الوحدات الدراسية والمنهاج الموحّد
لكليات طب الاسنان
السنة الدراسية ٢٠٢٦-٢٠٢٧

College of Dentistry

First year curriculum (1 academic year, 30 weeks)

	Subject	1st Semester		2nd Semester		Total (Hours/year)		credits
		Lectures/hr	Practice/hr	Lectures/hr	Practice/hr	Lectures	Practical	
1	Medical Physics	2	2	2	2	60	60	6
2	Medical Chemistry	2	2	2	2	60	60	6
3	Biology	2	2	2	2	60	60	6
4	Dental Anatomy	2	2	2	2	60	60	6
5	General Anatomy	1	2	1	2	30	60	4
6	Computer	1	2	1	2	30	60	4
7	Human Rights	1	-	1	-	30	-	2
8	Medical Terminology	1	-	1	-	30	-	2
9	Arabic Language	2	-	2	-	30	-	4
	Total	13	10	13	10	390	360	40

Note:

***One academic year = 30 weeks**
***Each 1Hr theory = 1 credit**
***Each 2Hrs practice = 1 credit**
***Each 3Hrs practice = 1.5 credit**

College of Dentistry

Second year curriculum (1 academic year, 30 weeks)

	Subject	1st Semester		2nd Semester		Total (Hours/year)		Credits
		Lectures/hr	Practice/hr	Lectures/hr	Practice/hr	Lectures	Practical	
1	Prosthodontics	1	4	1	4	30	120	6
2	Dental Material	1	2	1	2	30	60	4
3	Oral Histology and Embryology	2	2	2	2	60	60	6
4	General Histology	2	2	2	2	60	60	6
5	General Physiology	2	2	2	2	60	60	6
6	General Anatomy	1	2	1	2	30	60	4
7	Biochemistry	2	2	2	2	60	60	6
8	جرائم حزب البعث في العراق	1	-	1	-	30	-	2
	Total	12	16	12	16	360	420	40

Note:

***One academic year = 30 weeks**
***Each 1Hr theory = 1 credit**
***Each 2Hrs practice = 1 credit**
***Each 3Hrs practice = 1.5 credit**

College of Dentistry

Third year curriculum (1 academic year, 30 weeks)

	Subject	1st Semester		2nd Semester		Total (Hours/year)		Credits
		Lectures/hr	Practice/hr	Lectures/hr	Practice/hr	Lectures	Practical	
1	Prosthodontics	1	2	1	2	30	60	4
2	Preclinical Operative Dentistry	1	2	1	2	30	60	4
3	Preclinical Fixed Prosthodontics	1	2	1	2	30	60	4
4	Oral Surgery	1	2	1	2	30	60	4
5	Pharmacology	2	2	2	2	60	60	6
6	General Pathology	2	2	2	2	60	60	6
7	Microbiology	2	2	2	2	60	60	6
8	Dental Radiology	1	2	1	2	30	60	4
9	Dental Ethics	1	-	1	-	30	-	2
10	Community Dentistry	1	2	1	2	30	60	4
	Total	13	18	13	18	390	540	44

Note:

*One academic year = 30 weeks
*Each 1Hr theory = 1 credit
*Each 2Hrs practice = 1 credit
*Each 3Hrs practice = 1.5 credit

College of Dentistry

Fourth year curriculum (1 academic year, 30 weeks)

	Subject	1st Semester		2nd Semester		Total (Hours/year)		Credits
		Lectures/hr	Practice/hr	Lectures/hr	Practice/hr	Lectures	Practical	
1	Prosthodontics	1	3	1	3	30	90	5
2	Pediatric Dentistry	1	2	1	2	30	60	4
3	Oral Surgery	1	4	1	4	30	120	6
4	Periodontics	1	3	1	3	30	90	5
5	Orthodontics	1	4	1	4	30	120	6
6	Oral Pathology	2	2	2	2	60	60	6
7	General Medicine	1	0	1	0	30	0	2
8	General Surgery	1	0	1	0	30	0	2
9	Operative and esthetic dentistry and endodontics	1	6	1	6	30	180	8
	Total	10	24	10	24	300	720	44

Note:

***One academic year = 30 weeks**
***Each 1Hr theory = 1 credit**
***Each 2Hrs practice = 1 credit**
***Each 3Hrs practice = 1.5 credit**

College of Dentistry

Fifth year curriculum (1 academic year, 30 weeks)

	Subject	1st Semester		2nd Semester		Total (Hours/year)		Credits
		Lectures/	Practice/hr	Lectures/hr	Practice/hr	Lectures	Practical	
1	Prosthodontics	1	6	1	6	30	180	8
2	Oral Surgery	1	6	1	6	30	180	8
3	Oral Medicine	1	4	1	4	30	120	6
4	Periodontics	1	3	1	3	30	90	5
5	Pediatric dentistry	1	3	1	3	30	90	5
6	Orthodontics	1	4	1	4	30	120	6
7	Preventive dentistry	1	3	1	3	30	90	5
8	Clinical Endodontics & Fixed Prosthodontics	1	6	1	6	30	180	8
9	Research Project	1	-	1	-	30	-	2
	Total	9	35	9	35	270	1050	53

Note:

***One academic year = 30 weeks**
***Each 1Hr theory = 1 credit**
***Each 2Hrs practice = 1 credit**
***Each 3Hrs practice = 1.5 credit**

المنهاج الموحد
لكليات طب الاسنان/ العراق

2026 - 2027

College Council

Raghad Abdulrazzaq Mohammed Al-Hashimi, B.D.S., M.Sc., Ph.D. (UK)
Professor / The Dean
College of Dentistry/University of Baghdad.

Ali Ismail Ibrahim, B.D.S., M.Sc., MPhil. Ph.D. (UK)
Professor / Associate Dean of Scientific Affairs and Postgraduate Studies, College of Dentistry/University of Baghdad.

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Assistant Professor / Assistant Dean of the College of Dentistry/ University of Baghdad.

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Professor/ Head of the Department of Oral Diagnosis, College of Dentistry/University of Baghdad.

Sahar Shakir Ghani Aladili, B.D.S., M.Sc.
Assistant professor/ Head of the Department of Oral and maxillofacial surgery,College of Dentistry/University of Baghdad.

Ghassan Abdul-Hamid Naji, B.D.S., M.Sc., Ph.D.
Assistant Professor / Head of the Department of Prosthodontics, College of Dentistry/ University of Baghdad

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Professor/Head of the Department of Pedodontic and Preventive Dentistry, College of Dentistry/ University of Baghdad.

Yassir Abdulkadhim Yassir, B.D.S., M.Sc., Ph.D.
Assistant Professor / Head of the Department of Orthodontics, College of Dentistry/ University of Baghdad.

Anas Falah Mahdee, **B.D.S., M.Sc., Ph.D.**
Assistant Professor /Head of the Department of Restorative and Aesthetic Dentistry, College of Dentistry/ University of Baghdad.

Maha Shukri Mahmood, B.D.S., M.Sc.
Professor/ Head of the Department of Periodontics, College of Dentistry/ University of Baghdad.

Batool Hassan Hashem, B.Sc, M.Sc., Ph.D.
Professor/ Head of the Department of Basic Sciences, College of Dentistry/ University of Baghdad.

Abdalbasit Ahmad Fatihallah, B.D.S., M.Sc., Ph.D.
Professor/ Representative of the Iraqi Academics Syndicate on behalf of the College of Dentistry/University of Baghdad.

Layth Mohammad Kareem, B.D.S., M.Sc.
Assistant Professor / Secretary of the College Council, College of Dentistry/ University of Baghdad.

Curriculum Updating Committee:

1- **Professor Maha Shukri Mahmood, B.D.S., M.Sc.** (Periodontics).
2- **Professor Dr. Abdalbasit Ahmad Fatihallah, B.D.S., M.Sc., Ph.D.** (Prosthodontics, P.R.China).
3- **Assistant Prof. Dr. Auday Mahmood Abdalhameed Al-Anee, F.I.B.M.S.**
4- **Assistant Prof. Dr. Anas Falah Mahdee, B.D.S., M.Sc., Ph.D.** (Endodontics), UK.
5- **Assistant Prof. Dr. Salim Jellud Attia, B.Sc., M.Sc., Ph.D.** (Basic Sciences) .
6- **Assistant Prof. Dr. Ammar Salim Kadhum, B.D.S., M.Sc., Ph.D**.)orthodontics).
7- **Assistant Prof. Aseel Haidar M.J. Al Haidar, B.D.S., M.Sc.** (Pedodontics)
8- **Lecturer Omar Shebli Museedi, B.D.S., M.Sc**.(Oral diagnosis).

Hasanain Kahtan Abdulkhalik Alalwan, B.D.S., M.Sc., Ph.D.

Registrar.

استنادا للأمر الاداري المرقم ص/س/206 بتأريخ 15/3/2022 الصادر من جامعة بغداد / كلية طب الاسنان / مكتب العميد بتشكيل لجنة تدقيق تحديث المنهج المقترح لكليات طب الاسنان والذي سيتم اعتماده للعام الدراسي 2022 – 2023 من السادة المدرجة اسمائهم ادناه:

1. أ.د. مها جمال عباس العاني / عميد كلية طب الاسنان / الجامعة المستنصرية
2. أ.د. عذراء يحيى الحجازي / رئيس قسم الاسنان / كلية المستقبل الجامعة
3. أ.د. كمال تركي عفتان / عميد كلية طب الاسنان / جامعة الانبار
4. أ.د. بيداء علي عثمان الراوي / عميد كلية طب الاسنان / جامعة ابن سينا للعلوم الطبية والصيدلانية

(*First Year Curriculum*) 30 weeks)

Department of Oral & Maxillofacial Surgery

A- Basic information

1-Subject title	**General Anatomy**	**التشريح العام**
2-Number of credits	Theory:2	Laboratory: 2
3-Number of contact hours	Theory:1h/wk.	Laboratory: 2
4-Subject time	First Year	

No.	Title of the lectures	Hours
1	Introduction to Human Anatomy Descriptive Anatomic Terms	**1**
2	Basic Structures: Skin, Fasciae, Muscle, Joints, Ligament, Bursae	**1**
3	Basic Structures: Bone, Cartilage, Blood Vessels, Lymphatic System	**2**
4	Basic Structures: Nervous System, Mucous Membranes, Serous Membranes	**1**
5	Skeletal system of the body: Skull :Cranial Bones	**2**
6	Skeletal system of the body: Skull : Facial Bones	**2**
7	External Views of the Skull	**2**
8	• The Cranial Cavity • Major Foramina and Fissures locations and structures pass through • Neonatal Skull	**2**
9	▪ Skeleton of the Orbital Region, Openings into the Orbital Cavity ▪ Skeleton of the External Nose, nasal cavity, Paranasal Sinuses ▪ Auditory ossicles Hyoid bone	**2**
10	The Vertebral Column	**2**
11	▪ Structure of the Thoracic Wall ▪ Joints of the Chest Wall	**2**

	▪ Suprapleural Membrane ▪ Diaphragm ▪ Surface Anatomy	
12	Thoracic cavity: Mediastinum, Pleurae, Trachea, Bronchi, Lungs	**2**
13	Pericardium, Heart, Large arteries, veins and nerves of thorax	**3**
14	▪ Bones of the Shoulder (Pectoral girdle) girdles ▪ Bones of the Upper extremities	**2**
15	▪ Bones of the Pelvic girdle ▪ Bones of the Lower extremities	**2**
16	Abdominal cavity and organs	**2**
Total		**30**

Laboratory sessions

No.	Title of the sessions	Hours
1	Introduction to anatomy	**2**
2	Basic structures part 1 (Skin, Fasciae, Muscle, Joints, Ligament, Bursae)	**2**
3	Basic structures part 2 (bone,Cartilage, Blood Vessels, Lymphatic System) and classification of human skeleton	**2**
4	Basic structures part 3(Nervous System, Mucous Membranes, Serous Membranes)	**2**
5	Frontal Bone, Parietal bones	**2**
6	Occipital bone	**2**
7	Temporal bones	**2**
8	Sphenoid bone	**2**
9	Ethmoid bone	**2**
10	Zygomatic bones,Maxillae	**2**
11	Nasal bones ,Lacrimal bones, Vomer,Palatine bones,Inferior conchae	**2**
12	Mandible	**2**
13	External Views of the Skull	**2**
14	Cranial cavity	**2**
15	Major Foramina and Fissures locations and structures pass through the skull	**2**
16	Orbit	**2**
17	nasal cavity	**2**
18	Auditory ossicles , Hyoid bone	**2**
19	General Characteristics of a Vertebra	**2**

20	Vertebral column	**2**
21	Structure of the Thoracic cage (Sternum ,Ribs, Costal Cartilages)	**2**
22	Thoracic cavity (Mediastinum, Pleurae, Trachea, Bronchi)	**2**
23	lung	**2**
24	Anatomy of heart	**2**
25	Major arteries, veins and nerves of thorax	**2**
26	Bones of the Shoulder (Pectoral girdle) girdles	**2**
27	Bones of the Upper extremities	**2**
28	Bones of the Pelvic girdle	**2**
29	Bones of the Lower extremities	**2**
30	Abdominal cavity and organs	**2**
Total		**60**

Department of Basic Science

A- Basic information

1-Subject title	**Biology**	**علم الاحياء**
2-Number of credits	Theory: 4	Laboratory: 2
3-Number of contact hours	Theory: 2h/wk.	Laboratory:2h/wk.
4-Subject time	First Year	

No.	Title of Lectures	Hours
1.	Introduction to Medical and oral Biology	2
2.	Prokaryotes and Eukaryotes	2
3.	General and oral Immunity	2
4.	Bacteria and oral disease	2
5.	Genetics and its role in oral diseases	2
6.	Simple epithelial tissue (Tongue)	2
7.	Stratified epithelial tissue	2
8.	Glandular epithelial tissue (salivary gland)	2
9.	General connective tissue (blood)	2
10.	Muscular tissue	2
11.	Nerve tissue	2
12.	Cell structure (oral mucus membrane)	2
13.	Plasma membrane structure	2
14.	Passage of Materials across Cell Membrane	2
15.	Cell cycle	2
16.	Mitosis and meiosis	2
17.	Cell energy	2
18.	Nucleic acid, DNA and RNA	2
19.	Introduction to parasitology	2

Types of parasites and host	**2**
General and oral protozoa	**2**
Human *amoebas,E. histolytica, E.coli, E.gingivalis*	**2**
Flagellates, *Giardia lamblia, Trichomonas tenax, T.hominas, T.vaginalis*	**2**
Leishmania , cutaneous and vesiral	**2**
Sporozoa, *Plasmodium spp.*	**2**
Toxoplasma gondii	1
Nemathelminthes, *Ascaris lumbricoides,*	1
Ancylostoma duodenale, Entrobius vermicularis	1
Platyhelminthes, *Fasciola hepatica*	1
Schistosoma spp.	1

no	**Subject /practical**	**Time /Hr.**
1	Overview of biological safety & security equipment	***1***
2	Introduction to Biosecurity Risk characterization in biosecurity Vulnerability assessment Components of laboratory biosecurity	***1***
3	Biosafety practices part Biosafety rules simulations 3D	***1***
4	Disinfection &Sterilization Hazardous chemical Decontamination and biological waste Disposal	***1***
5	Biosafety training	***1***

Laboratory sessions

Lab number	Study unit title	Hours
1	**Laboratory safety**	**2**
2	**Parts of microscope**	**2**
3	**Types of cells**	**2**
4	**Simple epithelial tissue**	**2**
5	**Stratified epithelia tissue**	**2**
6	**Glandular epithelial tissue**	**2**
7	**Serous, Mucous, Sero-mucous cell glands**	**2**
8	**Proper connective tissue, Loose**	**2**
9	**Proper connective tissue, dense**	**2**
10	**Special connective tissue, type of cells**	**2**
11	**Cartilage, Hyaline, Elastic, Fibro**	**2**
12	**Compact and spongy bone**	**2**
13	**Human Blood, W.B.C , R.B.C and frog blood**	**2**
14	**Muscular tissue: Skeletal, cardiac and smooth muscles**	**2**
15	**Nerve cell**	**2**
16	**Central and peripheral nerve system**	**2**
17	**Spinal cord and meninges**	**2**
18	***Entamoeba histolytica , Entamoeba coli***	**2**
19	***Giardia lamblia , Trichomonas vaginalis***	**2**

	Trichomonan tenax	
20	***Leishmania tropica,Leshmania donovani***	**2**
21	***Trypanosoma gambiense,T.rhodesiense***	**2**
22	***Plasmodium vivax, Toxoplasma gondii***	**2**
23	***Balantidium coli***	**2**
24	***Echinococcus granulosus,Taenia saginata Taenia solium***	**2**
25	***Ancylostoma, Ascaris , Entrobius***	**2**
26	***Schistosoma spp, Fasciola hepatica***	1
27	**Endoskeleton of frog**	1
28	**Experiment...examine samples of water**	1
29	**Experiment...examine samples of water (one hour), Experiment ...Blood groups(one hour)**	1
30	**Experiment ...Blood groups**	1
Total		

no	**Subject /practical**	**Time /Hr.**
1	**Hazard group classification system A biosafety cabinet(BSC)**	***1***
2	**Hazards Control measures for work with blood and human tissues**	***1***
3	**Bio-risk Management System Assess the capability of the laboratory Staff control Relation of risk groups of biosafety level, practices and equipment**	***1***
4	**Management Biological agents Routes of infections Basis of control measure**	***1***
5	**Types of biological wastes Categories of biological wastes Decontamination of biological wastes, Hazardous chemical**	***1***

Department of Basic Science

A- Basic information

1-Subject title	**Computer and Artificial Intelligence**	**الحاسوب و الذكاء الاصطناعي**
2-Number of credits	Theory:2	Laboratory:2
3-Number of contact hours	Theory: 1h/wk	Laboratory: 2h/wk
4-Subject time	First year	

No.	**Title of the lectures**	**Hours Theory**
1	**Introduction about computer /Hardware and Software/computer structure/`Floppy magnetic disks**	**1**
2	**E-learning**	**1**

3	**Introduction to E-learning** **Google Classroom Platform** **Google drive**	**1**
4	**Google forms**	**1**
5	**Online conferencing**	**1**
6	**Introduction about Windows /A look at Windows 10/Stating Windows 10/Working with a windows Program**	**1**
7	**Working with files and folders/ Using My computer**	**1**
8	**Working with Taskbar and Desktop**	**1**
9	**Using Windows Accessories**	**1**
10	**A look at Control Panel**	**1**

11	**Widows Explorer**	**1**
12	**Libraries**	**1**
13	**Introduction about Microsoft Word2016** **A look at Microsoft Word /Editing Document**	**1**
14	**Formatting Text/**	**1**
15	**Formatting paragraphs**	**1**
16	**Proofing documents**	**1**
17	**Adding Tables**	**1**
18	**Inserting Graphic Elements**	**1**
19	**Controlling page Appearance**	**1**
20	**Introduction about Excels /A Look at Microsoft Excel**	**1**
21	**Modifying A Worksheet /performing Calculations**	**1**
22	**Formatting a worksheet/ Developing a work book**	**1**
23	**Printing Workbook Contents/Customizing Layout**	**1**
24	**Introduction about Microsoft Access/ A look at Microsoft Access**	**1**
25	**Creating Data tables /properties of the fields**	**1**
26	**Querying the database/Designing Forms/Producing reports**	**1**
27	**Introduction about Microsoft Power point/starting power point2016**	**1**
28	**Formatting text/Using graphics and Text**	**1**
29	**Manipulating the slides/Using Multimedia Elements**	**1**
30	**Power point Management**	**1**
Total		**30**

No.	Lab. Experiment	Hours
1	**Introduction about computer /Hardware and Software/computer structure/`Floppy magnetic disks.**	**2**
2	**Operating systems/CD-ROM/**	**2**
3	**Create Files &Folders** **High level programming language /Constant and variable/Library Function /Arithmetic expression/Type of Monitor /Number of systems**	**2**
4	**Introduction about MS-DOS** **Operating systems/DOS drive /Key-Board**	**2**
5	**DOS commands /Internal Commands/External Commands**	**2**
6	**Introduction about Windows /A look at Windows 7/Stating Windows 7/Working with a windows Program**	**2**
7	**Working with files and folders/ Using My computer**	**2**
8	**Working with Taskbar and Desktop**	**2**
9	**Using Windows Accessories**	**2**

10	**A look at Control Panel**	**2**
11	**Widows Explorer**	**2**
12	**Libraries**	**2**
13	**Introduction about Microsoft Word** **A look at Microsoft Word /Editing Document**	**2**
14	**Formatting Text/**	**2**
15	**Formatting paragraphs**	**2**
16	**Proofing documents**	**2**
17	**Adding Tables**	**2**
18	**Inserting Graphic Elements**	**2**
19	**Controlling page Appearance**	**2**
20	**Introduction about Excels /A Look at Microsoft Excel**	**2**
21	**Modifying A Worksheet /performing Calculations**	**2**
22	**Formatting a worksheet/ Developing a work book**	**2**
23	**Printing Workbook Contents/Customizing Layout**	**2**
24	**Introduction about Microsoft Access/ A look at Microsoft Access**	**2**
25	**Creating Data tables /properties of the fields**	**2**
26	**Querying the database/Designing Forms/Producing reports**	**2**
27	**Introduction about Microsoft Power point/starting power point**	**2**
28	**Formatting text/Using graphics and Text**	**2**
29	**Manipulating the slides/Using Multimedia Elements**	**2**
30	**Power point Management**	**2**
Total		**60**

Department of Basic science

A- Basic information

1-Subject title	**Medical Physics**	**الفيزياء الطبية**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory:2h/wk.	Laboratory:2h/wk.
4-Subject time	First Year	

Number	Title of the lectures	Hours
1	**Terminology** Terms: Medical Physics, physical medicine, Physical therapy, Health Physics, Radiological Physics, clinical physics. Modeling, Accuracy, Precision, False Positive, False Negative.	2
2		2
3	***Force on &in body:*** Static forces :(type of levers with medical examples). Dynamic forces (Centrifuge)	2
4		2
5	***Physics of the skeleton:*** Bones:(Function of bones, Composition of bone, bone remodeling, compact and trabecular bone) Stress-strain curve :(compressive and tensile stress, young modulus). Bone joints :(Synovial fluid, coefficient of a joint).	2
6		2
7	***Heat and cold in medicine:*** Physical basis of heat and temperature, Temperature scales, Converting Temperatures, Temperature in Dentistry, Thermal expansion, (Linear, Area, Volume Thermal Expansion), Thermometry, Heat therapy, Thermography, Cold in medicine and cryosurgery. Thermal conductivity.	2
8		2
9	***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).	2
10		2
11	***Pressure:*** Definition, absolute pressure, gauge pressure, negative pressure, unit of pressure. Measurement of pressure in the body (Manometer).Pressure inside the skull. Eye pressure. Pressure in the skeleton. Pressure in the urinary bladder.Boyle's law: (pressure while diving).HOT (hyperbaric oxygen therapy).	2
12		2
13	***Electricity within the body:*** Electrical potential of nerves (resting potential, action potential in myelinated and unmyelinated nerves) Electromyogram (EMG). Electrical potential in the heart (electrocardiogram ECG). Electroencephalogram (EEG)	2
14		2
15	***Sound in medicine:*** Properties of sound. Stethoscope (including heart sound).mechanism of hearing	2
16		2
17	***Ultrasound*** (A-scan, B-scan, M-scan and Doppler effect). Physiological effect of ultrasound in therapy.	**2**
18		**2**
19	***Light in medicine:*** Light nature, Planck Equation, (Reflection, Refraction and	**2**

20	Absorption of Light, Properties of light), Diffuse reflection, Specular reflection, Phototherapy, Application of ultraviolet and infrared light in medicine, Tanning and Skin Cancer.	**2**
21	***Laser in medicine***. What is laser? Application of laser in medicine Atomic Transitions, Population inversion, Laser Typical Characteristics, General Applications of Laser, Laser Dental Applications, Reshape gum tissue, Laser aided teeth whitening, Laser Drill.	**2**
22		**2**
23	***Physics of eye and vision:*** Focusing element of the eye (cornea, lens). Element of the eye (pupil, aqueous humor, vitreous humor, sclera).Visual acuity, Snellen chart, optical density.	**2**
24		**2**
25	***Physics of diagnostic X-ray:*** Properties of X-ray, production of X-ray. Absorption of X-ray, contrast media-ray image (penumbra, grid, and intensifying screens).Radiation to patients from X-ray (filters).	**2**
26		**2**
27	***Physics of nuclear medicine:*** Radioactivity decay, half-life, units. Basic instrumentation and its medical application (GM-tube, Photomultiplier tube, scintillation detector, solid state detector).Therapy with radioactivity. Radiation doses in nuclear medicine.	**2**
28		**2**
29	***Physics of radiation therapy:*** The dose units (Rad and Gray).Principles of radiation therapy. Brach therapy, quality factor (QF).	**2**
30		**2**
Total		**60**

Laboratory sessions

Lab number	Study unit title	Hours
1	Guidelines of Medical Physics Lab and Rules must be obeyed by the students	**2**
2	Graphing Techniques	**2**
3	Ohm's law: - verify ohm's law - to find the value of different values of resistance	**2**
4		**2**
5	**Semiconductors (junction diode):** To determine the characteristics of the semiconductors Comparison between omic and non-omic resistance	**2**
6		**2**
7	**Cathode Ray Oscilloscope** -Measurement of deflection sensitivity of D. C. voltage. -Measurement of deflection sensitivity of A. C. voltage	**2**
8		**2**

9	**The focal length of convex lens:** -Rough value of focal length of different convex lenses, -A graphical method of measuring of focal length, Comparison between these methods and the given value.	**2**
10		**2**
11	**Hook's law:** -To verify Hook's law and determine the force constant of the spring. -To determine the work done by stretching the spring.	**2**
12		**2**
13	**Focal length of concave mirror:** -Locating the radius of curvature -Determining the focal length	**2**
14		**2**
15	General review and 1st course exam	
16	**Laser applications:** -To measure the width of a single slit by using a laser -To measure the wavelength of laser by using a certain single slit	**2**
17		**2**
18	**Boyle's law:** -To verify Boyle's law -To measure the pressure of the atmosphere	**2**
19		**2**
20	**Inverse Square law:** - To verify the inverse square law - Radiation shielding by different thicknesses of of a certain material	**2**
21		**2**
22	**Viscosity of a liquid** - To determine the viscosity of a medium using a small sphere falls with a constant terminal velocity. - To verify Stokes' law	**2**
23		**2**
24	**Velocity of the sound** - To measure the velocity of the sound by using a resonance tube, closed at one end, at room temperature. - Calculated the theoretical and practical values of the velocity of sound and comparing between them.	**2**
25		**2**
26	**The focal length of a converging lens** - To determine the focal length of a converging lens by lens displacement method using conjugate foci. - To calculate curvature value of this converging lens	**2**
27		**2**
28	**Simple Pendulum** -To determine the periodic time and its variation with the length of the pendulum -To calculate the acceleration of free fall	**2**
29		**2**
30	General review and 2nd course exam	**2**

