	Shock .	2
3	Metabolic response to trauma	1
4	Postoperative care and management	2
5	Tumors	2
6	Surgical drains	1
7	Tracheostomy	1
8	Haemorrhage .	2
9	Fever .	1
10	Nutrition and feeding .	2
11	Biopsy	1
12	Surgical infections	2
13	Suture materials .	1
14	Healing	1
15	Chest trauma	2
16	Fractures	1
17	Blood products and transfusion	2
18	ATLS	1
19	Head injury	2
20	Congenital deformities	1
Total hours: 30		

المادة: معالجة الاسنان عدد الوحدات: ٦ ترميز المقرر: 060405		
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
Total hours:42		

المادة: تقويم الاسنان عدد الوحدات: ٤ ترميز المقرر: 060407		
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. 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	12

	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
4	Development relationship of the soft tissues. a- Tooth eruption. b- Process of eruption. C -Sequence of eruption.	5
5	Stages of occlusion – definition of normal occlusion.	4
Total hours: 30		

المادة: صناعة الاسنان عدد الوحدات: ٦ ترميز المقرر: 060403		
No.	**Subjects**	**Hours**
1	Principle and essential of partial denture design.	2
2	Factors influencing the design.	2
3	Impression registration: a- For class I Kennedy classification. b- For class II and III.	3
4	Component parts of partial denture. Factors affecting the path of insertion and placement.	3
5	Free extension, true partial denture:	3

	a- Factors affecting the support. b- Design of partial denture framework.	
6	Altered cast technique and impression registration. Functional relining methods.	3
7	Occlusal relationship for removable partial denture: a- Methods and materials for establishing the relation. b- Maxillary complete denture against partial denture.	3
8	Placement, adjustment. Framework occlusal interference.	2
9	Relining, Rebasing, repairs and additions to R.P.D. Adjustment of occlusion with natural and artificial teeth.	2
10	Post insertion complication of removable partial denture. Acrylic, cobalt chromium.	2
11	Complete denture. Examination, diagnosis and treatment planing.	3
12	Examination procedure: a- History, extra and intra oral examination. b- The use of additional or specific investigation.	2
13	Systemic disease.	1
14	Anatomy and physiology as relation to complete denture.	1
15	Myology. Function of muscles, muscles of facial expression.	1
16	Pre-prosthetic surgery. Mouth preparation prior to complete denture construction.	1
17	Impression technique: a- Objectives. b- Types of materials.	2

18	Impression trays. Final impression.	1
19	Jaw relation. Horizontal and vertical.	1
20	Methods of recording jaw relation: a- Importance of vertical dimension. b- Importance of horizontal relation.	1
21	Selection and arrangement of teeth. Materials of artificial teeth used.	2
22	Try-in stage and trial denture evaluation.	1
Total hours: 42		

المادة: الطب الباطني عدد الوحدات: ٤ ترميز المقرر: 060406		
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.	1

	Hemoptysis, definition and causes.	
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. b- Aortic valve stenosis, regurgitation. c- Definition. d- Clinical features. e- Investigations. f- Diagnosis. g- Prevention.	2
7	Hemorrhagic diseases: a- Mechanisms. b- Classifications. c- Investigations. d- Hereditary hemorrhagic telangectasia. e- Idiopathic thrombocytopenic purpura. f- Hemophilia.	2

	g- Christmas disease.	
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. d- Etiology, clinical features and treatment.	2
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.	2

	c- Investigations. d- Diagnosis. e- Manegmanet. f- Hypoglycemia.	
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. b- Investigations. c- Course and prognosis. d- Dyspnea. e- Orthopnea.	2
Total hours: 30		

المادة: طب المجتمع عدد الوحدات: ٤ ترميز المقرر: 060402		
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: a- Variables and graphs. b- Frequency distribution. c- Measuring of central tendency (mean, medium, and mode).	2

	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).	
5	Dental health education: a- Definition. b- Methods of providing DHE. c- Health education models. d- Dental health education to school children.	3
6	Dental ancillaries personnel: a- Definition. b- Classification. c- The dental team (for hand dentistry). d- The future delivery of dental care services.	2
7	Primary teeth care.	2
8	Planning for manpower requirements in dental public health: a- International manpower variation. b- Growth trends and supply of dental manpowers. c- Productivity of dentist. d- The utilization. e- Policy formulation for dental health manpower planning. f- Evaluation of dental services.	3
9	Dental treatment, needs, demands and utilization: a- Definition. b- Assessment of treatment needs of dental caries,	4

	periodontal diseases orthodontic needs and dental prosthetic. 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
Total hours: 30		