Total		**60**

Human Rights

A- Basic information

1-Subject title	Human Rights	**حقوق الانسان**
2-Number of credits	Theory:2	Clinical: 0
3-Number of contact hours	Theory:1h/wk.	Clinical: 0
4-Subject time	First Year	

Human Rights

العدد	موضوع المحاضرة	الساعات
1	المقدمة /الباب الأول في حقوق الإنسان الفصل الأول /حقوق الإنسان في الحضارات القديمة المبحث الأول /حقوق الإنسان في الحضارات اليونانية والمصرية المطلب الأول /حقوق الإنسان في الحضارة اليونانية المطلب الثاني /حقوق الإنسان قي الحضارة المصرية القديمة المبحث الثاني /حقوق الإنسان في الحضارات القديمة	1
2	الفصل الثاني /حقوق الإنسان في الشرائع والأديان السماوية المبحث الأول /حقوق الإنسان في الديانات المسيحية واليهودية المبحث الثاني /حقوق الإنسان في الإسلام	1
3	الفصل الثالث /مصادر حقوق الإنسان المبحث الأول /المصادر الدولية المطلب الأول /الإعلان العالمي لحقوق الإنسان	1
4	المطلب الثاني /العهدان الدوليان الخاصان بحقوق الإنسان	1
5	المبحث الثاني / المصادر الوطنية المطلب الأول /إعلان حقوق الإنسان والمواطن الفرنسي (26 اب 1789)	1
6	المطلب الثاني /الدساتير و ألإعلانات الفرنسية التي تلت إعلان الحقوق لسنه 1789	1
7	المطلب الثالث /دستور جمهورية العراق لسنه 2005	1
8	الفصل الرابع /ضمانات حقوق الإنسان المبحث الأول /ضمانات حقوق الإنسان على الصعيد الداخلي المطلب الأول /الضمانات الدستورية	1
9	المطلب الثاني /الضمانات القضائية	1
10	المبحث الثاني /ضمانات حقوق الإنسان في الإسلام المطلب الاول /إقرار مبدأ ثنائية المسؤولية في المجتمع الإسلامي المطلب الثاني /الصفة الدينية للقانون الإسلامي.	1
11	المطلب الثالث /بعض الأنظمة الإسلامية لمصلحة الفرد والجماعة والسلطات الحاكمه	1
12	المبحث الثالث /ضمانات حقوق الإنسان على الصعيد الدولي المطلب الأول /ميثاق الأمم المتحدة المطلب الثاني /الجمعية العامة للأمم المتحدة	1
13	الطلب الثالث /المجلس الاقتصادي والاجتماعي المطلب الرابع /مجلس حقوق الإنسان	1
14	المبحث الرابع /دور المنظمات الإقليمية في حماية حقوق الإنسان المطلب الأول /الاتفاقية الأوربية لحقوق الإنسان	1
15	المطلب الثاني /الاتفاقية الأمريكية لحقوق الإنسان المطلب الثالث /الميثاق الإفريقي لحقوق الإنسان والشعوب المطلب الرابع /الميثاق العربي لحقوق الإنسان الفصل الخامس /مستقبل حقوق الإنسان المبحث الأول /التقدم التكنولوجي وأثره على الحقوق و الحريات حقوق الإنسان والحريات العامة .	1
16	المطلب الأول /الأحزاب السياسية وحقوق الإنسان	1

	المطلب الثاني /دور الإعلام والتنشئة	
17	المبحث الثاني /العولمة وحقوق الإنسان المطلب الأول /الخصوصية وحقوق الإنسان المطلب الثاني /الهيمنة وحقوق الإنسان	1
18	الفصل الأول /مفهوم الديمقراطية, تطوره تعريفه وإبعاده المبحث الأول /جذور مفهوم الديمقراطية و تطورها	1
19	المبحث الثاني /تعريف الديمقراطية	1
20	المبحث الثالث /الديمقراطية بين العالمية والخصوصية.	1
21	الفصل الثاني /إشكال الديمقراطية البحث الأول /الديمقراطية المباشرة المطلب الأول /مضمون الديمقراطية المباشرة المطلب الثاني /تطبيقات الديمقراطية المباشرة المطلب الثالث /تقدير نظام الديمقراطية المباشرة	1
22	المبحث الثاني /الديمقراطية شبه المباشرة المطلب الأول /مفهوم الديمقراطية شبه المباشرة مطلي الثاني /مظاهر الديمقراطية شبه المباشرة	1
23	المطلب الثالث /تقدير نظام الديمقراطية شبه المباشرة المبحث الثالث /الديمقراطية التمثيلية.	1
24	المطلب الاول /مفهوم النظام التمثيلي وطبيعته القانونية المطلب الثاني /أركان النظام التمثيلي	1
25	المطلب الثالث /إشكال النظام التمثيلي النيابي	1
26	المبحث الرابع / المجلس النيابي المطلب الأول / نظام المجلس النيابي الواحد ونظام المجلسين المطلب الثاني التنظيم الداخلي للمجلس النيابي	1
27	الفصل الثالث /أليه النظام التمثيلي النيابي :الانتخاب المبحث الأول /مفهوم الانتخاب وتكيفه القانوني المطلب واحد /مفهوم الانتخاب المطلب الثاني /التكيف القانوني للانتخاب المبحث الثاني /هيئة الناخبين المطلب الأول /مفهوم هيئة الناخبين المطلب الثاني /تكوين هيئة الناخبين	1
28	المطلب الثالث /المرشحون لانتخاب المبحث الثالث /تنظيم عملية الانتخاب المطلب الأول /تحديد الدوائر الانتخابية المطلب الثاني /الدوائر الانتخابية المطلب الثالث /المرشحون	1
29	المطلب الرابع /الحملة الانتخابية المطلب الخامس /التصويت المبحث الرابع / تنظيم الانتخابات المطلب الثاني /الانتخاب الفردي والانتخاب بالقائمة الامريكية (اسيان) .	1
30	المطلب الثالث /نظام الأغلبية ونظام التمثيل النسبي المطلب الرابع /نظام تمثيل المصالح المطلب الخامس /نظام التصويت الاختيار والتصويت الاجباري المطلب السادس /نظام التصويت السري والتصويت العلني	1
Total		30

Department Of Restorative and Aesthetic Dentistry

A- Basic information

1-Subject title	**Dental Anatomy**	**تشريح الاسنان**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory:2h/wk	Laboratory: 2hs/wk
4-Subject time	First Year	

Number	Title of the lectures/ Dental Anatomy	Hours
1	Introduction	**2**
2	Introduction	**2**
3	Numbering Systems	**2**
4	Numbering Systems	**2**
5	Anatomical Landmarks	**2**
6	Anatomical Landmarks	**2**
7	Permanent Maxillary Central Incisor	**2**
8	Permanent Maxillary Central Incisor	**2**
9	Permanent Maxillary Lateral Incisor	**2**
10	Permanent Maxillary Lateral Incisor	**2**
11	Permanent Mandibular Incisors	**2**
12	Permanent Mandibular Incisors	**2**
13	Permanent Mandibular Incisors	**2**
14	Permanent Canines	**2**
15	Permanent Canines	**2**
16	Permanent Maxillary Premolars	**2**
17	Permanent Maxillary Premolars	**2**
18	Permanent Mandibular First Premolars	**2**
19	Permanent Mandibular First Premolars	**2**
20	Permanent Mandibular Second Premolar	**2**
21	Permanent Maxillary First Molar Permanent maxillary second and third molars	**2**
22	Permanent Maxillary First Molar Permanent maxillary second and third molars	**2**
23	Permanent Mandibular First Molar	**2**
24	Permanent Mandibular Second and third Molars	**2**
25	Tooth Development	**2**
26	Tooth Development	**2**
27	Pulp Cavities	**2**
28	Pulp Cavities	**2**
29	Occlusion and physiologic form of teeth and periodontium	**2**
30	Occlusion and physiologic form of teeth and periodontium	**2**
Total		**60**

Laboratory sessions

Lab number	Study unit title	Hours
1	Introduction to Dental Anatomy & Carving Instruments	2
2	Numbering systems.	2
3	Practical demonstration of Carving a Cube (1cm*1cm*1cm)	2
4	-Introduction to Anatomical landmarks on Teeth models. -Carving of a cube.	2
5	Description &Carving of the Labial Aspect of P. Max. Right Central Incisor.	2
6	Description &Carving of the Mesial aspect of P. Max. Right Central Incisor.	2
7	Description ,Carving & Finishing of the Incisal Aspect of Permanent Max. Right Central Incisor.	2
8	Practical Training of Carving of P. Max. Right Central Incisor	2
9	Practical Exam. Of Carving of P. Max. Right Central Incisor	2
10	Description &Carving of the Labial & Mesial Aspects of P. Max. Right Canine.	2
11	Description ,Carving & Finishing of the Incisal Aspect of P Max. Right Canine.	2
12	Practical Training of Carving of P. Max. Right Canine.	2
13	Practical Exam. of Carving of P. Max. Right Canine.	2
14	Mid Year Practical Examination of Tooth Carving.	2
15	Description &Carving of the Buccal & Mesial Aspects of P.Max. Right 1st Premolar.	2
16	Description, Carving & Finishing of the Occlusal Aspect of P.Max. Right 1st Premolar.	2
17	Practical Training of Carving of P. Max. Right 1st Premola	2
18	Practical Exam. Of Carving of P. Max. Right 1st Premolar	2
19	Description &Carving of the Buccal & Mesial Aspects of P.Mand. Right 1st Premolar.	2
20	Description, Carving & Finishing of the Occlusal Aspect of P.Mand. Right 1st Premolar.	2
21	Practical Training of Carving of P. Mand. Right 1st Premolar	2
22	Practical Exam. Of Carving of P. Mand. Right 1st Premolar	2
23	Description &Carving of the Buccal & Mesial Aspects of P	2

	Max.Right 1st Molar.	
24	Description, Carving & Finishing of the Occlusal Aspect of P. Max. Right 1st Molar.	2
25	Practical Training of Carving of P. Max. Right 1st molar.	2
26	Practical Exam. of Carving of P. Max. Right 1st molar.	2
27	Description &Carving of the Buccal & Mesial Aspects of P. Mand. Right 1st Molar	2
28	Description ,Carving & Finishing of the Occlusal aspect of P.Mand 1st Molar/Practical Training of Carving p.Mand 1st molar.	2
29	Practical Examination of Carving of P. Mand. Right 1st molar	2
30	Final Oral & Practical Examination of Tooth carving	2
Total		**60**

Department of Orthodontics

1-Subject title	**Medical Terminology** المصطلحات الطبية	
2-Number of credits	Theory:2	Clinical: 0
3-Number of contact hours	Theory:1h/wk.	Clinical: 0
4-Subject time	First Year	

No	Study unit title	Hours
1	**(Prefixes & suffixes**	**1**
2	**Integumentary system**	**1**
3	**Muscular system**	**1**
4	**Respiratory system**	**1**
5	**Digestive system**	**1**
6	**Nervous system**	**1**
7	**Cardiovascular system**	**1**
8	**Blood and Lymph**	**1**
9	**Immune system**	**1**
10	**Endocrine system**	**1**
11	**Five sense**	**1**
12	**Genitourinary system**	**1**
13	**(Dental terminology (part I**	**1**

14	**(Dental terminology (part II**	**1**
15	**(Dental terminology (part III**	**1**
16	**Small Talk**	**1**
17	**Common Mistakes**	**1**
18	**Passive voice**	**1**
19	**Direct and indirect speech**	**1**
20	**Synonyms in English**	**1**
21	**Adjectives**	**1**
22	**Integrating a quotation into an essay**	**1**
23	**Prepositions in English Grammar with Examples**	**1**
24	**Idioms and Phrases**	**1**
25	**Writing assignment**	**1**
26	**Pronunciation rules**	**1**
27	**Tenses**	**1**
28	**Synonyms and Antonyms**	**1**
29	**Paraphrasing**	**1**
30	**Essay writing skills**	**1**
Total		**30**

Department of Basic Sciences

1-Subject title	Arabic Language	اللغة العربية
2-Number of credits	Theory:4	Clinical: 0
3-Number of contact hours	Theory:2h/wk.	Clinical: 0
4-Subject time	First Year	

العدد	موضوع المحاضرة	الساعات
1	**الموضوعات الأدبية** المتنبي (حياة الشاعر مع قصيدة بالإضافة الى التعليق النقدي)	**1**
2	بدر شاكر السياب (حياة الشاعر مع قصيدة بالإضافة الى التعليق النقدي)	**1**
3	نازك الملائكة (حياة الشاعر مع قصيدة بالإضافة الى التعليق النقدي)	**1**
4	الجواهري (حياة الشاعر مع قصيدة بالإضافة الى التعليق النقدي)	**1**
5	**الموضوعات النحوية** الجملة الاسمية	**1**
6	الجملة الفعلية	**1**
7	المبتدأ	**1**
8	الخبر	**1**
9	النواسخ	**1**
10	العلامات الاصلية والفرعية في الاسم والفعل المضارع	**1**
11	العلامات الفرعية في الاسم والفعل المضارع	**1**
12	علامات النصب الفرعية	**1**
13	علامات الجر الفرعية	**1**
14	علامات الجزم الفرعية	**1**
15	**الموضوعات الصرفية**	**1**

	المشتقات	
16	اسم الفاعل	**1**
17	صيغ المبالغة	**1**
18	اسم المفعول	**1**
19	الفعل المجرد والمزيد	**1**
20	المذكر والمؤنث وعلامات التأنيث	**1**
21	الاسم الناقص	**1**
22	جمع الاسم المنقوص	**1**
23	الاسم المقصور	**1**
24	جمع الاسم المقصور	**1**
25	الاسم الممدود	**1**
26	جمع الاسم الممدود	**1**
27	جموع التكسير	**1**
28	**الموضوعات الاملائية** . الحذف والزيادة الحروف التي تحذف الحروف التي تزاد	**1**
29	الالف المقصورة والالف الممدوة التاء المربوطة والتاء المفتوحة الضاد والظاد	**1**
30	الهمزة واحكامها علامات الترقيم	**1**
Total		**30**

Department of Basic science

A- Basic information

1-Subject title	**Medical Chemistry**	**الكيمياء الطبية**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory:2h/wk.	Laboratory:2h/wk.
4-Subject time	First Year	

Number	Title of the lectures	Hours
1	Acid, Base and Salt	2
2	salts, preparation of salts	2
3	Fluid and electrolyte	2
4	Buffer-pH and Acid-Base Balance	2
5	acid-base balance and blood pH	2
6	Colloids and colloidal dispersions	2
7	Chirality in Biological Systems	2
8	concentration, preparation of solutions	2
9	Pollution	2
10	Radiochemistry	2
11	Alkanes and Cycloalkanes	2
12	Alkenes and Alkynes	2
13	Aromatic compounds	2
14	Aromatic compounds in Nature	2
15	Stereoisomers of Carbon	2
16	Diastereomers	2
17	Alcohols, Phenols, Ethers and Thiols (preparation, reactions)	**2**
18	Carboxylic Acids And Their Derivatives , part 1	**2**
19	Carboxylic Acids And Their Derivatives , part 2	**2**
20	Aldehydes and ketones	**2**
21	Carbohydrates	**2**
22	Monosaccharide's	**2**
23	Disaccharides Carbohydrates and oral health	**2**
24	Lipids	**2**
25	Derived lipids The role of lipids in teeth diseases	**2**
26	Proteins	1
27	Amino acids Effects of protein on oral health	1
28	Nucleic Acids	1
29	Nucleosides, Nucleotides	1
30	Dioxy and ribo Nucliec acids	1

.	Subject /theory	Time/Hr.
1	Introduction to biosafety and biosecurity Occupational safety and health Key components of bio-risk management Definition & concepts of biosecurity &biosafety	1
2	Universal safety precaution Components of biosafety in all labs Biosafety barriers in labs Personal Protective Equipment (PPE) Facility design	1
3	Bio-risk Management System Assess the capability of the laboratory Staff control Relation of risk groups of biosafety level, practices and equipment	1
4	Transportation of biological material International transport regulation The basic triple packaging system	1
5	Safety for support staff Laboratory Hygiene Engineering and building maintenance services	1

Laboratory sessions

Lab number	Study unit title	Hours
1	Action of Strong Base and Acids	**2**
2	Solubility rules and Applications (Solubility rules of salts).	**2**
3	Test for negative ions (Anions).part 1	**2**
4	Test for negative ions (Anions). part 2	**2**
5	PH meter	**2**
6	Test for positive ions (Cations). part 1	**2**
7	Test for positive ions (Cations). part 2	**2**
8	Titration	**2**
9	Safety of chemicals part 1	**2**
10	Safety of chemicals part2	**2**
11	hydrocarbons	**2**
12	Aliphatic Hydrocarbons	**2**
13	Aromatic hydrocarbons, part 1	**2**

14	Aromatic hydrocarbons, part 2	**2**
15	Preparation of aspirin	**2**
16	Alcohol	**2**
17	Phenols reactions	**2**
18	Carboxylic Acids reactions part 1	**2**
19	Carboxylic Acids reactions part 2	**2**
20	Aldehydes and ketones	**2**
21	Carbohydrates reactions	**2**
22	Monosaccharides reactions	**2**
23	Disaccharides reactions	**2**
24	Lipids reactions part 1	**2**
25	Lipids reactions part 2	**2**
26	Proteins reactions	1
27	Amino acids reactions	1
28	Paper chromatography part 1	1
29	Paper chromatography part 2	1
30	Osmosis	1
Total		

No.	Subject /practical	Time/Hr.
1	Introduction to biosafety and biosecurity Occupational safety and health Key components of bio-risk management	1
2	Universal safety precaution Components of biosafety in all labs	1
3	Biosafety barriers in labs Personal Protective Equipment (PPE) Facility design	1
4	Safety for support staff Laboratory Hygiene Engineering and building maintenance services	1
5	Overview of biological safety &security Equipment	1

. Summary: First Year
Total Theories - Hours/ Week: 14
Total Theories - Hours/ year: 14x30= 420
Total Practical Hours/ Week: 12
Total Practical Hours/ year: 12x 30= 360
Total Hours / Year: 780
Total credits: 40

(Second Year Curriculum (30 weeks)

Department of Oral & Maxillofacial Surgery

A- Basic information

1-Subject title	**General Anatomy**	**التشريح العام**
2-Number of credits	Theory:2	Laboratory:2
3-Number of contact hours	Theory:1 h/wk.	Laboratory:2 h/wk.
4-Subject time	Second Year	

No.	Title of the lectures	Hours
1	**Scalp** • Layers of the scalp • Muscles of the scalp • Sensory Nerve Supply of the Scalp • Arterial Supply of the Scalp • Venous Drainage of the Scalp • Lymph Drainage of the Scalp • Clinical Notes	**2**
2	**The orbital region** • Eyelids • Movements of the Eyelids • Lacrimal Apparatus • Openings into the Orbital Cavity • Nerves of the Orbit • Blood and Lymph Vessels of the Orbit • Structure of the Eye • Clinical Notes	**2**
3	**The Nasal region** • The Nose • External Nose • Nerve Supply of the External Nose • Blood Supply and Venous Drainage of the External Nose • Nasal Cavity • Mucous Membrane of the Nasal Cavity • Nerve Supply of the Nasal Cavity • Blood Supply to the Nasal Cavity • Venous Drainage of the Nasal Cavity • Lymph Drainage of the Nasal Cavity • The Paranasal Sinuses • Drainage of Mucus and Functions of Paranasal Sinuses • Clinical Notes	**1**

4	**Mandibular nerve** • Introduction • Branches of the Mandibular Nerve • Otic Ganglion • Clinical Notes	**1**
5	**Face** • Skin of the Face • Muscles of the Face (Muscles of Facial Expression) • Sensory Nerves of the Face • Arterial Supply of the Face • venous driange of the Face • venous driange of the Face • Lymphatic driange of the face • Facial nerve	**2**
6	**Oral cavity** The Lips The oral Cavity vestibule and Proper Sensory innervation of the Mouth Hard Palate & Soft palate Muscles of the Soft Palate Palatoglossal Arch & Palatopharyngeal Arch	**2**
7	**Tongue** • Mucous Membrane of the Tongue • Muscles of the Tongue • Movements of the Tongue	**1**
8	**Temporal region** • The temporal fossa anatomy • The infratemporal fossa • Communications • Muscles of mastication	**1**
9	**Parotid gland** • Parotid Region (Boundaries) • Parotid Gland • Parotid Duct • Innervation of Parotid Gland and Related Structures • Arterial Supply • Venous Drainage • Lymph Drainage • The Buccal Pad of Fat • Clinical Notes	**2**
10	**The Pterygopalatine fossa** • Boundaries, Communications and openings • Maxillary nerve • Branches from the pterygopalatine ganglion • THE PTERYGOPALATINE GANGLION • THE VEINS OF THE PTERYGOPALATINE FOSSA	**1**

11	**Temporomandibular joint** • Introduction • The Articular Disk • Retrodiscal Tissue • Capsule • Synovial Membrane • Ligaments • Nerve Supply • Vascular Supply • Movements • Important Relations of the Temporomandibular Joint • Clinical Notes	**2**
12	**The neck** • Overview • Skin of the Neck • Fasciae of the Neck • Superficial Cervical Fascia • Deep Cervical Fascia • Cervical Ligaments • Muscles of the Neck • Cervical Plexus • Bones of Neck • Blood Supply • Key Neck Muscles	**2**
13	**Triangles of the neck** • ANTERIOR TRIANGLE • SUBMENTAL TRIANGLE • SUBMANDIBULAR TRIANGLE • CAROTID TRIANGLE • MUSCULAR TRIANGLE • Posterior Triangle • Thyroid Gland • blood supply & venous drainage • nerve supply	**2**
14	**Submandibular region** MUSCLES OF THE SUBMANDIBULAR REGION The submandibular gland Sublingual Gland	**1**
15	**Root of the neck** • Muscles of the Root of the Neck • The Thoracic Duct • Main Nerves of the Neck • Cervical Plexus & Brachial Plexus • Lymph Drainage of the Head and Neck • Veins of the Head and Neck	**2**

16	**Arteries of the neck** • Common Carotid Artery • Carotid Sinus • Carotid Body • External Carotid Artery • Internal Carotid Artery • Subclavian Arteries (3 parts) • Circle of Willis	**2**
17	**Brain** • Nervous System • Gross Anatomy of the Brain • Parts of the Brain • Ventricular System of the Brain • The Venous Blood Sinuses (Dural Sinuses) • Blood Supply of the Brain • Cranial Meninges • Dural Nerve Supply • Dural Arterial Supply Dural Venous Drainage Clinical Focus	**1**
18	**Cranial nerves** • Introduction • Functional Components • Summary of cranial nerves	**1**
19	**Pharynx** • Muscles of the Pharynx • Pharynx divisions • Palatine Tonsils • Waldeyer's Ring of Lymphoid Tissue	**1**
20	**Larynx** • Cartilages of the Larynx • Membranes and Ligaments of the Larynx • Inlet of the Larynx • Laryngeal Folds • Muscles of the Larynx • Nerve & blood Supply of the Larynx	**1**
		30

Laboratory sessions

No.	Title of the sessions	Hours
1	Anatomy of scalp	**2**
2	Anatomy of face part 1	**2**
3	Anatomy of face part 2	**2**
4	Anatomy of parotid region	**2**
5	Temporal, infratemporal fossa	**2**
6	muscles of mastication	**2**
7	Mandibular nerve	**2**
8	Maxillary artery	**2**
9	Pterygopalatine fossa	**2**
10	Maxillary nerve	**2**
11	Nasal cavity and paranasal sinuses	**2**
12	Tempromandibular joint (TMJ)	**2**
13	Orbital region and Muscles of the eye	**2**
14	Ophthalmic nerve, artery and vein	**2**
15	anatomy of eyeball	**2**
16	Anatomy of mouth(The Lips ,oral Cavity,Tongue)	**2**
17	The Palate	**2**
18	Superficial anatomy of neck	**2**
19	Triangles of neck	**2**
20	Arteries of head and neck (internal carotid artery)	**2**
21	External carotid artery	**2**
22	Subclavian artery	**2**
23	Veins of the Head and Neck (internal jugular vein, subclavian vein, and venus sinuses)	**2**
24	Anatomy of brain	**2**
25	Submandibular region	**2**
26	Anatomy of pharynx	**2**
27	Lymph drainage of head and neck	**2**
28	Anatomy of larynx	**2**
29	Root of neck	**2**
30	Cranial nerves	**2**
Total		**60**

Department of Basic Science

A- Basic information

1-Subject title	**Biochemistry**	**الكيمياء الحياتية**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory: 2h/wk	Laboratory:2h/wk
4-Subject time	Second Year	

Number	Title of the lectures	Hours
1	Enzymes: Definition ,Terminology , and Classification	**2**
2	Mechanism of enzyme action	**2**
3	Clinical significance of enzyme assays	**2**
4	Vitamins, definition, classification	**2**
5	Digestion and absorption of carbohydrates, lipids ,and proteins	**2**
6	Chemistry of carbohydrates	**2**
7	Metabolism of Carbohydrates: part 1	**2**
8	Metabolism of Carbohydrates :part 2	**2**
9	Carbohydrates metabolism regulation	**2**
10	Chemistry of Proteins and amino acids	**2**
11	Metabolism of Proteins and amino acids	**2**
12	Metabolism of Protein and amino acid regulation	**2**
13	Metabolism of Protein and amino acid inherited disorder	**2**
14	Exam	**2**
15	Lipid :definition, classification	**2**
16	Metabolism of Lipid: oxidation of Fatty Acids	**2**
17	Biosynthesis of Fatty Acids	**2**
18	Integration of metabolism of carbohydrates, lipid ,and Proteins	**2**
19	Metabolism of Purines and pyrimidines	**2**
20	Metabolism of Purines and pyrimidines disorder	**2**
21	Nucleic Acids Definition and Protein synthesis	**2**
22	Hormone definition, classification	**2**
23	Hormone disorder	**2**
24	Acid-base balance	**2**
25	Trace elements disorder	**2**
26	Salivary secretion(saliva), Pancreatic juice	**2**
27	Electrolytes	**2**
28	Liver Function Test	**2**
29	Kidney Function Test	**2**
30	Exam	**2**
Total		**60**