University of Anbar

College of Dentistry

5th year Curriculum

المرحلة الخامسة

المادة: جراحة الفم و الوجه و الفكين عدد الوحدات: ٦ ترميز المقرر: 060501		
No.	**Subjects**	**Hours**
1	Preprosthetic surgery: a- Correction of alveolar bone. b- Augmentation of alveolar bone. c- Correction of soft tissue.	2
2	Benign oral neoplasm and premalignant lesions: a- Oral epithelial tumors. b- Oral nevi. c- Oral connective tissue tumors. d- Oral premalignant conditions.	2
3	Laser in oral surgery: a- Introduction. b- Historical development of laser. c- Advantages and disadvantages. d- Mechanism and action of laser. e- Vaporization. f- Photo dynamic. g- Photomechanical effect. h- Coagulation. i- Laser types. j- Laser safety. k- Clinical applications. l- Complications of laser.	1
4	Premalignant conditions: a- Leukoplakia.	2

	b- Erythroplakia. c- Candidal leukoplakia. d- Other conditions and risk factors. e- Submucous fibrosis. f- Erosive lichen planus. g- Syphilitic glossitis. h- Sidropenic dysphagia.	
5	Soft tissue reconstruction of the oro-facial region: a- Indications and requirements. b- Skin grafting. c- Flaps. d- Hard tissue reconstruction.	2
6	Oral cancer: a- Introduction. b- Causes of death. c- Classification. d- T.N.M. system. e- Etiology and risk factors. f- Clinical presentation and diagnosis. g- Biological behavior of squamous cell carcinoma. h- Maxillary carcinoma. i- Mandible and tumor spread. j- Surgical treatment of mandible in oral cancer.	2
7	Salivary gland diseases: a- Anatomy. b- Classifications. c- Investigations.	2
8	Orthognathic surgery:	2

	a- Definitions. b- Causes of deformities. c- Diagnosis. d- Anterior and lateral facial portions. e- Cephalometry. f- Surgical corrections.	
9	General anasthesia in dentistry.	2
10	Benign tumor of oral soft tissue: a- Introduction. b- Classification. c- Epithelial tumors and tumor like conditions. d- Tumors of lymphatic, vascular, nervous and muscular tissues. e- Diagnosis. f- Treatment and percussion.	2
11	Maxillary antrum disease.	2
12	T.M.J.: a- Classification. b- Clinical manifestation of each disease and condition.	2
13	Facial injuries: a- Middle third fracture. b- Life saving measures. c- Immediate management of the facial injuries. d- Radiographic examination. e- Signs and symptoms of each type of injury. f- General management of the injury. g- Mandibular fracture.	4
14	Surgical aids to ortho:	2

	a- General view. b- Need for cooperation develop between orthodontist and oral surgeon. c- Management of impacted canine. d- Parallex technique. e- Other surgical methods to help orthodontist.	
15	Facial pain.	2
16	Dental implant.	3
17	Examination and preparation of a patient needs surgical operation.	2
18	Bone diseases: a- Fibro-osseous lesions: b- Polystotic type. c- Monostotic type. d- Albright's syndrome. e- Hyperparathyroidism. f- Ossifying fibroma. g- Renal osteodystrophy. h- Paget's disease of bone. i- Cherubisim.	3
19	Odontogenic tumor and odontoma: a- Epithelial odontogenic tumors. b- Mesodermal odontogenic tumors.	3
Total hours: 42		

المادة: طب الفم عدد الوحدات: ٤ ترميز المقرر: 060507		
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
24	Hematological diseases: a- Anemias.	1

	b- kemia.	
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
Total hours: 42		

المادة: وقاية الاسنان عدد الوحدات: ٤ ترميز المقرر: 060505		
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
Total hours: 42		

المادة: صناعة الاسنان عدد الوحدات: ٦ ترميز المقرر: 060508		
No.	**Subjects**	**Hours**
1	Occlusion in complete denture: a- Concepts of occlusion. b- Types of occlusion in complete denture.	4
2	Retention stability and support : a- Retention problems. b- Factors affecting stability. c- Primary and secondary support area.	3
3	Insertion of denture: a- Steps before insertion. b- Souse of discomfort. c- Testing retention and stability. d- Checking the occlusion.	3

4	Post insertion problems: a- Comfort. b- Function. c- Esthetics. d- Phonetics.	3
5	Immediate denture: a- Objectives and requirement. b- Advantage and disadvantage. c- Indication and contra- indication. d- Type and classification. e- The impression technique. f- Sequence of setting of teeth. g- Placement and post placement care.	6
6	Miscellaneous prosthetics: a- Maxilla- facial Prosthodontics. b- Oral prostheses. c- Types and technique. d- Fixed and removable appliance.	3
7	Facial prosthesis: a- Impression technique. b- Facial and oral defect cause. c- Effect of irradiation therapy. d- Special consideration and management of irradiation.	3
8	Alveolar ridge atrophy: a- Factors affecting the atrophy. b- Rate of resorbtion. c- The effect of alveolar ridge resorbtion on the retention.	3

	d- Stability.	
9	Dental implantology: a- Types classification. b- Materials and methods. c- Cases presentation.	4
10	Characteristic for ideal material for dental implant.	3
11	Over – denture. Indications and types.	3
12	Precision attachment.	2
13	Rebasing of complete denture.	2
Total hours: 42		