Laboratory sessions

Lab number	Study unit title	Hours
1	**Lab safety**	**2**
2	**Sample collection-1**	**2**
3	**Sample collection -2**	**2**
4	**Spectrophotometer**	**2**
5	**Standard curve**	**2**
6	**Blood glucose+ HbA1c**	**2**
7	**Total Protein**	**2**
8	**Albumin+ Globulin**	**2**
9	**Troponin**	**2**

10	**Liver function test (Bilirubin)**	**2**
11	**Alkaline Phosphatase**	**2**
12	**Transaminases (ALT&AST)**	**2**
13	**Lipid in blood (cholesterol & lipoprotein)**	**2**
14	**Triglyceride**	**2**
15	**Kidney function Test (urea)**	**2**
16	**Serum creatinine &creatinine clearness**	**2**
17	**General Urine Analysis-1**	**2**
18	**General Urine Analysis-2**	**2**
19	**Uric acid**	**2**
20	**Amylase in serum+ saliva**	**2**
21	**creatine phosphokinase**	**2**
22	**lactate Dehydrogenase**	**2**
23	**serum calcium**	**2**
24	**serum phosphorus**	**2**
25	**serum Na**	**2**
26	**serum K**	**2**
27	**serum Iron**	**2**
28	**Vitamin D**	**2**
29	**Vitamin C**	**2**
30	**Acid phosphatase.**	**2**
Total		**60**

Department of Oral diagnosis

1-Subject title	**Oral histology and Embryology**	**انسجة الفم و علم الاجنة**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory:2 h/wk.	.Laboratory:2h/wk
4-Subject time	Second year	

Theory sessions

Week No.	Title of the lectures	Hours
1	Embryogenesis: first week, ovulation, fertilization and implantation	**2**
2	2nd week,Bilaminar germ layer	**2**
3	3rd week trilaminar germ layer: gastrulation and neurulation	**2**
4	(Development of head and neck(pharyngeal arch,pouch & cleft	**2**

5	Development of face and anomalies	**2**
6	Development of tongue and anomalies	**2**
7	Development of palate and anomalies	**2**
8	Slide preparation	**2**
9	Tooth development and developmental disturbances of teeth	**2**
10	Dentinogenesis and dentin structure	**2**
11	Amelogenesis, Enamel structures	**2**
12	Clinical consideration for dentin and enamel	**2**
13	Dental Pulp	**2**
14	Cementum and clinical consideration	**2**
15	Root formation& Cementogenesis	**2**
16	Periodontal ligaments	**2**
17	Principles fiber of pdl and gingival fibers	**2**
18	Alveolar bone	**2**
19	Bone formation and resorption	**2**
20	Proteins involve in mineralization of bone and dentin	**2**
21	Oral mucosa and their types	**2**
22	Gingiva and dentogingival junction	**2**
23	Eruption of teeth	**2**
24	Shedding of teeth	**2**
25	Salivary gland	**2**
26	Salivary proteins	**2**
27	TMJ	**2**
28	Maxillary sinus	**2**
29	Histochemistry	**2**
30	Age changes of soft and hard tissues	**2**
Total		**60**

Laboratory sessions

Lab number	Study unit title	subject	Hours
1	first week of development ovulation and implantation	data show projector	**3**
2	Second week of development: bilaminar germ layer	data show projector	**3**
3	Third week of development trilaminar germ layer	Video presentation	**3**
4	Development of prechodral plate and primitive streak	data show projector	**3**
5	Pharyngeal arch, pouch and cleft	data show projector	**3**

6	development of the face and tongue	Video presentation	**3**
7	Development of the Palate and its annomalies	data show projector	**3**
8	Slide preparation, Tooth development and growth	Data show figures	**3**
9	Tooth development and growth	Data show figures	**3**
10	Dentinogenesis, Dentin structures	Data show figures	**3**
11	Amelogenesis, Enamel structures	Data show figures	**3**
12	Clinical consideration in enamel and dentin, Dentin hypersensitivity	Data show figures	**3**
13	Pulp development, pulp structures	Video presentation	**3**
14	Root formation, Cementogenesis	Video presentation	**3**
15	Cementum structures, Clinical consedaration of cementum	Data show projection	**3**
16	Periodontium, Periodontal ligaments	Data show projection	**3**
17	Maxilla, mandible , alveolar bone	Data show projection	**3**
18	Oral mucosa membrane, Types of mucosa	Data show projection	**3**
19	Eruption of teeth, Mechanism of eruption	Data show projection	**3**
20	Shedding of the deciduous teeth, Dentino-gingival junction	Data show projection	**3**
21	Tempro-mandibular joints, Maxillary sinus	Data show projection	**3**
22	Histochemistry, Types of histochemical stain	Data show projection	**3**
23	Facial anomalies ,Types of Twins	Data show figures	**3**
24	Development of Digestive system, Congenital anomalies of Digestive system	Data show figures	**3**
25	Development of nervous system, Congenital anomalies of nervous system	Data show figures	**3**
26	Development of muscular system,Congenital anomalies of muscular system	Data show figures	**3**
27	Development of skeletal system, Congenital anomalies of skeletal system	Data show figures	**3**
28	Characterization of proteins involved in Dentin and Bone Mineralization	Data show projection	**3**

29	Bone formation and resorption	Data show projection	**3**
30	Salivary proteins and their relevance to mineral homeostasis	Data show projection	**3**
Total			**90**

Department of Basic Science

A- Basic information

1-Subject title	**General Histology**	**الانسجة العامة**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory: 2h/wk.	Laboratory:2h/wk.
4-Subject time	Second Year	

No.	Title of the lectures	Hours
1	**Cells, Basic Tissue**	**2**
2	**Epithelial Tissue**	**2**
3	**Connective Tissue**	**2**
4	**Respiratory System: conducting portion**	**2**
5	**Respiratory System: respiratory portion**	**2**
6	**Urinary System: kidney nephrons, collecting tubules and ducts**	**2**
7	**Urinary System: ureter, urinary bladder, and male and female urethra**	**2**
8	**Integumentary System: Skin: epidermis, dermis**	**2**
9	**Integumentary System: skin glands, hair, and nails**	**2**
10	**Hemopoiesis: bone marrow**	**2**
11	**Hemopoiesis: blood cells**	**2**
12	**Circulatory System**	**2**
13	**Circulatory System**	**2**
14	**Lymphoid System**	**2**
15	**Lymphoid System**	**2**
16	**Nervous System**	**2**
17	**Nervous System**	**2**
18	**Endocrine System**	**2**
19	**Endocrine System**	**2**
20	**Endocrine System**	**2**
21	**Digestive System**	**2**
22	**Digestive System**	**2**
23	**Digestive System**	**2**
24	**Digestive System**	**2**
25	**Male Reproductive System**	**2**
26	**Male Reproductive System**	**2**

27	**Female Reproductive System**	**2**
28	**Female Reproductive System**	**2**
29	**Special Sense Organs: eye**	**2**
30	**Special Sense Organs: ear**	**2**
Total		**60**

Laboratory sessions

Lab number	Study unit title	Hours
1	**Slides of basic types of tissue**	**2**
2	**Slides of types of epithelial tissue**	**2**
3	**Slides of types of blood cells in blood smears**	**2**
4	**Slides of larynx, trachea**	**2**
5	**Slides of lungs including bronchi and bronchioles**	**2**
6	**Slides of kidney**	**2**
7	**Slides of ureter, urinary bladder**	**2**
8	**Slides of layers of epidermis, dermis**	**2**
9	**Slides of skin glands, hair**	**2**
10	**Slides of bone marrow types**	**2**
11	**Slides of blood cells development**	**2**
12	**Slides of large artery (aorta), small artery**	**2**
13	**Slides of medium sized vein**	**2**
14	**Slides of lymph nodes, palatine tonsils**	**2**
15	**Slides of thymus, spleen**	**2**
16	**Slides of nerve fibers, spinal cord**	**2**
17	**Slides of ganglia, cerebrum, and cerebellum**	**2**
18	**Slides of pituitary gland, thyroid gland**	**2**
19	**Slides of parathyroid glands, adrenal glands**	**2**
20	**Slides of pineal gland, endocrine pancreas**	**2**
21	**Slides of lip, tongue, and salivary glands**	**2**
22	**Slides of esophagus, stomach**	**2**
23	**Slides of duodenum, ileum, and colon**	**2**
24	**Slides of appendix, liver, pancreas, and gallbladder**	**2**
25	**Slides of testes, duct of the epididymis**	**2**
26	**Slides of prostate gland, seminal vesicles, and penis**	**2**
27	**Slides of ovaries, corpus luteum, and uterus**	**2**
28	**Slides of placenta, vagina, and mammary glands**	**2**
29	**Slides of vertical section of cornea, retina**	**2**
30	**Slides of vertical section of internal ear**	**2**
Total		**60**

Department of prosthodontics

A- Basic information

1-Subject title	**Dental Material**	**المادة السنية**
2-Number of credits	Theory:2	Laboratory:2
3-Number of contact hours	Theory:1h/wk.	Laboratory 2h/wk.
4-Subject time	Second Year	

No.	Title Of The Lectures		Hours
1	Introduction and physical properties of dental material	• Introduction to dental materials • Physical, chemical and biological properties of dental materials	1
2	Mechanical properties	• Mechanical properties	1
3	Gypsum materials	• Definition, requirement, types, • gypsum bonded investment • phosphate bonded investment • ethyl silicate bonded	1
4	Gypsum materials	•	1
5	Impression materials	• Definition • Ideal properties of impression materials • Classification of impression materials ✓ Non elastic impression materials ➢ Impression plaster ➢ Impression compound ➢ Zinc oxide - eugenol ✓ Elastomeric impression material	1
6	Impression materials	•	1
7	Impression materials		1
8	Impression materials		1
9	Impression materials	•	1

10	**Waxes**	• **Definition,** • **Requirements,** • **classification of wax according to origin & melting point,** • **classification of wax according to uses, properties of dental waxes.**	**1**
11	**Waxes**	•	**1**
12	**Polymers**	• **Polymers and polymerization** • **Definition of polymer, co-polymer, cross-link polymer and Degree of polymerization** • **Factors which control structure and properties of polymer** • **Types of polymerization** • **Heat activated acrylic** ✓ **Composition** ✓ **Properties** • **Chemically activated resin** ✓ **Composition** ✓ **Properties** • **Light activated resin** ✓ **Composition** ✓ **Properties** • **Chemically activated resin compared to heat activated resins** • **Polymers used in dentistry** • **Processing errors**	**1**
13	**Polymers**		**1**
14	**Investment materials**	• **factors affecting setting time, setting expansion, strength, storage and manipulation of gypsum products, and hygroscopic expansion**	**1**
15	**Cement materials**	• **Classification of dental cements** • **Definition** • **Requirements**	**1**
16	**Temporary filling**	• **Definition**	**1**

		• **indication** • **Types** • **Requirements**	
17	**Metal and metal alloy**	• **Metallic denture base materials** ✓ **Types of metal and metal alloys** ✓ **Definition of alloy** ✓ **Requirement of casting alloy** ✓ **Application of dental alloy** ✓ **classification of metal** ✓ **classification of dental alloy** ✓ **gold foil (advantage, disadvantages)** ✓ **gold alloys** ➢ **Composition** ➢ **Properties**	**1**
18	**Metal and metal alloy**		**1**
19	**Metal and metal alloy**	• **Alternative of gold alloys** ✓ **Metal ceramic alloys** ➢ **Requirement** ➢ **Types** ✓ **Removable denture base alloys** ➢ **Requirements** ➢ **Types** ✓ **Co-Cr alloy** ➢ **Application** ➢ **Composition** ➢ **properties,** ➢ **Advantages** ➢ **Disadvantages**	**1**
20	**Metal and metal alloy**	✓ **Titanium and Titanium alloys** ➢ **Applications** ➢ **Properties** ✓ **Ni/Cr alloys** ➢ **Composition** ➢ **Indications** ✓ **Wrought stainless steel alloy**	**1**
21	**Filling materials**	• **Direct filling material** ✓ **Definition** ✓ **Factors causing loss**	**1**

		of tooth substance ✓ Requirement of an ideal filling material. ✓ Classification of filling material ➢ Anterior filling materials Disadvantages Composite filling materials composition and structure Types of composite ➢ Posterior filling materials Dental amalgam ▪ Classification of amalgam alloys ▪ Properties of set amalgam ▪ Shaping and finishing ▪ Mercury toxicity	
22	Filling materials		1
23	Filling materials		1
24	Filling materials		1
25	Preventive materials	• Preventive materials	1
26	Root canal filling materials (obturating materials)	• Root canal filling materials (obturating materials)	1
27	Finishing and polishing material	• Finishing and polishing material	1
28	Relining material	• Definition • Types • Requirements • Indication • Soft liners ✓ Types ✓ Requirements ✓ Indication ✓ Properties	1
29	Implant materials	• Implant materials	1
30	Maxillofacial materials	• Maxillofacial materials	1
Total			30

Laboratory sessions

No.	Title of lab.	Hours
1-	Introduction and physical properties of dental material	2
2-	Mechanical properties (stress strain curve)	2
3-	Showing different types of gypsum materials (plaster and stone)	2
4-	Steps of mixing plaster and demonstrate the steps of setting	2
5-	Impression plaster, demonstrate the manipulation of impression compound	2
6-	Zinc oxide impression material and agar impression demonstrate the mixing of zinc oxide impression	2
7-	Alginate impression (elastic impression) showing the trays used and the mixing of alginate and water according to manufacturer instructions	2
8-	Polysulphide, condensation and addition silicon\mixing of heavy body and light body	2
9-	Polyether, hybrid impression, digital impression	2
10-	Showing different types of wax (denture base plate, denture casting wax and others	2
11-	Demonstrate how to use wax material and its manipulation	2
12-	Introduction to polymers	2
13-	Different types of denture base materials(heat, cold and light activated polymers) demonstrate the mixing of polymer and monomer	2
14-	Thermoplastic polymers (flexible denture base material)	2
15-	Investment materials (showing the method of the investment)	2
16-	Introduction to cement materials	2
17-	Showing different types of cement materials and the method of mixing of cement	2
18-	Temporary filling (use and manipulation)	2
19-	Introduction to metal and metal alloy	2
20-	Showing the different types of metal and metal alloy	2
21-	Introduction to crown and bridge material	2
22-	Introduction to filling material	2
23-	Amalgam filling showing the amalgam capsules and mixing of amalgam	2
24-	Composite filing (chemical and light activated)	2
25-	Micro filled, hybrid, and nano-composite	2
26-	Demonstrate the setting of chemical and light activated composite filling material	2
27-	Showing different types of preventive materials (tooth pastes, gargles. Mouth wash fluoride varnishes and resin sealers)	2
28-	Demonstrate the obturating materials (Gutta percha, sealers) and endodontic instruments	2
29-	Finishing and polishing materials	2
30-	Relining materials	2
Total		60

Department of Prosthodontics

A- Basic information

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

No.	Title of The Lectures		Hours
1	**Introduction**	• **Complete denture** ✓ **Objective of complete denture** ✓ **General consideration in complete denture construction** ✓ **Complete denture component parts**	**1**
2	**Anatomical landmarks**	• **Anatomical landmarks** ✓ **Maxillary arch anatomical landmarks** ➢ **Supporting structures** ➢ **Limiting structures** ➢ **Relief areas**	**1**
3	**Anatomical landmarks**	• **Anatomical landmarks** ✓ **Mandibular arch anatomical landmarks** ➢ **Supporting structures** ➢ **Limiting structures** ➢ **Relief areas**	**1**
4	**Complete Denture Impression**	• **Impression tray - Definition** • **Parts of the impression tray** • **Types of tray** • **Stock tray – Definition** • **Types of stock trays** • **Factors effect in selection of stock tray**	**1**
5	**Complete Denture Impression**	• **Special tray** ✓ **Advantages of special tray** ✓ **Materials used for construction of special tray** ✓ **Types of special tray**	**1**

		✓ Techniques or methods for construction of special tray ✓ Criteria for special tray construction	
6	Complete Denture Impression	• Dental impression - Definition • Complete denture impression - Definition • Objective of impression making • Primary impression - Definition • Materials used for making primary impression • Primary cast - Definition • Production of study cast • Secondary impression - Definition • Master cast- Definition • Materials used for final impression • Technique used for making final impression • Boxing an impression and making the casts • Advantages of boxing • Common fault in impression making	1
7	Record Base	• Record base - Definition • Requirements of record base • Types of materials used in construction of record base	1
8	Occlusion Rims	• Occlusion rims - Definition • Requirements of occlusion rim • Materials used in construction of occlusion rim • Measurements of maxillary occlusion	1

		rim • Measurements of mandibular occlusion rim • Uses of occlusion rim • Occlusal plane • Fox – bite	
9	Anatomy And Physiology Of Temporomandibular Joint	• Temporomandibular joint (TMJ) – Definition • Ligaments • Muscles	1
10	Anatomy And Physiology Of Temporomandibular Joint	• Mandibular axes and mandibular movements • Knowledge of mandibular movements • Mandibular movements	1
11	Maxillomandibular relation	• Types of jaw relation ✓ Vertical jaw relation ➢ Rest position ➢ Inter – occlusal distance ➢ Importance of vertical dimension ➢ Increased vertical dimension ➢ Decreased vertical dimension	1
12	Methods Of Recording Vertical Relation	• Method of recording rest vertical dimension • Method of recording occlusal vertical dimension • Pre – extraction records • Methods without pre – extraction record	1
13	Horizontal Jaw Relation	• Centric jaw relation ✓ Importance of centric jaw relation ✓ Methods of recording jaw relation ✓ Factors that complicates centric jaw relation ✓ Methods of recording	1

		eccentric jaw relation	
14	**Dental Articulators** (Classification & Digital computerized articulator programming)	• **Dental articulator** ✓ **Definition** ✓ **Functions of articulator** ✓ **Requirements of articulator** ✓ **Types of articulator**	**1**
15	**Face – Bow**	• **Face- bow** ✓ **Definition** ✓ **Parts of face – bow** ✓ **Types of face – bow** ✓ **Important of the face – bow**	**1**
16	**Mounting**	• **Mounting** ✓ **Definition** ✓ **Preparation of articulator** ✓ **Preparation of the casts and mounting the upper cast on CL II articulator** ✓ **Mounting the lower cast** ✓ **Errors occurred during mounting**	**1**
17	**Selection Of Artificial Teeth**	• **Selection of anterior teeth** ✓ **The factors of shade selection** ✓ **Size selection a. Length b. Width** ✓ **Form selection** ✓ **Materials of anterior teeth** ✓ **Difference between acrylic and porcelain teeth**	**1**
18	**Selection Of Posterior Teeth**	✓ **Shade** ✓ **Bucco-lingual width** ✓ **Mesio-distal length** ✓ **Occluso-gingival height** ✓ **Occlusal form** ✓ **Advantages of casp form teeth** ✓ **Advantages of non-cusp form teeth**	**1**
19	**Arrangement Of Artificial Teeth**	• **Guideline of artificial teeth arrangement** ✓ **Arrangement of**	**1**

		anterior teeth ✓ Arrangement of upper anterior teeth	
20	Arrangement Of Posterior Teeth	• Curve of Spee • Compensatory curves • Arrangement of lower posterior teeth • Arrangement of upper posterior teeth • Common errors in arrangement of teeth	1
21	Waxing And Carving	• Waxing ✓ Definition ✓ Requirements of waxing the polish surfaces ✓ The procedure of waxing ✓ Establishing the posterior palatal seal area ✓ Procedure for carving of posterior palatal seal area ✓ Advantages of posterior palatal seal • Esthetic consideration in complete denture	1
22	Complete Denture Occlusion	• Occlusion ✓ Occlusion of complete denture ✓ Centric occlusion ✓ Centric relation	1
23	Complete Denture Occlusion	✓ Eccentric occlusion ✓ Concepts of complete denture occlusion ✓ Try-in appointment	1
24	Processing Of The Denture (Flasking)	• Flasking of the denture ✓ Flasking techniques	1
25	Occlusal Correction	• Causes of errors in occlusion • Selective grinding • Correction of occlusal errors • Disadvantages of intra – oral correction • Advantages of extra – oral correction	1

		• **Rules for selective grinding**	
26	**Finishing And Polishing Of Complete Denture**	• **Procedure of finishing** • **Grinding and cutting instruments** • **Polishing of complete denture** • **Principles of polishing** • **Procedures of polishing**	**1**
27	**Repair Of Complete Denture**	• **Types of material used in repair** • **Causes of denture fracture** • **Types of repair** • **Laboratory procedure for repairing fractured denture base**	**1**
28	**Repair Of Complete Denture**	• **Replacement of broken or missing tooth** • **Replacement of missing or lost part** • **Requirement of repair**	**1**
29	**Relining And Rebasing**	• **Indication for relining or rebasing** • **Relining** • **Contraindications of relining and rebasing** • **The impression techniques for relining and rebasing**	**1**
30	**Relining And Rebasing**	• **Laboratory procedures for relining** • **Rebasing** • **The chair – side reline technique**	**1**
Total			**30**

Laboratory sessions

Lab no.	Study unit title	Hours
1	Clinical and laboratory steps of complete denture construction	**4**
2	Taking primary impression on metal mold by impression compound and beading and boxing and pouring by dental plaster	**4**

3	Pouring on rubber mold (upper and lower primary cast)	**4**
4	Description of anatomical landmarks (maxillary and mandibular arch)	**4**
5	Demonstration of making upper and lower special tray by cold cure acrylic	**4**
6	Finishing and polishing of special tray and evaluation	**4**
7	Demonstration of taking final impression and construction of master cast	**4**
8	Evaluation of record base construction, finishing and polishing	**4**
9	Bite rims construction (upper and lower arch)	**4**
10	Demonstration of face bow and fox bite and description of types of jaw relation	**4**
11	Description about the methods of recording vertical jaw relation	**4**
12	Description about the methods of recording horizontal jaw relation	**4**
13	Demonstration about the types of articulators, parts, its uses and action	**4**
14	Mounting of upper and lower casts on articulators	**4**
15	Mounting of upper and lower casts on articulators (continue) and evaluation of the student work	**4**
16	Description the methods of selection of anterior and posterior teeth for complete denture	**4**
17	Demonstration about arrangement of upper and lower anterior teeth	**4**
18	Arrangement of upper and lower anterior teeth (continue) and evaluation of the student work	**4**
19	Demonstration about arrangement of upper and lower posterior teeth	**4**
20	Arrangement of upper and lower posterior teeth(continue).	**4**
21	Arrangement of posterior teeth and carving of posterior palatal seal and evaluation of the student work	**4**
22	Demonstration about carving and waxing of upper complete denture.	**4**
23	Carving and waxing of lower complete denture (continue) and evaluation of the student work	**4**
24	Flasking and investment of the denture	**4**
25	Wax elimination, packing and curing of heat cure acrylic	**4**
26	Deflasking ,finishing and polishing of upper complete denture	**4**
27	Deflasking ,finishing and polishing of lower complete denture (continue)	**4**
28	Demonstration of selective grinding	**4**
29	Repair of fracture denture	**4**
30	Repair of missing tooth	**4**
Total		**120**

Department of Basic Science

A- Basic information

1-Subject title	**General Physiology**	**الفسلجة العامة**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory: 2h/wk.	Laboratory:2h/wk.
4-Subject time	Second Year	

No.	Title of lectures	Hours
1	**Introduction** (Function organization of the human body, Cell physiology, Cell membrane , Cell components , Cell Junction)	2
2	**Body fluid** (Type of body fluids, Intracellular and extracellular, Daily intake of water, Daily loss of body water, Constituents of extracellular and intracellular fluids, Major factors contribute to the movement of fluid, Specialized Fluids of the Body) **Edema** (Types of Edema, Causes of edema, Measurement of body fluid volume, Dehydration, Types of dehydration, Classification, Causes, Signs and Symptoms of Dehydrations)	2
3	**Homeostasis and Transport across cell membrane** (Diffusion (passive), Carrier-mediated transport (passive or active), Vesicular transport).	2
4	**ORAL CAVITY and Salivary Glands** (Functions of Mouth, Salivary Glands (Structure, Development, Major glands, Minor glands, Clinical correlations, Regulation of Salivary Secretion, Factors Influencing Salivary Flow and Composition) (**Mastication**, Deglutition, Bolus Formation for Swallowing, Digestion), (**speech**: Definition, Mechanism, Nervous Control, Applied Physiology)	2
5	**Salivary functions and Regulation of Salivary Secretion** (Composition of Saliva, Saliva Components, Properties of Saliva, Functions of Saliva, Effect of Drugs and Chemicals on Salivary Secretion, Maintenance of Tooth Integrity, The Diagnostic Applications of Saliva and forensic uses of saliva, Disadvantages/Limitations of Saliva)	2
6	**BLOOD** (Composition of blood , Hematocrit, Plasma , Functions of blood **), Red blood cells** (Genesis of R.B.C, polycythemia, Anemia, Destruction of R.B.C.s)	2
7	**White Blood Cells** (Types of W.B.C. , Genesis of the leukocytes, Life span of the W.B.C, Phagocytosis, Inflammation, Leukemia's, Leukopenia)	2
8	**Hemoglobin** (Formation of Hemoglobin , Iron Metabolism , Hb Compounds , Destruction of Hb , The common causes of jaundice)	2
9	**Blood groups** (Agglutination, Agglutinins, The Rh Group, Formation of Anti-Rh, agglutinins, Erythrobastosis Fetalis , Effect of the Mother's Antibodies on the Fetus, Transfusion Reactions resulting from mismatched Blood Types , Nature of Antibodies)	2
10	**Hemostasis and blood coagulation** (Vascular Spasm , Formation of a Platelet Plug , Mechanism of the Platelet Plug , Mechanism of Blood Coagulation , Prevention of Clotting in the Normal Vascular System , Prevention of Blood Coagulation outside the Body , Blood Disease)	2

11	**Cardiovascular system: Blood vessels** (Heart: Layers, Valves, Actions of heart, Blood Vessels, Division of circulation, Properties of Cardiac Muscle, Action Potential and Ionic Basis, Conductive system of Human Heart)	**2**
12	**Cardiovascular system: Blood pressure** **(**Cardiac Cycle, Heart Sounds, Cardiac Output, Heart Rate and Regulation, Arterial Blood Pressure and Regulation of ABP Venous Pressure and Capillary Pressure, Arterial Pulse and Venous Pulse, Regional Circulation)	**2**
13	**Cardiovascular system (**Electrocardiogram, Hemorrhage, Circulatory Shock and Heart Failure, Cardiovascular Adjustments during Exercise)	**2**
14	**Respiratory system (**Types of Respiration**,** Stages of Respiration**,** Respiratory tract, Non respiratory functions of respiratory tract**,** Mechanics of Pulmonary Ventilation, Types of Respiratory pressures**,** Factors causing and preventing collapsing tendency of lungs)	**2**
15	**Respiratory system: Lung volumes and capacities (**Compliance**,** Variation in Compliance**,** The resistance and the work of breathing**,** Dead space**,** Lung volume and Lung capacity, Ventilation, Respiratory Protective Reflexes **,** Pulmonary function tests, Regulation of Respiration, The relationship between oral health and respiratory disease)	**2**
16	**Half-year Break**	**2**
17	**SPECIAL SENSATION: Vision, Hearing, taste & smell** **(**Structure of Eye, Visual Process and Field of Vision, Visual Pathway Pupillary Reflexes, Color Vision, and Errors of Refraction. Structure of Ear and Auditory Pathway ,Mechanism of Hearing and Auditory Defects, Sensation of Taste and Smell)	**2**
18	**Temperature of the Body (**Normal body Temperatures, Physiological Variations of body temperature, Heat Balance, Heat gain or heat production in the body**,** Heat loss from the body**,** Insulator System of the Body**,** Blood flow to the skin from the body core provides heat transfer**,** Regulation of body temperature**,** Mechanisms to decrease or increase body temperature**,** Sympathetic "Chemical" Excitation of heat production)	**2**
19	**Urinary system (**Parts of Renal system**,** The Kidney**,** Functions of kidneys**,** Components of kidney**,** Parenchyma of kidney, Nephron and Juxtaglomerular Apparatus**,** Renal corpuscle, Structure of renal corpuscle**,** Tubular portion of nephron**,** Collecting duct)	**2**
20	**Urinary system: Urine formation (**Mechanism of urine formation**,** Glomerular Filtration**,** Pressure determining filtration**,** Tubular Reabsorption**,** Tubular secretion	**2**

	Micturition, Nerve supply to urinary bladder and sphincters, Renal Function Tests, Relation between renal disease & oral health)	
21	**Endocrine System (**Introduction**,** Endocrine glands**,** Hormones, Nature of Hormones, Classification of hormones**,** Hormone Secretors, Hormonal action Hormone receptors, Synthesis and storage of hormones, Mechanism of hormonal function, Measurement of Hormone Concentrations in the Blood)	**2**
22	**Major Endocrine Glands** (Oral manifestations of endocrine dysfunction, Control Systems Involving Hypothalamus and Pituitary glands, The pituitary gland, Thyroid gland, Pancreas gland, Adrenal glands)	**2**
23	**Digestive system** (The Functions of the digestive, Structural layers of digestive, Stomach, Secretions of the Stomach , Regulation of Stomach Secretion , Mixing of Stomach Contents, Stomach Emptying	**2**
24	**Digestive system** (small intestine , Secretions of the Small Intestine, Movement in the Small Intestine, Liver, Functions of the Liver, Pancreatic Secretions, Regulation of Pancreatic Secretion, Large Intestine, Movment in the Large Intestine Digestion, Absorption, and Transport)	**2**
25	**Muscular system: Muscle structure** **(**Types, Structure, Microscopic Structure, Muscle Physiology, Properties, Contraction and contractile elements, Tone, Electrical and Molecular Changes during Muscular Contraction)	**2**
26	**Muscular system: Tone , contraction** (Molecular Changes During Muscular Contraction, Neuromuscular Junction- Neuromuscular Transmission and Blockers, Nutrition and Metabolism (Energy Requirements))	**2**
27	**Nervous System: Nerve impulse, synapses** **(**Nervous System Division, Cranial nerves , Neuron and Neuroglia, Receptors, Nerve impulse, Synapse and Neurotransmitters)	**2**
28	**Nervous System** **(**Reflex Activity, Somatosensory System and Somatomotor System, Physiology of Pain)	**2**
29	**Reproductive system: Aging & reproductive system** (Male Reproductive System Female Reproductive System, Meiosis, Aging and Reproductive system.	**2**
30	**Aviation and Deep physiology** (Body Response in high altitudes, physiological Changes in the Sea deep). **Nutrition and metabolism** (daily energy requirement, obesity and fitness)	**2**
Total		**60**

Laboratory sessions

Lab number	Study unit title	Hours
1	Microscope	**2**
2	Collection of Blood Samples	**2**
3	Blood Smears	**2**
4	Functions of Saliva & Taste Sensation	**2**
5	Stimulation and collection of salivary secretion	**2**
6	Separation of blood samples	**2**
7	Differential WBCs	**2**
8	Total Count of WBCs	**2**
9	Total Count of RBCs	**2**
10	Blood groups	**2**
11	Estimation of Hemoglobin	**2**
12	Bleeding and clotting time	**2**
13	Self-Monitoring of blood glucose test	**2**
14	Measurement of blood pressure &pulse rate	**2**
15	Effect of exercise on blood pressure and respiratory rate	**2**
16	Mid Exam	**2**
17	Physiology of vision test	**2**
18	Physiology of hearing test	**2**
19	Physiology of Smell sensation	**2**
20	Measurement of body temperature	**2**
21	Thyroid function (Body mass index)	**2**
22	Thyroid function (Body mass index)	**2**
23	Resuscitation &Artificial respiration	**2**
24	Resuscitation &Artificial respiration	**2**
25	Physiology of Skeletal muscles	**2**
26	Physiology of Skeletal muscles	**2**
27	Physiology of Skeletal muscles	**2**
28	Examination of reflexes (Motor Function)	**2**
29	Seminars and examinations	**2**
30	Seminars and examinations	**2**
Total		**60**

Crimes of the baath regime in Iraq جرائم حزب البعث في العراق		
Credits	2	0
Hour/ week	Theory: 1 hour	Practical : 0

10. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعليم	طريقة التقييم
1	ساعة واحدة	تعرف الطالب على جرائم البعث وفق قانون المحكمة الجنائية العراقية	جرائم البعث وفق قانون المحكمة الجنائية العراقية	القاء المحاضرة	سؤال وجواب
2	ساعة واحدة	للتمييز بين مفهوم الجرائم واقسامها	مفهوم الجرائم واقسامها	القاء المحاضرة	سؤال وجواب
3	ساعة واحدة	لتوضيح الطالب المصطلح واللغة	تعريف الجريمة لغة واصطلاح	القاء المحاضرة	سؤال وجواب
4	ساعة واحدة	للتعرف على اقسام الجرائم	اقسام الجرائم	القاء المحاضرة	سؤال وجواب
5	ساعة واحدة	للتعرف على أنواع الجرائم الدولية	أنواع الجرائم الدولية	القاء المحاضرة واستخدام السبورة	سؤال وجواب
6	ساعة واحدة	للتعرف على القرارات الصادرة من المحكمة الجنائية	القرارات الصادرة من المحكمة الجنائية	القاء المحاضرة واستخدام السبورة	سؤال وجواب
7	ساعة واحدة	للتعرف على الجرائم النفسية والاجتماعية وابرز انتهاكات حزب البعث	الجرائم النفسية والاجتماعية وابرز انتهاكات حزب البعث	القاء المحاضرة	سؤال وجواب
8	ساعة واحدة	للتعرف على الجرائم النفسية	الجرائم النفسية		سؤال وجواب
9	ساعة واحدة	للتعرف على اليات الجرائم النفسية	اليات الجرائم النفسية	القاء المحاضرة واستخدام السبورة	سؤال وجواب
10	ساعة واحدة	للتعرف على اثار الجرائم النفسية	اثار الجرائم النفسية	القاء المحاضرة واستخدام السبورة	امتحان شفوي
11	ساعة واحدة	للتعرف على الجرائم الاجتماعية	الجرائم الاجتماعية	القاء المحاضرة	سؤال وجواب
12	ساعة واحدة	لتوضيح مفهوم عسكرة المجتمع	عسكرة المجتمع	القاء المحاضرة	سؤال وجواب
13	ساعة واحدة	للتعرف على موقف البعث من الدين	موقف البعث من الدين	القاء المحاضرة	سؤال وجواب
14	ساعة واحدة	للتعرف على انتهاك القوانين العراقية	انتهاك القوانين العراقية	القاء المحاضرة واستخدام السبورة	سؤال وجواب
15	ساعة واحدة	للتعرف على صور انتهاكات حقوق الانسان	صور انتهاكات حقوق الانسان	القاء المحاضرة	امتحان تحريري
16	ساعة واحدة	للتعرف على بعض قرارات الانتهاكات السياسية	بعض قرارات الانتهاكات السياسية	القاء المحاضرة	سؤال وجواب

17	ساعة واحدة	للتعرف على أماكن السجون والاحتجاز	أماكن السجون والاحتجاز	القاء المحاضرة واستخدام السبورة	سؤال وجواب
18	ساعة واحدة	للتعرف على الجرائم البيئية لنظام البعث	الجرائم البيئية لنظام البعث	القاء المحاضرة	سؤال وجواب
19	ساعة واحدة	للتعرف على التلوث الحربي	التلوث الحربي	القاء المحاضرة	سؤال وجواب
20	ساعة واحدة	للتعرف على تدمير المدن والقرى	تدمير المدن والقرى	القاء المحاضرة	سؤال وجواب
21	ساعة واحدة	للتعرف على تجفيف الاهوار	تجفيف الاهوار	القاء المحاضرة	سؤال وجواب
22	ساعة واحدة	للتعرف على تجريف البساتين	تجريف البساتين	القاء المحاضرة	سؤال وجواب
23	ساعة واحدة	للتعرف على المقابر الجماعية	المقابر الجماعية	القاء المحاضرة	سؤال وجواب
24	ساعة واحدة	للتعرف على احداث مقابر الإبادة	احداث مقابر الإبادة	القاء المحاضرة	سؤال وجواب
25	ساعة واحدة	للتعرف على التصنيف الرمزي لمقابر الإبادة	التصنيف الرمزي لمقابر الإبادة	القاء المحاضرة	امتحان شفوي
26	ساعة واحدة	للتعرف على عرض وثائق لجرائم الإبادة	عرض وثائق لجرائم الإبادة	القاء المحاضرة	عرض فقط
27	ساعة واحدة	للتعرف على عرض قرارات المحكمة الجنائية	عرض قرارات المحكمة الجنائية	عرض مصور فيديو	عرض فقط
28	ساعة واحدة	للتعرف على الاتهامات التي وجهت لصدام واعوانه	الاتهامات التي وجهت لصدام واعوانه	عرض مصور فيديو	عرض فقط
29	ساعة واحدة	مشاهدة و عرض وثائق مصورة للجرائم	عرض وثائق مصورة للجرائم	عرض مصور فيديو	عرض فقط
30	ساعة واحدة	مشاهدة و عرض وثائق مصورة للجرائم	عرض وثائق مصورة للجرائم	عرض مصور فيديو	عرض فقط
11. تقييم المقرر					
توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية					
12. مصادر التعليم والتدريس					
جرائم نظام البعث في العراق					

Summery Second Year

Total theories hours / week: 13

Total theories hours / year: 13x30= 390

Practical hour/ week: 16

Total practical hours / year: 480

Total hours / year: 870

Total credits: 40

Third Year Curriculum(30 weeks)

Department of Pedodontics and Preventive Dentistry

A- Basic information

1-Subject title	**Community Dentistry**	طب اسنان المجتمع
2-Number of credits	Theory:2	Clinical:2
3-Number of contact hours	Theory: 1h/wk.	Clinic: 2h/wk.
4-Subject time	Third Year	

No.	Title of the lectures	Hours
1	**- Dental public health** -Public health definition. -Dental Public health definition. - Community Dentistry. - Dental public health practitioners. - Public health impact of dental disease. - Tools of dental public health. 1-Epidemiology. 2- Biostatistics. 3- Social sciences. 4- Principles of administration. 5-Preventive dentistry.	1
2	**-Dental public care** - Steps in planning dental care for the patient - Steps in planning dental care for the community - Similarities between personal and community health care: - Differences between private dental practice and public health dentistry	1
3	**Epidemiology** - Objectives of epidemiology. - Components of epidemiological study. - Essential steps in an epidemiological study. - Hypothesis. - Population at risk. - Morbidity. - Measurements of disease frequency. **Epidemiological approach.** - Measurement tools in epidemiology.	1
4	**Epidemiological studies** Types of Epidemiological studies: 1-Observational studies Types of observational studies - Descriptive studies. -Analytical studies. Case control studies Cohort studies	1

	Ecological studies.	
5	2-**Experimental studies** -Intervention Types of experimental studies	**1**
6	**Epidemiology of dental caries** - Definition of dental caries - Epidemiology -Etiological factors of dental caries -Types of dental caries according to their anatomical (location) site. - Factors affecting epidemiology of dental caries	**1**
7	**Epidemiology of Periodontal Disease** -Periodontal Diseases definition -Structure of the periodontal tissues -Epidemiology -Etiology of periodontal disease	**1**
8	**Epidemiology of Oral Cancer** - Types of cancers - Etiology of oral cancer - Constituents of tobacco smoke - Potentially malignant lesions - Levels of prevention for oral cancer - Rehabilitation after Oral Cancer	**1**
9	**Dental indices** - Index - Uses of dental index - Classification of indices	**1**
10	**Indices used for assessment of dental caries** -DMF index -Principles in recording DMF index - Calculation of DMFT/DMFS - Dental caries severity index - dmf index	**1**
11	Indices used for assessment of periodontal disease - Oral Hygiene Indices: - Gingival inflammation indices - Periodontal indices	**1**
12	**Dental fluorosis** Indices for assessment of dental fluorosis	**1**
13	**Biostatistics** - Data - Types of data - Methods of Data Collection -Sampling Technique -Types of sample design	**1**
14	**Data presentation** - Methods of data presentation -The tabulation of data.	**1**

	-The graphical representation of data	
15	**Measures of central tendency & dispersion** -Measures of central tendency -Measures of dispersion.	**1**
16	**Fluoridation as a public health measure** - History: - Sources of Fluoride -Water fluoridation -Types of fluoride	**1**
17	**Fluoridation Mechanism and Effects** Mechanism of action -Anti-caries effects of fluoride. Metabolism of fluoride. -Dental Fluorosis -Side effects of fluoride	**1**
18	**Occupational hazards in dentistry** - Major occupational hazards -Biological health hazards. -Physical hazards -Chemical hazards -Musculoskeletal disorders and diseases of the peripheral nervous system -Hearing loss -Radiation exposure -Stress -Legal hazards -Other risks	**1**
19	**Environment and health** - Environment -Physical environment: -Biological environment: -Psychological environment - Environmental indicators	**1**
20	**Effects of air pollution on health** -Prevention and control of air pollution - Effects of radiation -Noise pollution	**1**
21	**School Dental Health Program** - Purpose of School Health Program - Guidelines for an ideal school dental program - School dental survey - phases in school oral health program	**1**
22	**Treatment need and demand** - Need - categories of need - Demand - Factors affecting dental demands	**1**
23	- **Dental manpower** - Manpower definition	**1**

	- Dental health manpower planning -Steps in dental health manpower planning	
24	**Ethics in dentistry** -Definition of ethics - Dentistry as a profession - Ethical principles	**1**
25	**Oral health care for special populations** - Elderly people: - The main oral effects of aging - Pregnant women - Special Care Dentistry - Patients with special health care needs	**1**
26	**Forensic dentistry** -Introduction -Application of forensic dentistry. -Bit marks -Person identification. -Dental identification.	**1**
27	**Dental auxiliary personal** -Introduction. - Dental auxiliary classification. *Non operatory auxiliary. * Operatory auxiliary. -Four handed relationship.	**1**
28	**Primary health care** - Introduction. -Elements (components) of Primary health care. -Principles of Primary health care. - Primary dental health care. -Community dental health services.	**1**
29	**Infection control** - Introduction. -Concept of disease transmission. -The acquisition means of pathogens. -Transmission of infectious diseases. -Control of infectious diseases. -Personal barrier techniques. -Instrument processing(sterilization).	**1**
30	**Dental health education** - Introduction. -Aims of health education. -Objective of health education. - Objective of dental health education. -Principle of health education. -Planning a health education programs.	**1**
Total		**30**

Clinical requirements

Lab number	Study unit title	Hours
1	Community dentistry طب اسنان المجتمع	2
2	Patient's setting & examination جلوس المريض وفحصه	2
3	Clinical examination الفحص السريري	2
4	Basic tooth numbering الترقيم الاساسي للاسنان	2
5	Clinical examination الفحص السريري	2
6	**Indices** **المؤشرات**	2
7	**Dental caries** **تسوس الاسنان**	2
8	**Theories of caries formation** **نظريات تكوين التسوس**	2
9	**Dental caries indices** **مؤشرات تسوس الاسنان**	2
10	**Clinical examination** **الفحص السريري**	2
11	**Clinical examination** **الفحص السريري**	2
12	**Deciduous teeth** **الاسنان اللبنية**	2
13	**Clinical examination** **الفحص السريري**	2
14	**Clinical examination** **الفحص السريري**	2
15	**Prevention of dental caries / part 1** **الوقاية من تسوس الاسنان/ الجزء الاول**	2
16	**Prevention of dental caries / part 2** **الوقاية من تسوس الاسنان/ الجزء الثاني**	2
17	**Fluoride** **الفلور**	2
18	**Periodontal diseases** **امراض ماحول الاسنان**	2
19	**Indices for plaque assessment** **مؤشرات تحديد الصفيحة الجرثومية**	2
20	**Clinical examination** **الفحص السريري**	2
21	**Clinical examination** **الفحص السريري**	2
22	**Indices for calculus assessment** **مؤشرات تحديد القلح**	2
23	**Clinical examination** **الفحص السريري**	2

24	**Clinical examination** **الفحص السريري**	2
25	**Gingival disease indices** **مؤشرات امراض اللثة**	2
26	**Clinical examination** **الفحص السريري**	2
27	**Clinical examination** **الفحص السريري**	2
28	**Periodontal diseases prevention** **الوقاية من امراض ماحول الاسنان**	2
29	**Tooth brushing** **تفريش الاسنان**	2
30	**Clinic……assistant** **المساعدة السريرية**	2
Total		60

Department of Oral Diagnosis

A- Basic information

1-Subject title	**Dental Radiology**	**اشعة الاسنان**
2-Number of credits	Theory:2	Clinical:2
3-Number of contact hours	Theory:1h/wk.	Clinics:2h/wk
4-Subject time	Third Year	

No.	Title of the lectures	Hours
1	Physics of radioation(introduction and definitions of nature of radiation, type of radiation)	**1**
2	Production of radiation(x-ray machine, interaction of x-ray with matter) composition of matter	**1**
3	Film imaging (types of x-ray films, processing cycle,dark room, intensifying screen	**1**
4	Factors controlling x-ray beam , dosimetry and invers square low	**1**
5	Projection jeometry (sharpness, distortion, image characterstic and artifacts)	**1**
6	Biological effects of radiatin (direct & indirect effects, determistic and stochastic effect)	**1**
7	Safety and Protection (source of exposure , dose limits , exposure and risk and reducing dental exposure)	**1**
8	Intraoral projection (periapical, bitwing, and occlusal radiography)	**1**
9	Digital radiography (strength , limitations , comparing with conventional radiography and indications	**1**
10	Patient's management(mangement of pt.child, contrast media & localization technique	**1**
11	Cephalometric imaging (technique, indications, evaluation of the image	**1**
12	Panoramic radiography (principels, technique ,positin and interpretation)	**1**
13	Craniofacial imaging (types , indication and interpretation)	**1**
14	CBCT (principles, components, strength and limitations).	**1**
15	CBCT (clinical applications in maxillofacial region, anatomy and interpretations).	**1**
16	Radiographic anatomy part1 (teeth, supporting dentoalv structures, maxilla and mid facial bones)	**1**
17	Raddigraphic anatomy part 2(mandible, Tmj, base of skull, air way,restorative materials)	**1**
18	Advanced imaging modalities(CT, MRI AND ULTRASOUND)	**1**
19	Radiography &Implantology(modalities, indications)	**1**

20	Infection control(infection control in radiography clinic, protection of pt., protection of workers)	**1**
21	Prescibing diagnostic imaging(radiologic examination and guide lines for ordering imaging)	**1**
22	Radiographical interpretations of common diseases(interpretation of dental caries, and periodontal disease	**1**
23	Cysts of the jaw(odontogenic and non odontogenic cysts)	**1**
24	Dental anomalies(acquired and developmental)	**1**
25	Inflammatory conditions of the jaws(periapical inf disease, osteomylitis, pericoronitis)	**1**
26	Trauma(dento alveolar trauma , dental fructures and bone fructues	**1**
27	TMJ abnormalities(anatomy of TMJ, application)	**1**
28	Salivary gland disease (imaging modalities, interpretation)	**1**
29	Craniofacial anomalies (Cleft lip and palat)	**1**
30	Computed tomography(indications ,strength, limitations)	**1**
Total		**30**

Clinical requirements

Number	Title of clinical requirements	Hours
1	Fundamentals of radiology:component of x- ray machine and production of X-ray	2
2	X-ray film (types and indication)	2
3	Intraoral techniques(periapical, bite-wing and occlusal films)	2
4	Ideal radiograph	2
5	Land marks(maxilla, mandible)	2
6	Dental panoramic radiography(indication and anatomy)	2
7	CBCT (indication and anatomy)	2
8	Cephalometric (indication and anatomy)	2
9	Common disease (caries , PDL)	2
10	Cyst(odontogenic and nonodontogenic)	2
11	Clinical work	2
12	Clinical work	2
13	Clinical work	2
14	Clinical work	2
15	Clinical work	2
16	Clinical work	2
17	Clinical work	2
18	Clinical work	2
19	Clinical work	2
20	Clinical work	2
21	Clinical work	2
22	Clinical work	2
23	Clinical work	2
24	Clinical work	2
25	Clinical work	2
26	Clinical work	2
27	Clinical work	2
28	Clinical work	2
29	Clinical work	2
30	Clinical work	2
Total		60

Department of Oral diagnosis

A- Basic information

1-Subject title	**General Pathology**	**الامراض العامة**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory:2h/wk.	Laboratory:2h/ wk
4-Subject time	Third Year	

No.	Title of the lectures	Hours
1	Introduction to pathology Clinical pathology Molecular pathology Cell damage reversible cell injury	2
2	Irreversible cell injury Deposits and pigmentation External and internal pigmentation	**4**
3	Inflammation Acute inflammation Chronic pathology Chemical mediators	**4**
4	Healing and repair Healing of skin wound Healing of bone	**4**
5	Hemodynamic Disorders, Thromboembolic Disease, and Shock	**4**
6	Genetic	**4**
7	Diseases of the Immune System Hypersensitivity Autoimmune diseases Transplantation	**4**
8	Neoplasia bengin and malignant tumors molecular basis of tumors	**6**
9	Infections Bacterial and viral infection	**2**
10	Environmental and Nutritional Diseases	**2**
11	Blood Vessels	**2**
12	The Heart	**2**
13	Red Blood Cell and Bleeding Disorders	**2**
14	Diseases of White Blood Cells	**2**

15	Diseases of G.I.T	**4**
16	Diseases of liver,	**2**
17	pancreas and gall bladder	**2**
18	Diseases of respiratory system	**2**
19	Bone diseases	**2**
20	Kidney	**2**
21	Urinary system	**2**
Total		**60**

No	*Laboratory sessions*	Hours
1	Introduction to general pathology and biopsy	**2**
2	Power points slides	**2**
3	Power points and histopathological slides demonstrating fatty changes in liver and cloudy swelling in kidney The gross appearence of reversible cell injury	**2**
4	Power points and histopathological slides of coagulative necrosis in heart muscles and caseous necrosis in lung With explanation of gross appearence	**2**
5	Power points and histopathological slides of anthracosis of lung and hemosiderosis in liver With explanation of gross appearence	**2**
6	Power points and histopathological slides of amyloidosis in kidney, H With explanation of gross appearence& E. and congo-red stain	**2**
7	Power points and histopathological slides of acute appendicitis (appendix),acute ossteomylitis and lobar pneumonia (lung ,)	**2**
8	Power points and histopathological slides of chronic cholecystits in gall bladder and With explanation of gross appearence osteomylitis in bone	**2**
9	Power points and histopathological slides of keloid in skin and granulation tissue	**2**
10	Power points and histopathological slides of TB in lung and actinomycosis With explanation of gross appearance	**2**
11	Power points and histopathological slides of Sarcoidosis With explanation of gross appearance	**2**
12	Power points slides of CVC in lung and liver With explanation of gross appearance	**2**
13	Power points slides of blood vessels thrombosis	**2**
14	Power points and histopathological slides of lipoma, S.C papilloma of skin With explanation of gross appearence	**2**
15	Power points and histopathological slides of osteoma of the bone	**2**
16	Power points and histopathological slides of S.C. carcinoma and adeno carcinoma of the colon With explanation of gross appearence	**2**
17	Power points and histopathological slides of thyrotoxicosis of thyroid and hashimotisis thyroiditis in thyroid With explanation of gross appearence	**2**
18	Data show slides	**2**
19	Data show slides	**2**

20	Power points and histopathological slides of myocardial infarction of heart and atherosclerosis in blood vessels With explanation of gross appearence	**2**
21	Power points and histopathological slides of chronic gastritis in stomach and peptic ulcer With explanation of gross appearance	**2**
22	Power points and histopathological slides of liver cirrhosis and hepatocellular carcinoma With explanation of gross appearence	**2**
23	Power points and histopathological slides of emphysema in lung and chronic bronchitis in bronchus With explanation of gross appearence	**2**
24	Data show	**2**
25	Data show	**2**
26	Data show	**2**
27	Data show	**2**
28	Data show	**2**
29	Power points slides	**2**
30	Power points slides	**2**
Total		**60**

Department of prosthodontics / A- Basic information

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

No.	Title of The Lectures		Hours
1	Introduction to Removable Partial Dentures	• Partial dentures • Removable partial denture (RPD) • Objectives for RPD construction • Causes of teeth loss • Indications of removable partial dentures • Fixed partial denture • Indications for fixed partial denture • Dental implant therapy • Contraindications for dental implant therapy • Terminology and re-finishing	**1**
2	Classification of Partially Edentulous	• Need for classification.	**1**

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

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

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

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

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

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

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

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

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

Laboratory sessions

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

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

Department of Oral & Maxillofacial Surgery

A- Basic information

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

No.	Title of lectures	Hours
1	**Diagnosis in oral surgery** ➢ History taking • Demographic data • Chief complaint • History of present complaint • Past dental and medical history • Social and family history	**1**
2	**Diagnosis in oral surgery** ➢ Examination • Extra-oral examination • Intra-oral examination ➢ Differential diagnosis ➢ Diagnosis of pain, lump, and ulcer ➢ Consent	**1**
3	**Infection Control in Surgical Practice** ➢ Communicable pathogenic organisms ➢ Aseptic techniques • Terminology • Concepts • Techniques of Instrument Sterilization; Sterilization with Heat; Sterilization with Gas • Techniques of Instrument Disinfection	**1**
4	**Infection Control in Surgical Practice** • Maintenance of Sterility • Surgical Field Maintenance • Operatory Disinfection • Surgical Staff Preparation • Postsurgical Asepsis	**1**
5	**Extraction of teeth and Contra indications of extraction** • Extraction of teeth (exodontia). • Definition. • Methods of extraction. • Indications of teeth extraction.	**1**