المادة: أمراض اللثة عدد الوحدات: ٦ ترميز المقرر: 060504		
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	2

	disease.	
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
Total hours: 42		

المادة: معالجة الاسنان عدد الوحدات: ٦ ترميز المقرر: 060503		
No.	**Subjects (Crowns and Bridges)**	**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
No.	**Subjects (Endodontic)**	**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.	2

	c- Errors.	
6	Endodontic entries: a- Objectives of entries. b- Guides for entries. c- Instruments needed. d- General techniques for access preparation. e- Techniques for locating and exploring canal. f- Errors.	1
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:	1

	a- Differential diagnosis. b- Treatment of common Endodontic emergencies.	
11	Restoration of endodontically treated teeth: a- Restoration considerations. b- Restorative of anterior teeth. c- Restoration of posterior teeth.	2
12	Bleaching: a- Instruments needed. b- Technique.	2
Total hours: 42		

المادة: طب اسنان الاطفال عدد الوحدات: ٤ ترميز المقرر: 060502		
No.	**Subjects**	**Hours**
1	Eruption of teeth: a- Normal eruption process. b- Eruption hematoma. c- Natal and neonatal teeth d- Local and systemic factors that influence eruption.	3
2	Morphology of the primary teeth: Normal morphology of all the deciduous teeth and their clinical consideration. b- Morphological difference between primary and permanent dentition. c- Functions of primary teeth. d- Anomalies of teeth.	3
3	Restorative dentistry for children: a- Maintenance of a dry field and application of the	4

	rubber dam. b- Cavity preparation and instrumentation. c- Matrix retainers and bands. d- Chrome steel crowns.	
4	Treatment of deep caries, vital pulp exposure, pulpless teeth and rampant caries in child: a- Indirect pulp treatment. b- Diagnosis, diagnostic aids in the selection of teeth for pulp therapy. c- Direct pulp treatment d- Pulpatomies and partial pulpectomy. e- Endodontic treatment for primary teeth. f- Reaction of the pulp to commonly used capping materials. g- Failures after pulp therapy.	4
5	Diagnosis and treatment planning.	1
6	Management of traumatic injuries to the teeth of children: a- Epidemiology of traumatized teeth in Iraqi children. b- Classification of injuries. c- Methods of clinical examinations. D-Traumatic injuries of the primary teeth and its effect on permanent teeth treatment. e- Treatment of injury in permanent teeth. 1- Emergency treatment. 2- Intermediate treatment. 3- Permanent treatment.	5
7	Art and science of behavior management:	4

	a- Child development. b- The influence of the family on the child behavior. c- Children' s behavior in the dental office. d- Dental fear ,causes and types e- Factors affecting child behavior in the dental clinic f- Techniques of behavior management. g- Premeditation of nitrous oxide analgesia. h- General anesthesia.	
8	Local anesthesia and premedication: a- Modified methods for children. b- Complication after local anesthetics.	1
9	Oral surgery for children. a- Indications and contraindications for extraction of primary teeth. b- Extraction techniques for primary teeth. c- Postoperative extraction complications. d- Manifestations of infection complications. e- Surgical eruption of 21/12.	3
10	Gingivitis and periodontal diseases in children: a- Normal and periodontal diseases in children. b- Simple gingivitis. c- Acute gingival diseases. d- Conditional gingival enlargement. e- Periodontitis and periodontosis. f- Stains and deposits on teeth.	3
11	The management of space maintainer problems: a- Definition of space maintainer. b- Factors considered in space maintainer constriction.	2

	c- Arch length analysis. d- uirement and types of space maintainer (indication and contraindication). e- Full denture in children.	
12	Diagnosis and correction of minor irregularities on the developing dentition: a- Oral habit, etiology and correction. b- erior and posterior cross – bite in the primary and permanent dentition. c- Problems related to the eruption of teeth (Ectopic eruption, delayed eruption, and impaction).	3
13	The handicapped patient. a- Classification of handicapping conditions. b- Preventive density for the handicapped. c- Management categories for handicapped. d- Dental treatment of children with specific pediatric condition.	2
14	Dental anomalies.	2
15	Speech disorders and pediatric dentistry. Anomalies of teeth.	2
Total hours: 42		

المادة: تقويم الاسنان عدد الوحدات: ٤ ترميز المقرر: 060506		
No.	**Subjects**	**Hours**
1	Malocclusion, Etiology	14

	- 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.	
2	Classification of malocclusion: a- Angle's classification. b- Assessment of malocclusion. 1- Clinical. 2- Study casts. 3- Radiological, Intra – oral, extra- oral, O.P.G and cephalometrice.	4
3	Orthodontic tooth movement:	4

	a- Histology. b-Types of movement. 1- Tipping. 2- Bodily.	
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
Total hours: 30		

Reviewed by
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