	✓ Severe caries. ✓ Severe periodontal disease. ✓ Pulp pathology. ✓ Apical pathology. ✓ Orthodontic reasons. ✓ Prosthetic considerations. ✓ Impacted teeth. ✓ Supernumerary teeth. ✓ Tooth in the line of fracture of the jaws. ✓ Teeth in relation with pathological conditions. ✓ Retained roots. ✓ Prior to irradiation. ✓ Focal sepsis. ✓ Aesthetic.	
6	**Extraction of teeth and Contra indications of extraction** • Contra-indications of teeth extraction. ➢ Local contra-indications. ➢ Systemic contra-indications. • Pre-extraction evaluation. ➢ Clinical preoperative evaluation. ✓ General evaluation. ✓ Local evaluation. ➢ Radiological evaluation. ➢ Objectives and benefits	**1**
7	**General arrangement for extraction and Dental forceps (types)** • Light. • Position of the operator. • Position of the patient. • Height of the dental chair. • Parts of dental forceps. • Forceps for the maxillary teeth. ✓ Forceps of upper anterior teeth. ✓ Forceps of upper premolars. ✓ Forceps of upper molars. ✓ Bayonet of upper posterior teeth.	**1**
8	**General arrangement for extraction and Dental forceps (types)** • Forceps for the mandibular teeth. ✓ Forceps of lower anterior teeth. ✓ Forceps of lower premolars. ✓ Forceps of lower molars. ✓ Bayonet of lower posterior teeth. • Mechanical principle of forceps (traditional) extraction.	**1**

	• Physic forceps. ✓ Parts. ✓ Mechanical principle and technique	
9	**Techniques of forceps extraction and post-operative instructions** • Soft tissue retraction. • Handling of the forceps. • Cheek retraction and support (the use of the non-working hand). • The application of the forceps blades to the tooth (tooth grasp). • The displacement of the tooth from its socket. • Post-operative care to the extraction socket. • Instruction to the patient.	**1**
10	**Elevators** • Line of withdrawal. • Point of application. • Parts of dental elevators. • Mechanical principles of using dental elevators. • Wheel and axil. • Fulcrum. • Wedging. • Combination of mechanical principles.	**1**
11	**Elevators** • Clinical uses of elevators. • Straight elevators. • Coupland's chisel. • Cryer's elevator. • Winter's elevator. • Apexo elevator. • Warwick-James elevator. • Guiding principles for using dental elevators. • Complications of using dental elevators.	**1**
12	**Complications of dental extraction** • Failure to secure anesthesia. • Failure to remove the tooth with either forceps or elevator. • Fracture (#) of crowns and roots, alveolar bone, maxillary tuberosity, adjacent or opposing tooth, mandible. • Dislocation of the tempro-mandibular joint (T.M.J.). • Displacement of a root into the soft tissue and tissue spaces and the maxillary antrum.	**1**
13	**Complications of dental extraction**	**1**

	• Excessive bleeding after extraction. • Damage to the surrounding soft tissues. • Post -operative pain. • Post-operative swelling. • Creation of an oro-anrtal communication. • Trismus.	
14	**Basic surgical instruments** • Instruments of basic oral surgery. • Instruments to incise tissues. • Instruments for elevating mucoperiosteum. • Instruments for controlling hemorrhage. ✓ Hemostat (artery forceps). • Instruments to grasp tissues. ✓ Toothed-tissue forceps. ✓ Allis tissue forceps. • Instruments for removing bone. ✓ Rounger forceps (bone cutter and bone nibbler). ✓ Chisel and mallet. ✓ Bone file. ✓ Surgical burs and handpiece. • Instruments to remove soft tissues from bony defects. ✓ Surgical curette. • Instruments for suturing mucosa. ✓ Needle holder. ✓ Needles. ✓ Suture materials ✓ Scissors. • Instruments for retraction of soft tissues. ✓ Cheek retractor. ✓ Mucoperiosteal flap retractor. • Instruments for irrigation and for providing suction. • Instrument of draping	**1**
15	**Introduction to local anesthesia** • Neurophysiology • Mode and site of action of local anesthetic • Active forms of local anesthetics	**1**
16	**Pharmacology of local anesthesia** • Pharmacokinetics of local anesthetics • Metabolism • Systemic actions of local anesthetics	**1**
17	**Pharmacology of local anesthesia** • Vasoconstrictors • Mode of action	**1**

	• Dilutions of vasoconstrictors • Specific agents	
18	**Surgical anatomy in local anesthesia** • Trigeminal nerve: ✓ Ophthalmic branch ✓ Maxillary branch ✓ Mandibular branch	**1**
19	**Surgical anatomy in local anesthesia** • Osteology of the maxilla • Osteology of the mandible	**1**
20	**Instruments of local anesthesia** • The Syringe • The Needle • The Cartridge • Additional Armamentarium • Preparation of the Armamentarium	**1**
21	**Techniques of local anesthesia** • Basic injection techniques • Techniques of maxillary anesthesia ✓ Local infiltration. ✓ Posterior superior alveolar nerve block ✓ Middle superior alveolar nerve block ✓ Anterior superior alveolar nerve block (infraorbital nerve block) ✓ Greater palatine nerve block ✓ Nasopalatine nerve block ✓ Maxillary nerve block	**1**
22	**Techniques of local anesthesia** • Techniques of local anesthesia ✓ Techniques of mandibular anesthesia ✓ Inferior alveolar nerve block ✓ Buccal nerve block ✓ Mandibular nerve block: The Gow-Gates technique ✓ Vazirani-Akinosi closed-mouth mandibular block ✓ Mental nerve block ✓ Incisive nerve block	**1**
23	**Techniques of local anesthesia** • Supplemental injection techniques ✓ Intraosseous injection ✓ Periodontal ligament injection ✓ Intraseptal injection ✓ Intrapulpal injection	**1**
24	**Complications of local anesthesia** • Local Complications ✓ Needle breakage ✓ Prolonged anesthesia (paresthesia) ✓ Facial nerve paralysis ✓ Ocular complications	**1**

	✓ Trismus ✓ Soft tissue injury ✓ Hematoma	
25	**Complications of local anesthesia** ✓ Pain on injection ✓ Burning on injection ✓ Infection ✓ Edema ✓ Sloughing of tissues ✓ Postanesthetic intraoral lesions	**1**
26	**Complications of local anesthesia** • Systemic complications ✓ Overdose ✓ Allergy	**1**
27	**Advances in local anesthesia** • Computer controlled local anesthetic delivery • Articaine hydrochloride • Local anesthesia reversal • Buffering of local anesthetic solution • Nasal local anesthetic mist for maxillary nonmolar teeth	**1**
28	**Conscious sedation** • Sedation techniques: Oral, sublingual, transdermal, intranasal, intramuscular, intravenous and inhalational • Nitrous oxide • Complications and medicolegal considerations	**1**
29	**Fundamentals of general anesthesia** • Types of general anesthesia used in dentistry • Advantages • Disadvantages • Indications • Contraindications	**1**
30	**Medical emergencies during dental treatment** • Overview of medical emergencies • Basic measures, equipment and drugs • Common emergencies ✓ Collapse ✓ Anaphylaxis ✓ Cardiac arrest ✓ Diabetic collapse due to hypoglycemia ✓ Fits and convulsions ✓ Adrenal crisis ✓ Acute severe asthma ✓ Chest pain	**1**
Total		**30**

	Laboratory sessions & *Clinical requirements*	
	• History taking: Includes patient communication skills, chief complaint, past dental history, medical history and family history, risk assessment associated with common medical conditions with regards to dental extraction. • Clinical examination and diagnosis: Components of clinical examination with demonstration of extra oral and intra oral examination (lymph node palpation, TMJ palpation with the focus on the accused tooth/teeth), diagnosis of cases in patients case sheet with regards to dental extraction • Basic surgical instruments I: Instrument to incise tissue, instrument for control of hemorrhage, instrument for grasping tissues, instruments for reflection of mucoperiosteal flap, instrument for cutting the bone • Basic surgical instruments II: Instruments of retracting the cheek and mucosa, instruments of suturing, types of suture materials, types of suturing needles, instrument for suction, instruments of irrigation, instruments of patient draping and cable management. • Dental forceps I: Indication of using dental forceps, part of a dental forceps, forceps of maxillary teeth. • Dental forceps II: Forceps of mandibular teeth, physics forceps. • Dental elevators I: Indications, mechanical principles of using elevators, straight elevators, Coupland chisel, Winters elevator • Dental elevators II: Cryers elevator, apixo elevator, Warwick-James elevator, periotomes, guiding principles of using dental elevators. • Local anesthetics (instruments & materials). Demonstartion of local anesthetic dental syringe, dental injection needles, types of different local anesthetics, topical measures of injection pain reduction, automized injectors • Maxillary injection techniques: Hands on demonstration on special manikin of Infiltration of upper anterior teeth, infiltration of premolars and molars, nerve block of long sphenopalatine and greater palatine nerves, periodontal ligament injection. • Mandibular injection techniques. Hands on demonstration on special manikin of infiltration injections, and inferior alveolar nerve block, long buccal nerve block and mental nerve block, periodontal ligament injection and intra-bony injections. • Maxillary teeth extraction: Hand on demonstration on manikin of maxillary teeth extraction with dental forceps.	

	• Mandibular teeth extraction: Hands on demonstration on manikin of mandibular teeth extraction with dental forceps. • Basic life support and CPR: Demonstration of how to perform emergency evaluation of fainted patients (A,B,C,D,& E), administration of oxygen, establishing IV line, IM injection, Heimlich maneuver, and cardiopulmonary resuscitation.	

Department of Basic Science

A- Basic information

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

Number	Title of lecture	Hours
1	Pharmacology: General concepts	**2**
2	Pharmacokinetics and pharmacodynamics	**2**
3	Autonomic nervous system from a pharmacological perspective (including cholinergic agonist and antagonist)	**2**
4	Adrenergic agonists	**2**
5	Adrenergic antagonists	**1**
6	Antihypertensive drugs	**2**
7	Management of angina and heart failure	**2**
8	Management of arrhythmia	**2**
9	Anticoagulants, antiplatelet and anti-hyperlipidemic drugs	**2**
10	Local Hemostatic Agents in Dentistry	**1**
11	Introduction the pharmacology of CNS drugs, sedative, hypnotics and antiseizures drugs	**2**
12	Antipsychotic and antidepressant drugs	**2**
13	Local and general anaesthetics	**2**
14	Drug of abuse and opioid analgesics	**2**
15	Managements of diabetes mellitus	**2**
16	Drugs affecting GIT	**2**
17	(Drugs acting on respiratory system (antihistamines and corticosteroids	**3**
18	Non-steroidal anti-inflammatory drugs (NSAIDs) part 1	**2**
19	Non-steroidal anti-inflammatory drugs (NSAIDs) part2 and Steriods in Den istry	**2**
20	(Chemotherapeutic drugs (Principles of antimicrobial therapy	**2**
21	(Cell wall inhibitors (part 1	**2**
22	(Cell wall inhibitors (part 2	**2**
23	Protein synthesis inhibitors	**2**
24	Quinolones, Folic acid antagonists and antimycobacterial	**3**

25	Antifungal, antiviral and antiprotozoal drugs	**2**
26	Sex hormone and contraceptive	**2**
27	Thyroid hormones and anti-thyroid drugs	**2**
28	Anticancer drugs Dental Pharmacology: drugs and chemicals used in dental clini	**2**
29	Anticaries and drugs used in prevention of dental plaque	**2**
30	Essential emergency drugs in dental clinic	**2**

Laboratory sessions

Lab number	Study unit title	Hours
1	Introduction and animal (e.g rabbits) handling	**2**
2	Routes of drug administration (Part 1)	**2**
3	Routes of drug administration (Part 2)	**2**
4	Clinical parameters in drug pharmacokinetics (Part 1)	**2**
5	Clinical parameters in drug pharmacokinetics (Part 2)	**2**
6	Demonstration of common dosage forms used in clinical practice (Part 1)	**2**
7	Demonstration of common dosage forms used in dentistry (Part 2)	**2**
8	Cholinergic agonists and antagonists (Physostigmine Vs Curare)	**2**
9	Effects of Drugs on Human Blood Pressure (Part 1-B-Blockers)	**2**
10	Effects of Drugs on Human Blood Pressure (Part 2) (Nitrates Effect on Human Volunteers)	**2**
11	Effects of Drugs on The Arterial Blood Pressure Of Human (Part-3)	**2**
12	The effects of drugs and light on human eyes	**2**
13	The effects of drugs and light on human eyes	**2**
14	Effects of parasympathomimetic drugs on glandular secretions	**2**
15	The response of human skin to histamine and adrenaline	**2**
16	The response of human skin to histamine and adrenaline	**2**
17	Evaluation of Analgesics	**2**
18	Evaluation of analgesics (Opioids)	**2**
19	Evaluation of Anti-inflammatory Drugs	**2**
20	Evaluation of Anti-inflammatory Drugs	**2**
21	Local Anaesthesia	**2**
22	General Anaesthesia	**2**
23	General Anaesthesia	**2**
24	Prescription writing	**2**
25	Prescription writing	**2**
26	Prescription writing	**2**
27	Oral conditions and their treatment	**2**
28	Orodental preparation (part 1)	**2**
29	Orodental preparation (Part 2)	**2**
30	Dental health and endocarditis prevention	**2**
Total		**60**

Department of Basic Science

A- Basic information

1-Subject title	**Microbiology**	**علم الاحياء المجهرية**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory: 2h/wk.	Laboratory:2h/wk.
4-Subject time	Third Year	

No.	Title of the lectures	Hours
1	Morphology, Ultra structures, physiology and metabolism of microorganisms:- -Eukaryotic & Prokaryotic cells -Cell structure of prokaryotes -Comparison between G+ve & G-ve cell wall	**2**
2	-Microbial growth, growth curve -Metabolism of microorganisms Molecular biology & bacterial genetics	**2**
3	-Sterilization and Disinfection	**2**
4	Antibiotic and chemotherapy:- -Antibiotic, sources -Mode of action of antibiotic -Anti-microbial sensitivity tests -Bacterial resistance -Prophylactic use	**2**
5	- Introduction to general immunology and oral immunology - Non-specific and specific immunity - Antigen - Immunoglobulin - Humeral and Cellular Immunity	**2**
6	- Cells and organs of the immune system - Complement system - Human leukocyte antigen - Role of complement and HLA in oral disease	**2**
7	- Oral and mucosal immunity - Autoimmunity and immune tolerance	**2**
8	- Hypersensitivity reactions - Antimicrobial and immunological defenses of saliva and gingival crevicular fluid components	**2**
9	Host-parasite relationship & Nosocomial infection -Symbiosis, Commensalism, Amphibiosis, Antagonistic -Sources of infection in hospital and -nosocomial infections -Post-operative wound infection, burns infections	**2**
10	Streptococci -Pyogenic Streptococci -Lancefield group -Pathogenesis of streptococci	**2**

	-Epidemiology, treatment and prevention -Viridans streptococci -Pneumococci	
11	Staphylococci -Virulence factors - and pathogenesis -Epidemiology, treatment and prevention	**2**
12	G- negative diplococcic , Vellionella and Moraxella Neisseria gonorrhea, N. meningitidis	**2**
13	Lactobacilli, Actinomyces and *Corynebacterium diphtheriae* & Diphtheroids	**2**
14	Bacillus: B. subtilis, B. anthracis and B.ceres	**2**
15	Clostridium : C. perfringenis , C. tetani, C. botulinum, and difficile	**2**
16	Enterobacteriaceae -E.coli, Salmonella, Shigella,	**2**
17	Enterobacter, Klebsiella, proteus, Yersinia	**2**
18	Mycobacteruim -Tuberculosis & Leprae	**2**
19	Brucella, Haemophilus, Vibirio	**2**
20	- Aggregatibacter, porphyromonas, prevotella, Bacteroids	**2**
21	Fusiforms and Spirochaetes -Fusobacterium, leptotichia	**2**
22	Treponema and oral Treponema	**2**
23	Mycoplasma, Chlamydia and Rickittsiae	**2**
24	Ecology of oral flora -Indigenous flora -Supplemental flora -Transient flora -Sources of oral bacteria -Factors modulating growth of bacteria in the oral cavity	**2**
25	Microbiology of dental caries -Dental plaque & plaque metabolism - plaque homeostasis -cariogenic microorganisms -Mutans Streptococci -Lactobacilli and Actinomyces-	**2**
26	Microbial colonization- Caries prevention- Antibacterial factors in saliva- -Vaccination against dental caries	**2**
27	Microbiology of periodontal disease and Endodontics -Subgingival microbial complex -specific , non-specific and Ecological plaque hypothesis - Porphyromonas, prevotella, Aggregatibacter virulence factors of periodontal pathogens endodontic microbiota and Routes of root canal infection -ecology of endodontic microbiology	**2**
28	Virology	**2**

	-general structure of viruses -classification	
29	viral replication -Isolation & diagnosis -Oral virology	**2**
30	- Oral mycology and Oral parasitology -Introduction, epidemiology, transmission -E.histolotica, E.gingivalis, T.tenax -Fungal cells -classification -Candida	**2**
Total		**60**

Clinical requirements

Lab number	Study unit title	Hours
1	Orientation to the Microbiology laboratory	**2**
2	The microscope	**2**
3	Sterilisation and disinfection:	**2**
4	Bacterial growth	**2**
5	Types of culture media	**2**
6	Sampling and transport of test material	**2**
7	Laboratory cultivation of microorganisms	**2**
8	Bacterial identification:1-Macroscopical characteristics (colonial morphology and cultural characteristics).	**2**
9	2. Microscopical examination (morphology of bacterial cells).	**2**
10	Staining	**2**
11	Biochemical tests (part 1).	**2**
12	Biochemical tests(part2).	**2**
13	Biochemical tests(part3).	**2**
14	Antibiotic sensitivity test(part 1).	**2**
15	Antibiotic sensitivity test(part 2).	**2**
16	Serological tests (antigen and antibody detection tests) (part 1).	**2**
17	Serological tests (antigen and antibody detection tests) (part 2).	**2**
18	Nucleic acid assays, Animal pathogenicity test	**2**
19	Staphylococci	**2**
20	Streptococci	**2**
21	Corynebacterium	**2**
22	Spore-forming Gram-positive bacilli: Bacillus spp.	**2**
23	Clostridium spp.	**2**
24	Mycobacterium spp.	**2**
25	Enterobacteriaceae (part1)	**2**
26	Enterobacteriaceae (part2)	**2**
27	Enterobacteriaceae(part3)	**2**
28	Neisseriae spp.	**2**
29	Virology	**2**
30	Mycology	**2**
Total		**60**

Third year		
Preclinical Operative Dentistry معالجة الاسنان ما قبل السريري		
Credits	Theory: 2	Practical: 2
Hours	Theory: 1 hrs. /week	Practical: 2 hrs. /week

Theory		
Week	Topics	Hours
1	Introduction to Operative Dentistry	1
2	Dental caries, types, and classifications	1
3	Instruments and general instrumentation for cavity preparation	1
4	Principle of cavity preparation + classification of cavities	1
5	Factors that affect cavity preparation	1
6	Cavity preparations for Cl I	1
7	Cavity preparations for Cl II	1
8	Cavity preparations for Cl III & Cl IV	1
9	Cavity preparations for Cl V	1
10	Tooth colored restorations (Classification and types)	1
11	Dental composite resins	1
12	Adhesives systems	1
13	Rubber Dam types and application procedures	1
14	Direct composite resin restoration of CL I, III, IV, and V cavities	1
15	Direct composite resin restoration of CL II cavity	1
16	Complex composite restoration (principles of preparation)	1
17	Complex composite restoration (restorative procedures)	1
18	Direct composite veneers (indications and principles)	1
19	Direct composite veneers (restorative procedures)	1
20	Color Matching and Composite Shade Selection	1
21	Light Curing of Restorative Materials	1
22	Glass Ionomer restorations	1
23	Failures in composite restoration (repair and replacement)	1
24	Remineralization and resin infiltration techniques	1
25	Amalgam Restorations: Clinical Relevance, Longevity, and Failure Patterns"	1
26	Removal of amalgam restorations and mercury hazards	1
27	Pulp protection	1
28	Liners and base materials	1
29	Sterilization of operative instruments Part I	1
30	Sterilization of operative instruments, part II	1

Practical		
Week	**Topics**	**Hours**
1	Introduction to the Phantom Lab and working position	2
2	Introduction to the Phantom Lab and working position	2
3	DEMO of hand and drilling instruments	2
4	DEMO of CL I cavity preparations of buccal pit on lower 6 and palatal pit on upper 2	2
5	Exercise and Evaluation of CL I cavity preparations of the buccal pit on the lower 6 and the palatal pit on the upper 2	2
6	DEMO of CL I cavity preparations for the lower 5 and 2 CL 1 on the lower 4	2
7	Exercise of CL I cavity preparations for the lower 5 and 2 CL 1 on the lower 4	2
8	Evaluation	2
9	DEMO of 2 CL I cavity preparations + P extension on the upper 6	2
10	Exercise and evaluation of 2 CL I cavity preparations + P extension on the upper 6	2
11	DEMO of CL II M and D only cavity preparations on the lower 6	2
12	Exercise and evaluation of CL II M and D only cavity preparations on the lower 6	2
13	DEMO of CL II MO cavity preparations + palatal extension on the upper 6	2
14	Exercise and evaluation of CL II MO cavity preparations + palatal extension on the upper 6.	2
15	DEMO and exercise of CL II DO cavity preparations on the lower 5	2
16	DEMO and exercise of CL I composite filling of the lower 4	2
17	DEMO and exercise of Composite restoration of lower 5 (DO cavity)	2
18	DEMO and exercise of Composite restoration of the lower 6	2
19	DEMO and exercise of Composite restoration of the upper 6	2
20	DEMO + Exercise CL III cavity preparation + composite restoration on upper 1	2
21	DEMO + Exercise CL IV cavity preparation + composite restoration on upper 1	2
22	DEMO CL II MO cavity + composite restoration on upper 4	2
23	Exercise CL II MO cavity + composite restoration on upper 4	2
24	DEMO and exercise CL V cavity + composite restoration on upper 3	2
25	CL V cavity preparation of lower 3 + Glass ionomer restoration	2
26	DEMO of cavity liners and base material	2
27	DEMO and Exercise on Rubber Dam Applications	2
28	DEMO of caries detection and excavation on natural teeth, exercise on natural molars with occlusal caries	2
29	Final practical examination CL II MO cavity preparation + composite restoration on lower 6	2
30	Final practical examination CL II MO cavity preparation + composite restoration on lower 6	2

Department of Preventive Dentistry and Peadodontics

A- Basic information

1-Subject title	**Preclinical fixed prosthdonticsics**	التعويضات الاصطناعية الثابتة ما قبل السريري
2-Number of credits	Theory:2	Clinical: 2
3-Number of contact hours	Theory:1h/wk	Clinical:2
4-Subject time	Third Year	

Number	Title of the lectures	Hours
1	Definitions	1
2	Definitions	1
3	Definitions	1
4	Biomechanical principles of tooth preparation:	1
5	Biomechanical principles of tooth preparation:	1
6	Biomechanical principles of tooth preparation:	1
7	Full metal crown	1
8	Full metal crown	1
9	Porcelain fused to metal crown	1
10	Porcelain fused to metal crown	1
11	Complete ceramic crown (Porcelain Jacket Crown)	1
12	Complete ceramic crown (Porcelain Jacket Crown)	1
13	Partial veneer crown (three-quarter crown)	1
14	Partial veneer crown (three-quarter crown)	1
15	Post crown	1
16	Post crown	1
17	Impression for crown and bridge work	1
18	Impression for crown and bridge work	1
19	Provisional restoration	1
20	Provisional restoration	1
21	Working cast and dies	1
22	Working cast and dies	1
23	Waxing, investing, casting	1
24	Waxing, investing, casting	1
25	Finishing of the casting and clinical try-in	1
26	Finishing of the casting and clinical try-in	1
27	Cementation	1
28	Cementation	1
29	CAD /CAM Technology for crown construction	1
30	CAD /CAM Technology for crown construction	1
Total		30

Laboratory sessions

Lab number	Study unit title **Preclinical Fixed Prosthodontics**	Hours
1	Introduction on the lab work, phantom heads and teeth manikins.	2
2	Demonstration about the rotary instrument and how to cut geometrical cavities (Part 1).	2
3	Demonstration about the rotary instrument and how to cut geometrical cavities (Part 2).	2
4	Demonstration on full metal crown preparation on lower 1st molar.	2
5	Demonstration on full metal crown preparation on lower 2nd molar.	2
6	Practicing lab under supervision.	2
7	Practicing lab under supervision.	2
8	Practical assessment of full metal crown preparation on lower 1st molar.	2
9	Demonstration on porcelain fused to metal crown preparation on upper central incisor.	2
10	Demonstration on porcelain fused to metal crown preparation on upper lateral incisor.	2
11	Practicing lab under supervision.	2
12	Practicing lab under supervision.	2
13	Practical assessment of porcelain fused to metal crown preparation on upper central incisor.	2
14	Demonstration on post crown preparation on extracted root canal filled upper canine.	2
15	Demonstration on post crown preparation on extracted root canal filled lower 1st premolar.	2
16	Practicing lab under supervision.	2
17	Practicing lab under supervision.	2
18	Practical assessment of post crown preparation on extracted root canal filled upper canine.	2
19	Demonstration on special tray construction.	2
20	Demonstration on impression materials used in Fixed Prosthodontics.	2
21	Demonstration on impression techniques in Fixed Prosthodontics.	2
22	Demonstration on die construction using dowel pin.	2
23	Demonstration on provisional restoration (Part 1): Materials.	2
24	Demonstration on provisional restoration (Part 2): Techniques.	2
25	Demonstration on direct waxing for post crown construction on upper canine.	2
26	Demonstration on indirect waxing technique.	2
27	Demonstration on investing and casting.	2
28	Demonstration on cleaning and finishing of the cast restoration.	2
29	Final assessment of the practical work.	2
30	Final practical exam.	2
Total		60

Department of Oral & Maxillofacial Surgery

A- Basic information

1-Subject title	**Dental Ethics**	**اخلاقيات مهنة طب الاسنان**
2-Number of credits	Theory:2	Clinical: 0
3-Number of contact hours	Theory:1h/wk	Clinical:0
4-Subject time	Third Year	

Lec. Number		Title	Hours
Lec. 1	Professional Ethics Review	What is meant by "ethics? Why are ethics important? Evolution and philosophy of ethics The terms moral and ethical, obligation and principle	1
Lec. 2	Professional Ethics Review	Dental ethics, professionalism, Human Rights and Law What is a "profession?" What is a "professional?" What is "professionalism?" Dentistry as a Profession Dentistry: The Commercial Picture Dentistry: The Normative Picture The Content of Professional Obligations	1
Lec. 3	Professional Ethics Review	What is meant by the "best interests" of our patients? What is "paternalism?" Is good risk management good ethics? What about compromising quality?	1
Lec. 4	Professional Ethics Review	What are codes of ethics? Should I care more about being legal or being ethical? Do we really have obligations to patients? Can dentistry be both a business and a profession?	1
Lec. 5	Principal Features of Dental Ethics	What's special about Dentistry? What's special about dental ethics? Who decides what is ethical? Does dental ethics change?	1
		Does dental ethics differ from one country to another?	
Lec6	Principal Features of Dental Ethics	The role of the FDI How does the FDI decide what is ethical? How do individuals decide what is ethical? How do individuals decide what is ethical?	1

Lec. 7&8	Ethical Law and ethical Theories	History and basic ethical theory History of medical ethics Hammurabi's code of law Hippocratic oath Basic grounding of Ethics Humanities (universal standards) Religious& nonreligious: Political& dogmatic strategies of the state Other groundings of Ethics (theories of ethics): 1- Action theory: 2- Consequentiality theory: 3- Value theory (why theory): Ethics and the law Sources of Ethical Views and Convictions	2	2
Lec. 9&10	Fundamental Principles of dental ethics	1- Patient autonomy 2- Non-maleficence 3- Beneficence 4- Justice 5- Veracity	2	2
Lec. 11&12	Duties and obligation of dentists	Duties and obligation of dentists In general	2	2
Lec. 13&14	Duties and obligation of dentists	The Ideal Relationship between Dentist and Patient Duties and obligation of dentists Toward their patients THE DENTIST-PATIENT RELATIONSHIP FOUR MODELS OF THE DENTIST-PATIENT RELATIONSHIP The Guild Model The Agent Model The Commercial Model The Interactive Model	2	2
Lec. 15	Duties and obligation of dentists	Duties and obligation of dentists Toward the public and the paramedical profession **The Relationship between Dentistry and the Larger Community**	1	1
Lec. 16	Duties and obligation of dentists	Duties of dental surgeons and specialists in consultations	1	1
Lec.17	Duties and obligation of dentists	Responsibilities of dental surgeons to one another Ideal Relationships between Co-professionals	1	1

Lec. 18&19	Ethical issues and challenges in dental practice	Ethical Issues in Dental Practice Ethical Questions and Legal Questions Choosing to Re Ethical Published Codes of Conduct and Ethics Committees Examples of ethical issues and Challenges 1- Access to dental care 2- Abuse of prescriptions by patients 3- Advertising 4- Emergency care 5- Financial arrangements 6- Disclosure and misrepresentation 7- Child abuse	2	2
Lec. 20	Ethical issues and challenges in dental practice	8- Competence and judgment 9- Confidentiality 10- Dating patients 11- Delegation of duties 12- Digital communication and social media 13- Harassment 14- Consent	1	1
Lec.21	Ethical issues and challenges in dental practice	**Patients with Compromised Capacity** Treatment Decisions for Patients with Compromised Capacity The Role of Parents and Legal Guardians The Capacity for Autonomous Decision Making Dealing with Patients with Partially	1	1

		Compromised Capacity		
Lec. 22	The impact of business on dentistry	- Conflict of interest - Personal interest versus patient interest - Public versus patient interest - Third-party interests - Professional versus business ethics	1	1
Lec. 23,24	Ethics and dental research	- Importance of Dental Research - Research in Dental Practice - Ethical Requirements - Ethics Review Committee Approval	2	2
Lec. 25,26	Ethics and dental research	- Scientific Merit - Social Value - Risks and Benefits - Informed Consent - Confidentiality - Conflict of Roles - Honest Reporting of Results:	2	2
Lec. 27	The standard of care	-Who determines how a dentist should behave? -A local or a global standard of care? -Transparency of care, guidelines, and protocols. -Shared decision-making, evidence informed decision-making, and evidence-guided decision-making. -Individualization and the standard of care based on a long-term goal for dental treatment.	1	1
Lec.28	Ethical Decision Making and Conflicting Obligations	Difficult Professional-Ethical Judgments A Model of Professional-Ethical Decision Making Conflicting Professional Obligations Conflicts Between Professional and Other Obligations Conscientious Disobedience of Professional Obligations	1	1
Lec.29	Studying a Profession's Central Values	The Central Values of Dental Practice The Patient's Life and General Health The Patient's Oral Health The Patient's Autonomy	1	1

		The Dentist's Preferred Patterns of Practice Aesthetic Values Efficiency in the Use of Resources Ranking Dentistry's Central Values Thinking about the Case		
Lec. 30	The duty to treat	-Does the duty to treat depend on a prior relationship between dentist and patient? -The duty to treat: Patients of record versus prior unknown patients. -Requested treatment and the duty to treat -Duty to treat and the characteristics of the patient who seeks help -Is a dentist obliged to accept a patient as a patient of record? -Terminating the relationship with a patient of record	1	1
Total			30	30

Summary: Third Year.
Total Theories - Hours/ Week: 13
Total Theories - Hours/ year: 13x30=390
Total Practical Hours/ Week: 18
Total Practical Hours/ year: 18x30= 540
Total Hours / Year: 900
Total credits: 44

Fourth Year Curriculum (30 weeks)

Department of Oral & Maxillofacial Surgery

A- Basic information

1-Subject title	**General Medicine**	**الطب العام**
2-Number of credits	Theory:2	Clinical: 0
3-Number of contact hours	Theory:1h/wk	Clinical:0
4-Subject time	Fourth Year	

No.	Title of the lectures	Hours
1	Diabetes Mellitus 1	**1**
2	Diabetes Mellitus 2	**1**
3	White Blood Cells Disorders 1	**1**
4	White Blood Cells Disorders 2	**1**
5	Hemostasis and Bleeding Disorders 1	**1**
6	Hemostasis and Bleeding Disorders 2	**1**
7	Adrenal Gland Disorders 1	**1**
8	Adrenal Gland Disorders 2	**1**
9	Gastrointestinal Diseases	**1**
10	Peptic Ulcer Disease 1	**1**
11	Peptic Ulcer Disease 2	**1**
12	Intestine	**1**
13	Inflammatory Bowel Disease 1	**1**
14	Inflammatory Bowel Disease 2	**1**
15	Pseudomembranous Colitis	**1**
16	Hypertension	**1**
17	Infective Endocarditis	**1**
18	Ischemic Heart Disease	**1**
19	Heart Failure	**1**
20	Cardiac Arrhythmias	**1**
21	Thyroid Diseases	**1**
22	Kidney Diseases	**1**
23	Immunologic Diseases	**1**
24	Liver Diseases	**1**
25	Pulmonary Diseases	**1**
26	Red Blood Cells Disorders	**1**
27	Drug and Alcohol Abuse	**1**
28	Psychiatric Disorders	**1**
29	Anxiety and Eating Disorders	**1**
30	Neurologic Disorders	**1**

Total		**30**

Department of Oral & Maxillofacial Surgery

A- Basic information

1-Subject title	**General Surgery**	**الجراحة العامة**
2-Number of credits	Theory:2	Clinical:0
3-Number of contact hours	Theory:1h / week	Clinical:0
4-Subject time	Fourth Year	

No.	Title of the lectures	Hours
1	Metabolic response to injury BASIC CONCEPTS IN HOMEOSTASIS MEDIATORS OF THE METABOLIC RESPONSE TO INJURY Physiological response to injury ((THE 'EBB AND FLOW' MODEL)) Insulin resistance AVOIDABLE FACTORS THAT COMPOUND THE RESPONSE TO INJURY Systemic inflammation and tissue response	2
2	Wound healing Introduction Classification of wound Healing Normal sequence of wound Healing Factors affecting healing (local & systemic) Complications of wound healing	2
3	Surgical wound infections Surgical sepsis Types of wounds Infecting organisms (Exogenous organisms, Endogenous organisms) Prevention of wound Infections Clinical features of wound Sepsis Diagnosis of wound sepsis Treatment	2
4	Hemorrhage Introduction Pathophysiology Definitions (*Revealed and concealed hemorrhage, Primary, reactionary and secondary hemorrhage Surgical and non-surgical hemorrhage)* Degree and classification Management (*Identify hemorrhage, Immediate resuscitative maneuvers, Identify the site of hemorrhage, Hemorrhage control)* Damage control surgery	2

5	Shock Introduction Pathophysiology *Ischemia–reperfusion syndrome* Classification of shock Consequences *Unresuscitatable shock* *Multiple organ failure* RESUSCITATION Fluid therapy Monitoring End points of resuscitation	2
6	Blood transfusion Introduction Blood and blood products Indications for blood transfusion Blood groups and cross-matching Transfusion reactions Cross-matching Complications of blood transfusion Management of coagulopathy	2
7	Parenteral feeding Introduction Route of delivery Peripheral central venous access Complications of parenteral nutrition Refeeding syndrome	2
8	Fluid balance Abnormalities of body water Fluid overload and oedema Abnormalities of electrolytes Fluid replacement Acid-base balance Abnormalities of acid-base balance	2
9	Electrolytes balance Introduction Principles of electrolyte balance Normal homeostasis Barriers between compartments, osmolality and electrolyte concentrations Homeostatic mechanisms	2

10	Head injury Introduction Cerebral blood flow Initial evaluation and management Mechanism Neurological progression Examination: primary survey Glasgow Coma Score secondary survey CLASSIFICATION OF SEVERITY TYPE OF HEAD INJURY	2
11	Preoperative preparation (History Taking) Introduction to the Patient History of the presenting Complaint Relevant medical history Family history Drug therapy Social history Allergies Common surgical symptoms Terms used in General Surgery and History Taking	1
12	Anesthesia & Pain HISTORY GENERAL ANAESTHESIA Management of airway during Anesthesia Complications of intubation Ventilation during anesthesia Monitoring and care during anesthesia Chronic pain management Chronic pain control in benign disease Pain control in malignant disease	1
13	Perioperative care Introduction Factors that predispose patients to a high risk of morbidity and mortality Patient factors Surgical factors Optimize medical management of coexisting diseases and intraoperative considerations Ischemic heart disease Respiratory failure SPECIFIC Strategies	2
14	Postoperative care SYSTEM-SPECIFIC POSTOPERATIVE COMPLICATIONS Respiratory complications Cardiovascular complications Renal and urinary complications COMPLICATIONS RELATED TO SPECIFIC SURGICAL SPECIALTIES *Paralytic ileus* *Compartment syndrome* Neck surgery Neurosurgery	1

15	GENERAL POSTOPERATIVE PROBLEMS AND MANAGEMENT Nausea and vomiting Bleeding Deep vein thrombosis Hypothermia and shivering Fever Pressure sores Drains	2
	Wound care Wound dehiscence DISCHARGE OF PATIENTS	
16	Day case surgery Definition SELECTION CRITERIA PREOPERATIVE ASSESSMENT SURGERY DISCHARGE	1
17	Surgical ethics and law INTRODUCTION INFORMED CONSENT MATTERS OF LIFE AND DEATH CONFIDENTIALITY RESEARCH	1
18	Patient safety INTRODUCTION THE PREVALENCE OF ADVERSE HEALTHCARE EVENTS COMMON CAUSES OF ADVERSE HEALTHCARE EVENTS PATIENT SAFETY AND THE SURGEON CARING FOR THE SECOND VICTIM	1
Total		**30**

Department of Oral diagnosis

A- Basic information

1-Subject title	**Oral Pathology**	**امراض الفم**
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory:2h/week	Laboratory:2 h/week
4-Subject time	Fourth Year	

No.	Title of the lectures	Hours
1	Biopsy in oral pathology	2
2	Healing in oral pathology	2
3	Dental Caries	2
4	Pulpitis	2
5	Periapical lesions	2
6	Osteomyelitis	2
7	Developmental disorder of teeth	2
8	Developmental disorder of soft and hard tissue	2
9	Non odontogenic cysts	2
10	Odontogenic cysts	2
11	Odontogenic tumors 1	2
12	Odontogenic tumors 2	2
13	Benign epithelial lesions, leukoplakia	2
14	Epithelial Hyperplasia, atrophy and dysplasia	2
15	Squamous cell carcinoma and other malignant epithelial neoplasms	2
16	Fibro osseous lesions, metabolic and genetic conditions	2
17	Giant cell lesions	2
18	Benign tumor of the bone	2
19	Malignant tumor of the bone	2
20	Viral infection	2
21	Bacterial and fungal infection	2
22	Immune mediated disorder 1	2
23	Immune mediated disorder 2	2
24	Connective tissue lesions	2
25	Connective tissue lesions	2
26	Salivary gland disorders	2
27	Salivary gland neoplasms	2
28	Physical and chemical injuries	2

29	Hematopoietic tumors	2
30	Forensic dentistry	2
Total		**60**

Laboratory sessions

Lab number	Study unit title	Hours
1	Data show and demonstration of biopsy processing	3
2	Data show about Healing in oral pathology	3
3	Acute and chronic dental caries	3
4	Acute pulpitis, chronic pulpitis and pulp polyp	3
5	Periapical granuloma, cyst and abscess	3
6	Acute and chronic osteomyelitis and squestrum	3
7	Data show about developmental disorder of teeth	3
8	Data show about developmental disorder of soft tissue	3
9	Data show about non odontogenic cysts	3
10	Dentigerous cyst, kertatocyst ,calcifying odontogentic cyst and eruption cyst	3
11	Ameloblastoma,adenomatoid odontogenic tumor and odontoma	3
12	Ameloblastic fibroma odontoma	3
13	Leukoplakia, squamous cell papilloma	3
14	Epithelial dysplasia	3
15	Squamous cell carcinoma	3
16	Fibro dysplasia, ossifying fibroma	3
17	Giant cell lesions ,central and peripheral giant cell granuloma	3
18	Osteoma	3
19	Osteosarcoma	3
20	Data show about viral infections	3
21	Data show about bacterial and fungal infection	3
22	Lichen planus	3
23	Pemphigus vulgaris	3
24	Fibroma, and pyogenic granuloma	3
25	Hemangioma, and lymphangioma	3
26	Mucocele and data show	3
27	Pleomorphic adenoma and mucoepidermoid carcinoma	3
28	Data show physical and chemical injuries	3
29	Hematological neoplasms	3
30	Data show about forensic dentistry	3
Total		**90**

Department of Oral & Maxillofacial Surgery

A- Basic information

1-Subject title	**Oral Surgery**	**جراحة الفم**
2-Number of credits	Theory:2	Clinical:4
3-Number of contact hours	Theory:1h/wk.	Clinic:4h/wk.
4-Subject time	Fourth Year	

No.	Title of the lectures	Hours
1	**Cardiovascular diseases** ➢ Hypertension • Dental management • Oral Manifestations ➢ Ischemic heart diseases • Angina pectoris • Myocardial infarction (MI) • Dental management ➢ Heart failure • Dental management • Oral manifestations	**1**
2	➢ Cardiac arrhythmia • Dental management ➢ Infective endocarditis • Dental management ➢ Rheumatic fever and rheumatic heart Disease • Dental management ➢ Congenital heart disease • Dental management • Oral manifestations	**1**
3	**Bleeding disorder** • Dental management of the patient with bleeding disorder: ✓ Hemophilia ✓ Von Willebrand's disease ✓ Thrombocytopenia ➢ Blood dyscrasias ➢ Disorders of the RBCs • Anemia and polycythemia • Dental management ➢ WBCs Disorders • Leukemia, Lymphoma, Burkitt's Lymphoma and Multiple Myloma	**1**

	• Dental management	
4	**Endocrinology** ➢ Thyroid diseases • Dental management of hyper- and hypothyroidism • Oral complications and manifestations ➢ Adrenal insufficiency • Dental management of Adrenocortical insufficiency and adrenal crisis • Dental management of Adrenocortical hyperfunction • Oral complications and manifestations ➢ Diabetes Mellitus • Dental management of the patient with diabetes mellitus	**1**
5	**Pulmonary diseases** ➢ Chronic obstructive pulmonary diseases (COPD) • Dental management • Oral complications and manifestations ➢ Asthma • Dental management • Management of asthmatic attack • Oral complications and manifestations ➢ Tuberculosis • Dental management • Oral complications and manifestations	**1**
6	**Liver Diseases** ➢ **Viral hepatitis** • Dental management • Oral manifestations and complications ➢ **Alcoholic liver disease** • Dental management • Oral complications and manifestations	**1**
7	**Chronic kidney disease and dialysis** • Chronic kidney disease • Dental management ✓ Patients receiving conservative care ✓ Dialysis ✓ Renal transplant • Oral complications and manifestations	**1**
8	**Neurologic disorders** ➢ Epilepsy • Dental management • Oral complications and manifestations ➢ Cerebrovascular accidents (stroke) • Medical management • Dental management	**1**
9	**Pregnancy** • Dental management • Medical considerations ✓ Treatment timing	**1**

	✓ Dental radiographs ✓ Drugs in pregnancy • Oral manifestations and complications	
10	**AIDS and HIV infection** • Oral manifestations • Dental managements: ✓ Asymptomatic patient. ✓ Symptomatic patient. ✓ Patient with severe symptoms	**1**
11	**Rheumatologic and connective tissue disorders** • Rheumatoid arthritis ✓ Dental management ✓ Oral manifestations and complications • Dental management of patients with prosthetic joint	**1**
12	**Allergy** • Dental management • Oral complications and manifestations	**1**
13	**Patients on radiotherapy and chemotherapy** • Patients on radiotherapy ✓ Radiation effects on normal tissues in the path of the external beam ✓ Dental Management • Patients on chemotherapy ✓ The effect of chemotherapy on normal tissues ✓ Dental management	**1**
14	**Odontogenic infections and fascial space infections** • Odontogenic Infections • Spread of odontogenic infections • The factors that influence the spread of odontogenic infections	**1**
15	• Fascial space infections • Infection of spaces in relation to the lower jaw • Infections of spaces in relation to the upper jaw • Cavernous sinus thrombosis	**1**
16	• Principles of treatment of odontogenic infections • Principles for the use of appropriate antibiotics • Sinus formation • Necrotizing fasciitis	**1**
17	**Principles of Flaps, suturing and management of difficult extraction** ➢ Flaps in oral cavity • Incision • Flap design • Types of Mucoperiosteal Flaps • Flap reflection ➢ Suturing • Suture Materials • Needles • Needle Holder • Tissue Forceps	**1**

	• Suture Scissor • Principles of suturing • Suturing Techniques	
18	➢ Management of difficult extraction • The main indications for surgical extraction of teeth are • Steps of surgical extraction • Indications for leaving root fragments • Multiple Extractions • Extraction sequencing	**1**
19	**Principles of management of impacted teeth** • Definition and stages of eruption • Impacted lower third molars ✓ Indications for removal of impacted lower third molars ✓ Classification of impacted lower third molars ✓ Clinical examination ✓ Radiographic examination and assessment ✓ Surgical extraction of lower third molar ✓ Complications ✓ Other lines of treatment	**1**
20	• Impacted upper third molars ✓ Surgical extraction ✓ Complications • Impacted maxillary canine ✓ Classification ✓ Clinical examination ✓ Radiographic examination and assessment ✓ Options of treatment •	**1**
21	• Impacted mandibular canines • Impacted lower premolars • Impacted maxillary premolars • Impacted first and second molars • Buried deciduous molars • Supernumerary teeth • Dilacerated incisors	**1**
22	**Surgical aids to orthodontics** • Corticotomy assisted orthodontic treatment and labial • Labial frenectomy. • Temporary skeletal anchorage	**1**
23	**Principles of endodontic surgery** • Definition • Indications for periapical surgery • Contraindications for periapical surgery • Important considerations in periapical surgery • Factors Associated with Success and Failures in Periapical Surgery	**1**
24	• Surgical procedure • To perform biopsy or not	**1**

	• Determination of success • Microsurgical technique	
25	**Osteomyelitis and osteonecrosis of the jaw** ➢ Osteomyelitis • Definition. • Classification • Etiology and pathogenesis • Clinical presentation • Diagnostic imaging • Microbiology • Treatment: surgical, antimicrobial and hyperbaric oxygen • Other types of osteomyelitis: infantile, focal and diffuse sclerosing and Garre's sclerosing osteomyelitis	**1**
26	➢ Radiation induced osteomyelitis and osteoradionecrosis • Definition • Etiology • Stages • Treatment • Prevention ➢ Medication related osteonecrosis of the jaw • Definition • Pathophysiology • Clinical presentation and staging • Imaging • Treatment • Prevention	**1**
27	**Dental Implants: Basic Concepts and Techniques** • Implant Geometry (Macrodesign) • Implant Surface Characteristics (Microdesign) • Hard Tissue Interface • Soft Tissue–Implant Interface • Biomechanical Considerations • Preoperative Assessment and Treatment Planning (hard tissue evaluation, soft tissue evaluation, radiographic examination)	**1**
28	• Surgical Treatment Planning Considerations • Final Treatment Planning • Basic Implant Surgical Procedures • One-Stage versus Two-Stage Implant Placement Surgery • Implant Stability • Complications • Implant Components • Defining implant outcomes	**1**
29	**Biopsy in oral and maxillofacial surgery** • Medical History • History of the lesion • Examination • Differential Diagnosis	**1**

	• Biopsy Principles • Contraindication • Excisional Biopsy • Incisional Biopsy • Surgical technique	
30	**Diagnostic imaging in oral and maxillofacial surgery** • Classification: Invasive and Non-invasive • Types of non-invasive imaging • Conventional radiography (Plain x-ray) • Ultrasonography (USG): • Computed tomography scanning (CT scan): Spiral CT, Cone Beam CT (CBCT) • Magnetic resonance imaging (MRI) • MRI vs. CT scan • Radionuclide (scintigraphy or skeletal scan) • Positron emission tomography (PET) Scan • PET-CT • Single Photon Emission Computed Tomography (SPECT) scan	**1**
Total		**30**

Clinical requirement

Clinical requirement	
Extraction of teeth (simple extraction)	**4 hours/ week** **120 hours/ year**

Department of Orthodontics

A- Basic information

1-Subject title	**Orthodontics**	**تقويم الاسنان**
2-Number of credits	Theory:2	Laboratory:4
3-Number of contact hours	Theory:1 h/wk.	Laboratory:4 h/wk
4-Subject time	Fourth Year	

No.	Title of the lectures	Hours
1	**Introduction** - Definition of orthodontics - Definition of occlusion, normal, ideal and malocclusion	**1**
2	- Six keys of normal occlusion - Aims of orthodontic treatment	**1**
3	- Important orthodontic definitions	**1**

	- Classification of malocclusion	
4	**Growth and development** - Definitions of growth, development and maturity - Stages of development (ovum till birth)	**1**
5	- Theories of bone growth - Definitions of growth site, growth center, displacement, and drift	**1**
6	- Growth curve and maximum growth spurt - Prenatal and postnatal growth and development of hard tissues	**1**
7	- Prenatal and postnatal growth and development of soft tissues - Developmental anomalies	**1**
8	- Jaw rotation - Compensation and adaptation	**1**
9	**Deciduous and permanent dentition** a-Stages of tooth development: (Formation, calcification and root completion)	**1**
10	b-Tooth eruption (stages and theories), Sequences and timing of eruption	**1**
11	**Development of occlusion** a. new born oral cavity. b. Deciduous dentition stage - Dental changes till 6 years of age.	**1**
12	c. Early mixed dentition stage - eruption of first molars and incisors. d. Late mixed dentition stage - eruption of canines and premolars e. Permanent dentition - eruption second and third molars.	**1**
13	**Etiology of malocclusion:** -Genetic and inherited etiological factors of malocclusion	**1**
14	-Classification of etiological factors a. General factors i. Skeletal factors	**1**
15	ii. Soft tissue factors	**1**
16	iii. dental factors	**1**
17	b. Local factors (definitions without treatment)	**1**
18	**Tooth movement** a. Tissue changes associated with tooth movement: i. Histology of periodontium ii. Theories of tooth movement b. Accelerated tooth movement.	**1**
19	c. Biomechanics i. Force (application, type, magnitude, duration and direction) ii. Center of resistance and rotation, moment of force and moment of couple. iii. Types of tooth movement iv. Rate of tooth movement and factors affecting it.	**1**
20	d. iatrogenic effect of tooth movement (pain, mobility, pulp effect, root resorption, white spot lesions).	**1**
21	**Biomechanics**	**1**

22	**Anchorage** (definition, indications, types)	**1**
23	**Orthodontic appliances** a. Overview: i. passive orthodontic appliances (habit breaker, retainer and space maintainer) ii. active orthodontic appliances (removable, fixed, orthopedic and myofunctional, and combination) iii. Other active appliances: space regainer, Invisalign	**1**
24	b. Removable Orthodontic Appliance: i. Properties of various components (SS wire, acrylic) ii. Components: 1) active components (springs, screws and elastics) 2) retentive components (clasps) 3) acrylic base plate and bite planes 4) anchorage	**1**
25	iii. Design of a removable orthodontic appliance iv. Construction of a removable orthodontic appliance v. Soldering and welding vi. Post-insertion instructions and guidelines	**1**
26	c. Fixed orthodontic appliance: Types, components, advantages, limitation, biomechanics, banding vs. bonding	**1**
27	d. Orthopedic and Myofunctional appliance: Types, components, advantages, limitation, mode of action	**1**
28	*continue* Orthopedic and Myofunctional appliance: Types, components, advantages, limitation, mode of action	**1**
29	f. Retention and retainers Retention (definition, reason, time)	**1**
30	Retainers (Hawley, clear overlay, positioners, permanent fixation, precision)	**1**
Total		**30**

Clinical requirements

Lab number	Study unit title	Hours
1	Seminar 1 (Introduction to orthodontics)	4
2	Seminar 2 (Types of orthodontic appliances) (Introduction to removable appliance)	4
3	Seminar 3 (Orthodontic Pliers)	4
4	Seminar 4 (Stainless steel alloy properties)	4
5	Seminar 5 (Principles of wire bending)	4
6	Wire bending training	4

7	Z-Spring	4
8	Recurved Z-Spring	4
9	Review	4
10	Simple Finger Spring	4
11	Modified Finger Spring	4
12	Review	4
13	Buccal Canine Retractor	4
14	Modified Buccal Canine Retractor	4
15	Review	4
16	Quarterly Exam	4
17	Adams' Clasps on Upper Right 1st Molar	4
18	Adams' Clasps on Upper Left 1st Molar	4
19	Adams' Clasps on Upper Right 1st Premolar	4
20	Double Adams' Clasps on Upper Right 2nd premolar &1st molar	4
21	Review	4
22	Fitted Labial Arch	4
23	Hawley Arch	4
24	Review	4
25	Robert's Retractor	4
26	Acrylic baseplate	4
27	Soldering and Welding	4
28	Review	4
29	Quarterly Exam	4
30	Final Exam	4
Total		**120**

Department of pedodontics and preventive dentistry

A- Basic information

1-Subject title	**Pediatric Dentistry**	**طب اسنان الاطفال**
2-Number of credits	Theory:2	Clinical:2
3-Number of contact hours	Theory:1h/wk.	Clinic:2
4-Subject time	Fourth Year	

No.	Title of the lectures	Hours
1	Eruption of teeth , normal eruption process	**1**
2	Teething and difficult eruption	**1**
3	Eruption haematoma , sequestrum ,ectopic eruption	**1**
4	Epstein pearls, Bohn nodules, Dental lamina cysts, Shedding of the primary teeth, Mechanism of resorption and shedding,	**1**

	Factors causes differences in time of eruption	
5	Systemic (disease) Factors which cause late eruption Deciduous Dentition Period, Ugly Duckling Stage	**1**
6	Morphology of the primary teeth	**1**
7	Normal morphology of all primary teeth and their clinical consideration	**1**
8	Morphological differences between primary and permanent teeth	**1**
9	Functions of primary teeth	**1**
10	Dental caries; Definition and Classification	**1**
11	Rampant dental caries, Early childhood caries,	**1**
12	Restorative dentistry for children Isolation & maintenance of dry field and application of the rubber Dam	**1**
13	Morphological consideration ,cavity preparation Cavity preparation on primary teeth,	**1**
14	Restorative materials used on pediatric dentistry	**1**
15	Matrices & retainers	**1**
16	Chrome steel crowns, ART	**1**
17	Treatment of deep caries	**1**
18	Indirect pulp treatment	**1**
19	Vital pulp therapy pulpotomy	**1**
20	Non vital pulp therapy technique	**1**
21	Reaction of pulp to various capping material	**1**
22	Local anesthesia and pain control for children Type of space maintainer(indication andcontraindication Type of space maintainer(indication andcontraindication Type of space maintainer(indication andcontraindication Type of space maintainer(indication andcontraindication	**1**
23	Anesthetizing mandibular and maxillary teeth and soft tissue	**1**
24	complications after a local anesthetic	**1**
25	supplemental injection techniques	**1**
26	Oral surgery for children, indication and contraindictions for extraction of primary teeth,	**1**
27	technique for extraction of primary teeth	**1**
28	extraction complications	**1**
29	postoperative extraction complications, radiographic survey of teeth extracted	**1**
30	Infections manifestation and management	**1**
		30

Clinical requirement (Seminars)

No	Title	hours
1	Hypodontia among children	**2**

2	Anodontia among children	**2**
3	Rampant caries among children	**2**
4	Staining among children	**2**
5	Types of Caries removal techniques	**2**
6	Restoration of primary and young permanent teeth with variety types of restorative materials	**2**
7	Rubber dam	**2**
8	Minor oral surgery	**2**
9	Thumb sucking habits	**2**
10	Pulp therapy for permanent dentition	**2**
11	Pulp therapy for primary dentition	**2**
12	Materials used for pulp therapy	**2**
13	Crowns in pediatric dentistry	**2**
14	Nail biting among children	**2**
15	Maintenance of pulp vitality by use of regenerative materials	**2**
16	Root canal treatment for anterior non vital teeth	**2**
17	Root canal treatment	**2**
18	Management of molar incisor hypomineralization MIH	**2**
19	Behavior management for young patients	**2**
20	Infection control re-assurance and guidance of students	**2**
21	Tooth colored restoration technique	**2**
22	Radiographic prescription and interpretation of results	**2**
23	Space maintainers	**2**
24	Fluoride application as a preventive measure	**2**
25	Cleft lip and palate	**2**
26	Supernumerary teeth and their impact on teeth eruption	**2**
27	Management of medically compromised children	**2**
28	Diagnosis and treatment plan	**2**
29	ART technique	**2**
30	Periodontal diseases in children	**2**
Total		

Department of periodontics

A- Basic information

1-Subject title	**Periodontics**	**امراض و جراحة ما حول الاسنان**
2-Number of credits	Theory:2	Clinical:3
3-Number of contact hours	Theory:1h/wk	Clinical:3h/wk
4-Subject time	Fourth year	

No.	Lectures	Hours
1	Terms & definitions frequently used in periodontology	**1**
2	Anatomy of the periodontium	**1**

	Oral mucosa -Gingiva o Macroscopic features: i- Marginal gingiva ii- Attached gingiva iii- Interdental papilla o Microscopic features: i- Oral epithelium ii- Sulcular epithelium iii- Junctional epithelium iv- Epithelial connective tissue interface v- Gingival connective tissue (gingival fibers and cellular elements) o Gingival sulcus and gingival crevicular fluid o Blood Supply, Lymphatics, and Nerves o Clinical features of gingiva in health and disease: i- Color • Physiologic pigmentation ii- Size iii- Contour iv- Shape v- Consistency vi- Texture vii- Position	
3	Anatomy of the periodontium - Periodontal ligaments (PDL) o Cellular elements o Ground substance o Development of principal fibers of PDL o Functions of periodontal ligaments: i- Physical functions ii- Formative and Remodeling Function iii- Nutritional and sensory functions o Clinical consideration	**1**
4	Anatomy of the periodontium -Cementum o Definition o Function of cementum o Classification of cementum: i- Acellular afibrillar cementum ii- Acellular extrinsic fiber cementum iii- Cellular mixed stratified cementum iv- Cellular intrinsic fiber cementum o Development and mineralization of cementum o Cementoenamel junction o Cementodentinal junction o Thickness of Cementum in response to physiologic and pathologic conditions i- Normal thickness ii- Cemental aplasia	**1**

	iii- Hypercementosis iv- Ankylosis v- neoplastic and nonneoplastic	
5	Anatomy of the periodontium -Alveolar process o Definition o Function of alveolar process o Parts of the alveolar process i- Alveolar bone proper ii- An external plate of cortical bone iii- Cancellous trabeculae or spongy bone o Basal bone o Anatomic division of the alveolar process i- Interproximal bone ii- Inter radicular bone iii- Radicular bone o Composition of the bone i- Cellular elements ii- Organic components iii- Inorganic components o Haversian system or Osteon o Periosteum and Endosteum o Remodeling of alveolar bone	**1**
6	Classification of periodontal diseases and conditions (2017) - Reasons for classification - Major changes from previous classification - Periodontal health and gingival diseases and conditions Periodontal health and gingival health: o Clinical gingival health on an intact periodontium o Clinical gingival health on a reduced periodontium: i- Stable periodontitis ii- Non-periodontitis patients The classification of dental biofilm induced gingivitis: o Associated with bacterial dental biofilm only o Mediated by systemic or local risk factors i- Systemic conditions ii- Oral factors enhancing plaque accumulation o Drug-influenced gingival enlargements Case definition of gingivitis: o Gingivitis on an intact periodontium o Gingivitis on a reduced periodontium Non-dental biofilm induced gingival disease: o Genetic/developmental disorders o Specific infections o Inflammatory and immune conditions and lesions o Reactive processes o Neoplasms o Endocrine, nutritional, and metabolic diseases	**1**

	o Traumatic lesions o Gingival pigmentation	
7	Classification of periodontal diseases and conditions (2017) -Periodontitis o Periodontitis (Extent, Staging, Grading, Status, Risk factors) o Necrotizing periodontal diseases: i- Necrotizing gingivitis ii- Necrotizing periodontitis iii- Necrotizing Stomatitis) o Periodontitis as a manifestation of systemic disease -Peri-implant disease and conditions: § o Peri- implant health o Peri-implant mucositis o Peri-implantitis o Peri-implant soft and hard tissues deficiency	**1**
8	Classification of periodontal diseases and conditions (2017) Other conditions affecting the periodontium -Periodontal abscess: o Periodontal abscess in periodontitis patients o Periodontal abscess in non- periodontitis patients -Endodontic periodontal lesions: o Endo-periodontal lesions associated with endodontic and periodontal infections o Endo-periodontal lesions associated with trauma and iatrogenic factors -Mucogingival deformity and conditions -Traumatic occlusal force -Tooth and prosthetic related factors	**1**
9	Etiology of periodontal disease -Periodontal disease pathogenesis o Mechanisms of pathogenicity o Histopathology of periodontal disease: i- Clinically healthy gingival tissues ii- Histopathology of gingivitis and periodontitis: • The initial lesion • The early lesion •The established lesion • The advanced lesion o Inflammatory responses in the periodontium: i- Microbial virulence factors: • Lipopolysaccharide • Bacterial enzymes • Microbial invasion • Fimbriae • Bacterial DNA ii- Host-Derived Inflammatory Mediators: • Cytokines • Prostaglandins • Matrix metalloproteinases	**1**
10	Etiology of periodontal disease and risk factors	**1**

	Dental plaque biofilm and periodontal microbiology - Definitions: o Supragingival plaque o Subgingival plaque - Structure of a mature dental plaque biofilm - Accumulation of a dental plaque biofilm: o Formation of the pellicle o Initial adhesion/attachment of bacteria o Colonization and plaque maturation - Factors affecting supragingival dental plaque formation: o Topography of supragingival plaque o Surface microroughness o Individual variables that influence plaque formation o Variation within the dentition o Impact of gingival inflammation and saliva o Impact of patient's age o Spontaneous tooth cleaning - Metabolism of dental plaque bacteria - Communication between biofilm bacteria - Biofilms and antimicrobial resistance	
11	Microbiologic specificity of periodontal diseases - Traditional nonspecific plaque hypothesis - Specific plaque hypothesis - Updated nonspecific plaque hypothesis - Ecologic plaque hypothesis - Keystone Pathogen Hypothesis	**1**
12	Dental calculus - Clinical appearance and distribution (Supragingival and Subgingival Calculus) - Calculus formation: o Theories of calculus formation - Calculus composition: o Inorganic content o Organic content - Attachment to tooth surfaces and implants - Clinical significance	**1**
13	Dental stain - Color and color perception - Classification of tooth discoloration: o Intrinsic discoloration o Extrinsic discoloration o Internalized discoloration - The mechanisms of tooth discoloration - Prevention - Treatment approaches	**1**
14	Etiology of periodontal disease - Risk factors for periodontal diseases: o Definitions of risk factors	**1**

	o Systemic risk factors: i- Modifiable risk factors ii- Non-modifiable risk factors o Local predisposing factors: i- Calculus ii- Iatrogenic factors iii- Margins of restorations iv- Malocclusion v- Associated with orthodontic therapy o Local anatomic risk factors	
15	Etiology of periodontal disease - Molecular biology of host–microbe interactions o Microbe-associated molecular patterns o Toll-like receptors: i- Toll-like receptor-4–lipopolysaccharide recognition ii- Toll-like receptor-2–lipoprotein/lipoteichoic acid/peptidoglycan recognition iii- Role of toll-like receptors in periodontitis o Complement system: i-Classical/Lectin/Alternative pathways ii- Role of complement in periodontitis	**1**
16	Etiology of periodontal disease and risk factors - Smoking and Periodontal Disease o Effects of smoking on the prevalence and severity of periodontal diseases: i- Gingivitis ii- Periodontitis o Effects of smoking on the etiology and pathogenesis of periodontal disease: i- Microbiology ii- Immune–inflammatory responses iii- Physiology o Effects of smoking on the response to periodontal therapy: i- Nonsurgical Therapy ii- Surgical Therapy and Implants iii- Maintenance Therapy o Effects of smoking cessation on periodontal treatment outcomes	**1**
17	Impact of periodontal infection on systemic health - Focal infection theory revisited - Subgingival environment as a reservoir for bacteria - Periodontal disease, coronary heart disease, and atherosclerosis: o Ischemic heart disease o Atherosclerosis - Periodontal disease and stroke - Periodontal disease and diabetes mellitus: o Periodontal infection associated with glycemic control in diabetes	**1**
18	Impact of periodontal infection on systemic health - Periodontal disease and asthma	**1**

	- Periodontal disease and pregnancy outcome - Periodontal disease and chronic obstructive pulmonary disease - Periodontal disease and acute respiratory infections	
19	Periodontal indices o Definition o Gingival index (Loe and Silness) o Plaque index (Silness and Loe) o Plaque index (O'leary) o Plaque index (Quigely Hein) o Probing pocket depth o Clinical attachment loss o Basic Periodontal Examination (BPE) o Modified Gingival Index o Bleeding on probing o Furcation involvement index o Calculus index o Recession index (Miller) o Recession index (Cairo)	**1**
20	The periodontal pocket - Classification - Clinical features - Pathogenesis - Histopathology: o Bacterial invasion o Microtopography of the gingival wall o Periodontal pockets as healing lesions o Pocket contents o Root surface walls	**1**
21	The periodontal pocket - Periodontal disease activity - Pulp changes associated with periodontal pockets - Relationship of attachment loss and bone loss to pocket depth - Area between base of pocket and alveolar bone - Relationship of pocket to bone - Periodontal abscess - Lateral periodontal cyst	**1**
22	Treatment plan guidelines [§] - Phase 1 (behavior change, removal of supragingival dental biofilm and risk factor control): o Self-performed supragingival biofilm control: i- Oral hygiene practices to control gingival inflammation ii- Behavioral change for oral hygiene improvement iii- Motivational interviewing and cognitive behavioral therapy o Adjunctive therapies for gingival inflammation o Professional supragingival dental biofilm control o Risk factor control: i- Local risk factor control ii- Tobacco smoking cessation interventions iii- Promotion of diabetes control interventions	**1**

23	Treatment plan guidelines - Phase 2 (cause-related therapy) o Subgingival instrumentation: Scaling Root planing o Removal of plaque-retentive factors o Use of adjunctive systemically administered antibiotics to subgingival instrumentation o Re-evaluation of the cause-related therapy o Decision to refer for specialist	**1**
24	Treatment plan guidelines - Phase 3 (corrective/surgical phase) o Objectives of surgical therapy o Periodontal access surgery: i- Resective ii- Regenerative o Extraction of hopeless teeth o Periodontal plastic surgery: i- Mucogingival surgery ii- Aesthetic crown lengthening o Pre-prosthetic surgery: i- Crown lengthening ii- Implant site preparation	**1**
25	Treatment plan guidelines - Phase 4 (maintenance therapy) o Clinical recommendations o Self-performed supragingival dental biofilm control o Adjunctive therapies for gingival inflammation o Professional supragingival dental biofilm control o Risk factor control	**1**
26	Plaque biofilm control for the periodontal patient - The toothbrush: o Toothbrush design - Powered toothbrushes - Dentifrices - Toothbrushing methods - Interdental cleaning aids: o Dental floss o Interdental brushes o Other interdental cleaning devices - Oral irrigation: o Supragingival irrigation o Subgingival irrigation - Caries control	**1**
27	Plaque biofilm control for the periodontal patient - Chemical plaque biofilm control with oral rinses o Chlorhexidine digluconate: i- Mode of action ii- Clinical use	**1**

	iii- Side-effects o Nonprescription essential oil rinse o Other products - Disclosing agents - Patient motivation and education: o Motivation for effective plaque biofilm control o Education and scoring systems: i- Plaque biofilm control record (O'Leary Index) ii- Bleeding points index o Instruction and demonstration	
28	Periodontal instruments and sharpening - Types of periodontal instruments: i- Diagnostic instruments ii- Scaling, root planing, and curettage instruments • Plastic and Titanium Instruments for Implants iii- Cleansing and polishing instruments iv- Surgical instruments - Instrument stabilization: i- Instrument Grasping ii- Finger Rest - Condition of the instruments and resharpening	**1**
29	Breath Malodor (Halitosis) - Definitions - Epidemiology - Classification - Etiology: o Intraoral Causes: i- Tongue and tongue coating ii- Periodontal infections iii- Dental disorders iv- Dry mouth o Extraoral Causes o Pseudo-halitosis or Halitophobia - Diagnosis of malodor - Prevention and management: o Mechanical reduction of intraoral nutrients and microorganisms o Chemical reduction of oral microbial load: i- Chlorhexidine ii- Essential oils iii- Chlorine dioxide iv- Two-phase oil-water rinse v- Triclosan vi- Hydrogen Peroxide vii- Amine Fluoride or Stannous Fluoride o Conversion of volatile sulfur compounds: i- Metal Salt Solutions o Masking the Malodor	**1**
30	Systemic anti-infective therapy for periodontal diseases [§] - Definitions	**1**

	- Common antibiotic regimens used to treat periodontal diseases - Tetracyclines: o Specific agents: i- Tetracycline ii- Minocycline iii- Doxycycline o Metronidazole o Penicillin derivatives: i- Amoxicillin ii- Amoxicillin–Clavulanate Potassium o Cephalosporins o Clindamycin o Ciprofloxacin o Macrolides - Single vs combination antibiotic therapy o Clinical implications	
Total		**30**

Clinical and preclinical requirement

Credit hours required	Requirement details
3 h/week (90 h/year)	**Preclinical:** - Training on ergonomic aspects of grasping and use of the instruments and their maintenance i.e. resharpening **Clinical:** - Recording medical and dental history - Patient's education and motivation - Oral hygiene instructions (OHI) - Recording periodontal indices - Diagnosis according to classification of periodontal disease and conditions (2017) - Non-surgical periodontal therapy (manual scaling + polishing)

Department of prosthodontics

A- Basic information

1-Subject title	**Prosthodontics**	**صناعة الاسنان**
2-Number of credits	Theory:2	Clinical:3
3-Number of contact hours	Theory:1h/ wk.	Clinic: 3 h/ wk.
4-Subject time	Fourth Year	

No.	Title Of The Lectures		Hours
1	**Anatomy and physiology as related to dental prosthesis**	• **Osteology importance** • **Factors that influence the form and**	1

	(osteology)	**size of the supporting structures** • **Supporting structures in the maxillary edentulous foundation** • **The limiting structures of the upper denture** • **Osseous structures associated with the mandibular denture** • **Maxillary and mandibular stress-bearing areas** • **Areas requiring relief in impression** • **The pattern of bone resorption**	
2	**Anatomy and physiology as related to dental prosthesis (Myology)**	• **Muscles of facial expression** • **Functions of muscles of facial expression** • **Muscles of mastication** • **Muscles of the soft palate** • **Tongue** • **Muscle physiology** • **Oral mucous membrane** • **Salivary gland and saliva** ✓ **Physiologic factors affect salivation** ✓ **Function of saliva**	1
3	**Diagnosis and treatment plan for RPD**	• **Patient interview** • **The objectives of prosthodontic treatment** • **Oral examination** • **Sequences of oral examination**	1
4	**To be continued Diagnosis and treatment**	• **Interpretation of Examination Data** • **Root morphology** • **Periodontal considerations** • **Needs for extraction** • **Indication of RPD** • **The Recommended Infection Control Practices for Dental Treatment**	1
5	**Preparation of the mouth to receive an RPD**	• **Pre-prosthetic procedures** ✓ **Oral surgical preparation** ✓ **Exostosis and tori** ✓ **Hyperplasic tissue** ✓ **Bony spine and knife edge ridge** ✓ **Augmentation of alveolar bone**	1
6	**Preparation of the mouth to receive an RPD (Continued).**	✓ **Maximum benefit from using tissue conditioning material** ✓ **Periodontal preparation** ✓ **Abutment teeth preparation** ✓ **The sequences of abutment tooth preparation on sound enamel or existing restoration are as follow** ✓ **The procedure of rest seat preparation on sounds enamel surface**	1
7	**Classification of impression technique**	• **Impression material** ✓ **Differences between reversible and irreversible hydrocolloid** ✓ **Important Precautions to Be Observed in the Handling of**	1

		Hydrocolloid Impressions. • **Steps in impression making** ✓ **The step-by-step procedure and important points to observe in the making of a hydrocolloid impression**	
8	**Classification of impression technique (To be continue)**	✓ **Step-by-Step Procedure for Making a Stone Cast from a Hydrocolloid Impression** • **Possible Causes of an Inaccurate and/or a Weak Cast of a Dental Arch** • **Technique used for individual impression trays** • **McLean's physiologic impression** • **The Recommended Infection Control Practices for Dental Treatment**	1
9	**Designing Support**	• **The main problems which might occur in tooth-tissue support** • **Factors influencing the support of a distal extension denture base** • **Anatomic form impression** • **Methods for obtaining functional support for the distal extension base**	1
10	**Fitting the removable partial denture framework**	• **Initial inspection** • **Methods and procedures for fitting the framework** • **Laboratory inspection** • **Clinical procedures** • **Occlusal evaluation** • **Clinical procedures after fitting the framework**	1
11	**Occlusal Relationship for Removable Partial Denture**	• **The establishment of satisfactory occlusion for RPD** • **Desirable occlusal contact relationships for various RPD** • **Occlusion in RPD's (Requirements)**	1
12	**Jaw relation in RPD**	• **Methods for establishing occlusal relationship** • **Interocclusal records** • **Excellent occlusal recording materials**	1
13	**Trial RPD**	• **The trial dentures on the mounted casts** • **The trial dentures in patient s mouth** • **Esthetic try-in** • **Denture base consideration** • **The patient evaluation** • **Phonetics evaluation** • **Verification of Jaw Relation** • **Choice of tooth materials**	1
14	**Initial placement and adjustment of RPD**	• **Final inspection of the prosthesis before insertion** • **Verifying the removable partial denture (RPD) framework fit** • **Assessment of acrylic resin denture**	1

		base adaptation • **Assessment of peripheral extension of the denture base** • **Evaluating occlusion** • **Adjusting retentive clasp assembly, if needed** • **Providing instructions for the patient in the use and care of the prosthesis**	
15	**Pre- prosthetic surgery**	• **Surgical Guides (Templates)** • **Commonly Used Pre-prosthetic Procedures** • **Ridge Alveoloplasty with Extraction** • **Intra-septal Alveoloplasty** • **Edentulous Ridge Alveoloplasty Buccal Exostosis** • **Maxillary Tuberosity Reductions** ✓ **Mandibular Tori** ✓ **Maxillary Tori** ✓ **Mylohyoid Ridge Reduction** ✓ **Genial Tubercle Reduction**	1
16	**Pre-prosthetic Surgical Considerations (Continued).**	• **Soft Tissue Procedures** ✓ **Maxillary Soft Tissue Tuberosity Reduction** ✓ **Maxillary Labial Frenectomy** ✓ **Excision of Redundant/Hyper mobile Tissue Overlying the Tuberosities** ✓ **Excision of inflammatory Fibrous Hyperplasia (Epulis Fissuratum)** ✓ **Inflammatory Papillary Hyperplasia of the Palate**	1
17	**Diagnosis and treatment plan CD**	• **Mental Attitude (Psychological factor)** ✓ **House classification** ✓ **Social information.** ✓ **Systemic (medical) status**	1
18	**To be continued diagnosis and treatment plan for CD**	• **Past dental history** ✓ **Local factors** ✓ **Intraoral examination (mucosa, ridge, hard palate, soft palate, tongue and post mylohyoid space)** ✓ **Radiographic examination** ✓ **Diagnostic cast-advantages** • **Treatment planning** • **Prognosis** • **Patient education**	1
19	**Impression in CD**	• **Definition** • **Objective of complete denture impression** • **Biologic considerations for mandibular impressions** • **Theories of impression techniques** • **Primary impression** • **Common errors in impression makings** • **Secondary (final) impression** ✓ **Materials used for final impression** ✓ **Steps for making final impression**	1

		✓ **Correction of special tray** ✓ **Making the final impression** ✓ **Making final impression utilizing digital intraoral scanner**	
20	**TMJ and mandibular movement.**	• **Anatomy of TMJ** • **How does the TMJ move during function?** • **The muscles and ligaments of TMJ** • **Mandibular axis** • **Mandibular movement. (Basic and functional movement)** • **Border movement (sagittal, horizontal and coronal)** • **Jaw registration of condylar movements** • **Articulator's classifications** • **Face-bow transfer**	1
21	**Digital RPD**	• **Digital partial dentures and rapid prototyping procedure** • **Difference between conventional and digital RPD Procedure** • **Advantages highlight the benefits of the digital over the conventional method**	1
22	**Vertical jaw relation**	• **Definition** • **Importance of Vertical Jaw Relation** • **Factors Affecting Vertical Jaw Relation** • **Effects of increased vertical relation** • **Effects of decreased vertical relation** • **Vertical Dimension at Rest** • **Facial measurements after swallowing and relaxing** • **Vertical Dimension at Occlusion** • **Methods of Measuring** ✓ **Mechanical methods** ✓ **Physiological methods**	1
23	**Horizontal jaw relation (Centric occlusion)**	• **Centric relation** ✓ **Methods must be used to position the jaw in centric relation**	1
24	**Try in stage in CD**	• **Definition** • **Importance of trial denture** • **Objective of trail denture** • **Extra oral examination of trail denture** • **Trail denture assessment in the mouth** • **Incorporation of posterior palatal seal** • **Patient role in trail denture** • **Technician role in trail denture**	1
25	**Insertion of CD**	• **Complete denture insertion procedure** • **Denture base adjustment** • **Adjustment of denture border** • **Dentist evaluation**	1

		• **Patient evaluation** • **Friend's evaluation**	
26	**Adjustments of CD**	• **Errors in occlusion** • **Intra oral occlusal correction** • **Extra oral selective grinding (centric and eccentric correction)** • **Appearance with new denture** • **Mastication with new denture** • **Speaking with new denture** • **Oral hygiene with dentures**	1
27	**Post insertion complications in CD**	• **Freeway space problem** • **Pain in the sulcus** • **Pain on crest of the alveolar ridge** • **Looseness of one or both dentures** • **Speech problems** • **Chewing problems**	1
28	**relining and rebasing of CD**	• **Factors influencing the decision to reline an existing denture** • **Impression Technique for relining and rebasing**	1
29	**Repair of fractured RPD**	• **Repair of fractured denture teeth** • **Complex fracture repairs**	1
30	**Esthetic denture materials**	• **Denture base material** • **Clasp material** • **Types of clasps**	1
Total			**30**

Clinical requirements

Lab number	Study unit title
1	acrylic RPD (free end extension).
2	acrylic RPD (bounded saddles).
3	immediate or flexible RPD.
4	case repair.
Total	90 h/ year

Department Of Restorative and Aesthetic Dentistry
A-Basic information

1-Subject title	- **Operative and esthetic dentistry & endodontics**	**معالجة و تجميل الاسنان و حشوات الجذور**
2-Number of credits	Theory:2	Clinical:6
3-Number of contact hours	Theory:-Operative: 22h/year Endodontic:8h/year	Clinic:6h/wk.
4-Subject time	Fourth Year	

Operative and Aesthetic Dentistry

Number	Title of the lectures	Hours
1	Biologic Considerations of Enamel structure and its Clinical Significance in Practice of Operative Dentistry.	**1**
2	Biologic Considerations of Enamel structure and its Clinical Significance in Practice of Operative Dentistry.	**1**
3	Biologic Considerations of Dentin structure & its Clinical Significance in Operative Dentistry	**1**
4	Biologic Considerations of Dentin structure & its Clinical Significance in Operative Dentistry	**1**
5	Patient Evaluation , Diagnosis & Treatment Planning	**1**
6	Caries Management (Diagnosis & treatment strategies)	**1**
7	Cervical Lesions(carious and non carious lesions)	**1**
8	Restorative Dentistry and Pulpal Health	**1**
9	Management of Deep Seated Caries	**1**
10	Inflammatory Conditions of the Pulp	**1**
11	Treatment of Deep Seated Caries Simplified anatomical modeling.	**1**
12	Fluoride – Releasing Materials	**1**
13	Indirect aesthetic adhesive restorations Inlays and Onlays (materials ,techniques) CAD/CAM Technology.	**1**
14	Direct tooth-colored restorations(Composite)	**1**
15	Dental Laser	**1**
16	Application of Laser in Conservative Dentistry.	**1**
17	Application of Laser in Conservative Dentistry.	**1**
18	Indirect tooth-colored restorations	**1**
19	Techniques of posterior composite Inlay/Onlay restoration system Laboratory-processed composite inlays and onlays.	**1**
20	Ceramic veneers, inlays and onlays, clinical procedures.	**1**
21	Ceramic veneers, inlays and onlays, clinical procedures.	**1**
22	CAD/CAM techniques	**1**
Total		**22**

Clinical Requirements

Operative Dentistry	Hours
The students are required to complete the following restorations:- a. Amalgam Restorations Class I, Class II b. Composite (tooth colored) Restorations Class I, Class II, Class III, Class IV, and Class V	3h/wk
	90h/year

No.	Endodontic	Hours
1	Topics Covered	1
2	1-Objective of endodontic treatment	1
3	2- Basic Phases of Treatment	1
4	3- Pulp pathologies	1
5	Classification of periapical diseases	1
6	Access Opening Preparation	1
7	Endodontic Instruments	1
8	Roentgenography in Endodontics and Root canal preparation	1
Total		8

Clinical requirements (Preclinical Endodontic)

Lab number	Study unit title	Hours
1	Introduction	3
2	Block construction	3
3	Diagnosis	3
4	Quiz 1 in lab 1,2&3 +Access opening	3
5 6 7	Quiz 2 in lab 4 +Clinical access opening to one anterior tooth and two premolar teeth	3 3 3
8	Instrument	3
9	Equipment and materials	3
10	Quiz 3 clinical quiz in lab 8&9, Working length estimation demonstration .	3
11 12 13 14	Quiz 4 in lab 11 + clinical working length estimation on the same three teeth .	3 3 3 3
15	Rubber dam application	3

16	Quiz 5 clinical quiz in lab 15	3
17	Review	3
18	Root canal instrumentation .	3
19	Quiz 6 in lab 18 + clinical instrumentation to the same teeth	3
20		3
21		3
22		3
23		3
24	Root canal obturation.	3
25	Quiz 7 in lab 24 +clinical obturation to three teeth.	3
26		3
27		3
28	Review	3
29		3
30		3
Total		90

Summary: Fourth Year.
Total Theories - Hours/ Week: 10
Total Theories - Hours/ year: 10x30= 300
Total Practical Hours/ Week: 24
Total Practical Hours/ year: 24x30= 720
Total Hours / Year: 1020
Total credits: 44

(Fifth Year Curriculum(30 weeks

Department of Prosthodontics

A- Basic information

1-Subject title	**Prosthodontics**	**صناعة الاسنان**
2-Number of credits	Theory: 2	Clinical: 6
3-Number of contact hours	Theory:1h/wk.	Clinic: 6h/wk.
4-Subject time	Fifth Year	

No.	Title of The Lectures		Hours
1	**Occlusion in Complete Denture**	• **Occlusion** • **Articulation** • **Centric relation** • **Centric occlusion** • **Occlusal balance** • **Occlusal harmony** • **Occlusal interference** • **Maximum intercuspation** ✓ **Requirements of ideal complete denture occlusion** ✓ **Objectives of occlusion in complete denture** • **Requirement of complete denture occlusion** • **Types of occlusion** • **Balance occlusion** ✓ **Advantages of balance occlusion** • **Factors affecting the balanced occlusion (laws of articulation)** ✓ **Condylar guidance** ✓ **Incisal guidance** ✓ **Plane of occlusion** ✓ **The compensating curve** ✓ **Cuspal angulations** • **Interaction of the five factor** • ***Lingualized occlusion*** • **Monoplane or occlusion (neutrocentric)** • **Types of occlusal scheme** ✓ **retention, stability and support of complete denture**	**1**
2	**Occlusion in Complete Denture (Continue)**		**1**
3	**Retention, Stability And Support**	• **Retention** • **Factors affect in the retention of CD** ✓ **Mechanical factors** ✓ **Muscular factor** • **Denture surface** ✓ **Occlusal surface** ✓ **Polished surface**	**1**

		✓ Impression surface • Stability ✓ Various factors that affecting the stability • Support • Nature of the Supporting tissue • Mandibular anatomical consideration • Mandibular residual ridge • Maxillary anatomic consideration • Factors that influence the form and size of the supporting bone	
4	**Retention, Stability And Support (Continue)**		**1**
5	**Post Insertion Problems**	• Classification of Post-Insertion Denture problems ✓ Complaints about comfort of the denture ✓ Complaints about function of the denture ✓ Complaints about esthetics ✓ Complaints about phonetics • Complaints about comfort of the denture ✓ Sore spot ✓ Burning sensation ✓ Redness ✓ Pain in TMJ ✓ Tongue and cheek biting ✓ Swallowing & sore throat ✓ Nausea and gagging ✓ Clicking of teeth ✓ Fatigue of the muscles of mastication • Complaints about function of the denture ✓ Loose denture (poor retention) ✓ Unstable denture • Complaints about esthetics • Complaints about phonetics • Oral mucosal Lesions induced by removable dentures • Causes of Mucosal Irritation • Types of these lesions ✓ Denture stomatitis ✓ Angular Cheilitis ✓ Flabby ridge ✓ Denture irritation hyperplasia ✓ Traumatic ulcer ✓ Burning Mouth Syndrome ✓ Hypersensitivity	**1**
6	**Post Insertion Problems (Continue)**		**1**
7	**Complications Of Complete Denture**	▪ Changes occurred required Long term recall appointments ▪ Some Clinical Problems and Solutions associated with complete denture ✓ Problems of reduced salivary flow	**1**

		✓ Aetiology of reduced salivary flow ✓ Management of dry mouth ▪ Hard and soft materials for modifying the impression surface of dentures ▪ Other complications ✓ Flabby ridge ✓ Denture breakages ✓ Debonding of teeth ✓ Gagging reflex (retching) ✓ Burning mouth syndrome ✓ Disturbance of speech	
8	**Complications Of Complete Denture (Continue)**		**1**
9	**Immediate Denture**	▪ Introduction, Definition, Indications, Contraindications, Advantages, Disadvantages ▪ Types of immediate dentures ▪ Explanation to the Patient Concerning Immediate Dentures ▪ Diagnostic steps, Impression techniques, Jaw relations record, Try-in, Cast trimming, Waxing and flasking, Surgical splints, Setting of teeth, Processing and finishing, Insertion ▪ Post-operative care and instructions	**1**
10	**Immediate Denture (Continue)**		**1**
11	**Classification system for completely edentulous patients**	▪ Development of the classification system ▪ Diagnostic Criteria ▪ Integration of Diagnostic Findings ▪ Diagnostic Classification of Complete Edentulism ▪ Reasons for a Classification System ▪ Features govern classes differentiation from each other ▪ Guidelines for Use of the Complete Edentulism Classification System ▪ Bone height-mandible only ▪ Residual ridge morphology-maxilla only ▪ Muscle Attachments: Mandible only ▪ Maxillomandibular Relationship ▪ Integration of Diagnostic Findings ▪ Arrangement of artificial teeth in abnormal jaw relations ▪ Arrangement of anterior teeth in maxillary protrusion ▪ Arrangement of artificial teeth in abnormal jaw relations ▪ Arrangement of anterior teeth in mandibular protrusion	**1**
12	**Classification system for completely edentulous patients (Continue)**	▪	**1**
13	**Posterior palatal seal area**	▪ Posterior palatal seal area	**1**

		▪ **Anatomical and Physiological Considerations for Posterior Palatal Seal** ▪ **Methods of location of anterior vibrating line (AVL)** ▪ **Classification of soft palate** ▪ **Designs of the posterior palatal seal** ▪ **Methods or techniques of recording posterior palatal Seal area** ▪ **Error in recording of posterior palatal seal**	
14	**Single CD**	• **Maxillary complete denture opposing by complete mandibular dentition** • **Techniques used to determine occlusal modifications prior to denture construction** • **Upper complete denture opposing by mandibular partial denture** • **Complications of single CD** ✓ **Combination Syndrome and Associated Changes (Kelly's Syndrome)** ✓ **Setting of teeth and occlusal concept** ✓ **fracture of Denture** ✓ **Wear of Teeth** • **Mandibular single denture** • **Steps for Single Denture construction**	**1**
15	**Single CD (Continue)**		**1**
16	**Geriatric dentistry**	▪ **Definitions** ▪ **Factors influencing Aging** ▪ **Goal of Geriatric dentistry** ▪ **Objectives of Geriatric dentistry** ▪ **Psychological disorders of elderly patients generally seen by prosthodontist** ▪ **Factors that influence the patient's response** ▪ **Seven basic personality traits will be considered in the light of their influence on success in dentistry** ▪ **Systemic Diseases and its dental relation** ▪ **Geriatric dentistry related to prosthetic part 2**	**1**
17	**Maxillofacial Prosthesis**	▪ **Objectives of maxillofacial prosthesis** ▪ **Maxillofacial Classification** ▪ **Extra Oral Appliances** ▪ **Intra Oral Appliances** ▪ **Retentive Aids in Maxillofacial Prosthodontics** ▪ **Steps of maxillofacial prostheses construction**	**1**
18	**Maxillofacial Prosthesis (Continue)**		**1**
19	**Residual Ridge resorption**	• **Structural characteristics of alveolar**	**1**

		bone • Pathology of RRR • Pathogenesis of RRR • Direction of bone resorption • Patterns of bone resorption • Consequences of RRR • Etiology of RRR • RRR is a multi-factorial, biomechanical disease ✓ Metabolic factors ✓ Dietary Factors • Osteoporosis and residual ridge modeling • Prosthetic factors • Treatment and Prevention of RRR	
20	**Residual Ridge resorption (Continue)**		**1**
21	**Dental implantology**	• implant classification ✓ Classification of endosseous implants according to their design ✓ Classification of endosseous implants according to their material ✓ Classification of endosseous implants according to surface characteristics ✓ Classification of endosseous implants according to the insertion technique ✓ Classification of endosseous implants according to surgical stages ✓ 6.classification of endosseous implants according to the time of installation ✓ 7.classification of endosseous implants according to time of prosthetic loading • Factors affecting healing ✓ Surgical technique ✓ Premature loading ✓ Surgical fit ✓ Bone quality and quantity ✓ Physical condition of the patient • Components of branemark implant system • Prosthetic options in implant dentistry • Overdenture (implant supported overdenture) • Basic sequence of procedures in implants treatment ✓ Radiographic stent • Implant success and survival • Indications of implant denture • Contradictions of implant denture • Characteristics of the osseointegrated implant • Basic guiding factors of	**1**

		osseointegration • Occlusion in implant-supported prostheses • Occlusal form and scheme	
22	**Dental implantology (Continue)**		**1**
23	**Esthetics in CD**	▪ Definition ▪ Factors Influencing the Appearance of Dentures ▪ Steps in achieving esthetic complete denture ▪ Additional clinical and technical considerations in anterior tooth selection patient preferences ▪ Gingival Contour ▪ Denture base factors ▪ Characterization ▪ Final Decision for Esthetics	**1**
24	**Characteristics Of Ideal Materials For Dental Implant**	▪ osseointegration ▪ Biomaterials ▪ Selection of Biomedical Materials ▪ Classification of implant materials ▪ Types of surface modification: ▪ Surface design ▪ Ceramic coating ▪ Super structure ▪ Guided Bone Regeneration	**1**
25	**Copy denture**	• Definition • Aims • Indication • Technique for denture duplication • Laboratory procedure for denture duplication • Denture duplication technique ✓ The silicon putty ✓ The agar- Agar ✓ Modification/ Further application • Problem Areas in Fabrication and Solutions	**1**
26	**Over Denture**	▪ The important goals of overdenture ▪ Indications of Overdenture. ▪ Contraindications of Overdenture ▪ Advantages of overdenture prosthesis ▪ Disadvantage of overdenture ▪ Overdenture Classification ▪ Sequence of Treatment of Patient Who Need an Overdenture ▪ Impressions of the Abutment Teeth ▪ Denture Base designing ▪ Implant supported overdenture ▪ Type of implant overdenture ▪ Indication of Implant supported overdenture ▪ Contraindication ▪ Advantages of implant supported over denture ▪ Disadvantages of implant supported over denture	**1**

27	**Over Denture (Continue)**		**1**
28	**Neutral zone in CD**	▪ **Definitions** ▪ **Neutral Zone Concept** ▪ **Objectives of Neutral zone Techniques** ▪ **Indications of Neutral zone Techniques** ▪ **Recording neutral zone in final impression stage** ▪ **Recording neutral zone in jaw relation visit** ▪ **Recording neutral zone in try in stage** ▪ **Recording neutral zone in finished denture** ▪ **Limitation for the success of neutral zone impression technique**	**1**
29	**Attachments in over denture**	• **Function of attachment** • **Factors affecting attachment selection** • **Retentive Mechanism** • **Classification of Attachments** • **Types of attachments** • **Overdenture care**	**1**
30	**Attachments in over denture (Continue)**		**1**
Total			**30**

Clinical requirements

Lab number	Study unit title	**Hours**
1	cases of upper and lower complete dentures	
2	single complete denture against partial denture or natural teeth.	
3	immediate or flexible RPD.	
4	case repair.	
Total		**180**

Department of Oral Diagnosis

A- Basic information

1-Subject title	**Oral Medicine**	**طب الفم**
2-Number of credits	Theory:2	Clinical:4
3-Number of contact hours	Theory:1h/wk.	Clinics:4 h/wk.
4-Subject time	Fifth year	

No.	Title of the lectures	Hours
1	The principles of oral diagnosis Clinical examinations	**2**
2	Laboratory investigations in dentistry	**2**
3	orofacial pain	**2**

4	T.M.J	**2**
5	Oral ulceration and Vesiculo-bullus lesions	**3**
6	White & red lesions	**2**
7	Early detection of oral cancer	**2**
8	Pigmented oral lesions	**2**
9	Benign, Premalignant and malignant lesions of the oral cavity	**4**
10	Neuromuscular disorder	**2**
11	Salivary gland diseases	**2**
12	Autoimmune diseases	**3**
13	Oral manifestation of allergic reaction	**2**
Total		**30**

Clinical requirements

Lab number	Study unit title	Hours
1	Laboratory investigations in dentistry	4
	clinic	
2	Viral infection	4
	clinic	
3	Bacterial infection	4
	clinic	
4	Fungal infection	4
	clinic	
5	Diseases of Respiratory tract	4
	clinic	
6	Diseases of cardiovascular system	4
	clinic	
7	Diseases of gastrointestinal tract	4
	clinic	
8	Renal diseases	4
	clinic	
9	Anemia	4
	clinic	
10	Leukemia	4
	Clinic	4
11	Bleeding and clotting disorders	4
	clinic	
12	Immunologic diseases	4
	clinic	

13	Diseases of thyroid gland	4
	clinic	
14	Diabetes mellitus	4
	clinic	
15	Orofacial pain and common headache disorders	4
	clinic	
16	Neuromuscular diseases	4
	clinic	
17	Temporomandibular disorders	4
	clinic	
18	Salivary gland disorders	4
	clinic	
19	Drugs in dentistry	4
	clinic	
20	Drugs induced oral lesions	4
	clinic	
21	Panoramic image interpretation	4
	clinic	
22	Allergy	4
	clinic	
23	Ulcerative ,vesicular, and bullous lesions	4
	clinic	
24	Red and white lesions of the oral mucosa	4
	clinic	
25	Pigmented lesions of the oral mucosa	4
	clinic	
26	Benign lesions of the oral cavity and the jaw	4
	clinic	
27	Oral and oropharyngeal cancer	4
	clinic	
28	LASER in oral medicine	4
	clinic	
29	Geriatric oral medicine	4
	clinic	4
30	Pediatric oral medicine	4
	clinic	
Total		**120**

Department of Oral & Maxillofacial Surgery

A- Basic information

1-Subject title	**Oral Surgery**	**جراحة الفم**
2-Number of credits	Theory:2	Clinical: 6
3-Number of contact hours	Theory:1h / week	Clinic:6 h/week
4-Subject time	Fifth Year	

No.	Title of the lectures	Hours
1	**Orofacial pain** • Classification; somatic and neuropathic • Diagnosis • Somatic pain; odontogenic pain, oral mucous membrane disorders, temporomandibular joint disorders, muscle disorders • Neuropathic pain; trigeminal neuralgia, glossopharyngeal neuralgia, atypical odontalgia, postherpetic neuralgia • Vascular pain; giant cell arteritis and migraine.	**1**
2	**Preliminary management of patients with facial fractures** • Etiology of maxillofacial trauma • Primary survey and advanced trauma life support (ATLS) Secondary survey.	**1**
3	**Fractures of the mandible** • Classification • Clinical features • Imaging • Treatment; closed treatment, methods of immobilization, period of treatment, open reduction and internal fixation (ORIF) • Teeth in the fracture line • Complications	**1**
4	**Fractures of the mandible** Mandibular fractures that require special consideration: • Pediatric fractures, • Fractures of edentulous mandible • Condylar fractures • Comminuted fractures	**1**
5	**Fractures of the middle third of facial skeleton** • Classification, clinical presentation imaging and treatment of: ✓ Le Fort fractures ✓ Zygomatic complex fractures	**1**
6	**Fractures of the middle third of facial skeleton** • Classification, clinical presentation imaging and	**1**

	treatment of: ✓ Orbital floor fractures ✓ Nasal bone fractures • Complications of fractures of middle third of facial skeleton	
7	**Dentoalveolar and soft tissue injuries** • Factors affecting dentoalveolar injuries • Classification • Clinical presentation • Radiographic evaluation • Treatment • Splinting techniques • Complications. • Soft tissue injures; classification, treatment and soft tissue injuries of special significance	**1**
8	**Preprosthetic surgery** • Definition. • Preoperative assessment • Clinical examination and radiographic evaluation. • Bony recontouring procedures: alveoloplasty, maxillary tuberosity reduction, exostoses and excessive undercuts, mylohyoid ridge and genial tubercle reduction and torus removal.	**1**
9	**Preprosthetic surgery** • Soft tissue procedures: unsupported hypermobile tissue on the alveolar ridge, inflammatory fibrous hyperplasia (epulis fissuratum), labial frenectomy, lingual frenectomy, ridge extension (vestibuloplasty) • Immediate dentures • Alveolar ridge preservation • Correction of abnormal ridge relationships	**1**
10	**Potentially malignant disorders of the oral mucosa** • Classification and terminology • Risk factors, • Diagnostic methods and diagnostic aids Potentially malignant disorders: leukoplakia, erythroplakia, palatal changes associated with reverse smoking, oral submucous fibrosis, actinic cheilitis and lichen planus.	**1**
11	**Odontogenic diseases of the maxillary sinus** • Overview of the maxillary sinus • Clinical and radiographic examination • Non-odontogenic infections of the maxillary sinus • Odontogenic infections of the maxillary sinus • Oroantral communications and fistulae • Treatment	**1**

12	**Benign cystic lesions of the oral cavity** • Definition • Classification of cysts (according to the WHO classification 2017) • Odontogenic cysts of inflammatory origin • Odontogenic and non-odontogenic developmental cysts • Clinical features • Radiographic features • Surgical management of cystic lesions • Enucleation: indications, advantages and disadvantages • Adjunctive treatment ✓ Peripheral ostectomy and curettage ✓ Cryotherapy ✓ Chemical treatment ✓ Topical 5-fluorouracil ✓ Marsupialization	**1**
13	**Odontogenic tumors** • Definition • Classification of Odontogenic Tumors (according to the WHO classification of odontogenic cysts, tumors and maxillofacial bone tumors 2017) ✓ Epithelial odontogenic tumors ✓ Mixed epithelial and mesenchymal odontogenic tumors ✓ Mesenchymal odontogenic tumors. • Clinical features • Radiographic features • Ameloblastoma ✓ Ameloblastoma ✓ Unicystic ameloblastoma ✓ Peripheral/extraosseous) • Odontoma ✓ Compound type ✓ Complex type • Surgical treatment of odontogenic tumors • Enucleation and/or curettage, adjunctive treatment • Resection	**1**
14	**Non-odontogenic tumors and fibro-osseous lesions of the jaw** • Classification (according to the WHO classification of odontogenic and maxillofacial bone tumors 4th edition 2017) • Giant cell lesions ✓ Central giant cell granuloma ✓ Brown tumor of hyperparathyroidism ✓ Cherubism	**1**

	✓ Aneurysmal bone cyst • Fibro-osseous lesions ✓ Fibrous dysplasia ✓ Ossifying fibroma ✓ Cemento-osseous dysplasia • Osteoma • Osteosarcoma	
15	**Oral cancer** • Natural history of squamous cell carcinoma • Etiology • Site distribution • Clinical presentation • Staging (using the 8th edition of the cancer staging manual) and grading • Radiographic assessment • Surgical treatment, access to the oral cavity	**1**
16	**Oral cancer** • Management of the neck • Postoperative follow up • Radiotherapy, radiotherapy techniques and fractionation • Chemotherapy, agents and scheduling • Palliative treatment and terminal care	**1**
17	**Implant Treatment: Advanced Concepts** • Immediate post-extraction implants • Immediate loading versus delayed loading • Bone grafts and graft substitutes • Sinus lift procedure	**1**
18	**Implant Treatment: Advanced Concepts** • Inferior alveolar nerve lateralization • Narrow and short implants • Image-guided implantology • Computer-Assisted Implant Surgery • Special implants (zygomatic and extra-oral implants)	**1**
19	**Salivary gland diseases** • Overview of major and minor salivary glands • Clinical assessment • Imaging • Classification: ✓ Developmental ✓ Inflammatory ✓ Obstructive and traumatic lesion ✓ Functional ✓ Autoimmune conditions ✓ Neoplastic lesions • Inflammatory conditions (sialadenitis): Viral	**1**

	sialadenitis and Bacterial sialadenitis , • Obstructive conditions • Functional conditions: Xerostomia, Sialorrhea • Conditions of possible traumatic origin: Mucocele, Ranula	
20	**Salivary gland diseases** • Autoimmune conditions: Sjögren syndrome, Immunoglobulin G4-related salivary gland disease • Other salivary gland conditions: Salivary duct cyst (Mucus retention cyst), Necrotizing sialometaplasia, Sarcoidosis, Sialadenosis (sialosis), Radioactive iodine sialadenitis • Neoplasms: benign and malignant (according to 4th edition of the WHO classification 2017). • Principles and complications of salivary gland surgery	**1**
21	**Temporomandibular joint (TMJ) disorders** • TMJ anatomy • Evaluation and Radiographic examination of the TMJ • Disorders of the TMJ: • Structural (internal derangement) • Wilkes classification of internal derangement • Functional (myofascial pain) • Management: non-surgical, minimally invasive (arthocentesis and arthroscopy) and surgery	**1**
22	**Temporomandibular joint (TMJ) disorders** • Hypermobility of TMJ • Hypomobility of TMJ: • Classification of TMJ ankyloses • Treatment	**1**
23	**Orthognathic surgery** • Definition • Treatment objectives • Clinical examination (facial evaluation in frontal and profile views) • Radiographic evaluation (Lateral cephalometric analysis) • Pre-surgical Orthodontic Considerations • Treatment Timing	**1**
24	**Orthognathic surgery** • Mock surgery and fabrication of splints • Surgical treatment phase (mandibular excess, mandibular deficiency, maxillary excess, Maxillary and Midface Deficiency) • Distraction osteogenesis	**1**
25	**Cleft lip and palate**	**1**

	• Epidemiology • Etiology • Classification • Prenatal diagnosis • Clinical manifestations • Management; presurgical orthopedics, primary operative management, treatment planning and timing, surgical procedures of cleft lip	
26	**Cleft lip and palate** • Management; Surgical procedures of cleft palate, complications • Secondary operative management; alveolar bone grafting, goals and timing, procedure, source of bone graft, complications.	**1**
27	**Laser and Cryosurgery in oral and maxillofacial surgery** • Laser • Classification of laser according to power: low-energy and high-energy • The advantages of laser • Hazards and precautions required when using laser • Cryosurgery • Cryosurgery techniques • Uses of cryosurgery • The advantages of using cryosurgery • The disadvantages of using cryosurgery	**1**
28	**Vascular anomalies** • Classification (according to ISSVA 2018) ➢ Hemangioma • Clinical presentation and staging • Investigations • Treatment ✓ In the proliferative phase ✓ In the involutive phase ✓ Residual lesions ➢ Vascular malformations • Classification according to the vessel type and whether high or low flow • Clinical presentation with emphasis on the intraosseous venous malformation • Investigations • Treatment	**1**
29	**Principles of reconstructive surgery of defects of the jaws** • Goals of reconstruction • Biologic basis of bone reconstruction • Types of grafts (autogenous, allogeneic,	**1**

	xenogeneic) • Osteoinduction, Osteoconduction and Osteogenesis • Assessment of patient in need for reconstruction • Goals of mandibular reconstruction • Defect types and localizations • Mandibular reconstruction • Surgical principles of maxillofacial bone grafting procedures	
30	**Principles of reconstructive surgery of defects of the jaws** • Maxillary reconstruction • Goals of maxillary reconstructive surgery • Computer-assisted surgical planning • Flaps for maxillofacial reconstruction • Definition • Classifications • Examples of flaps in maxilla-mandibular reconstruction (palatal flap, tongue flap, buccal fat pad flap, Facial Artery Musculomucosal Flap, Temporalis muscle flap, Submental Flap, Vascularized Iliac Crest Grafts	**1**
Total		**30**

يتالف الجانب العملي للمنهاج من حضور عيادات جراحة الفم بواقع 6 ساعات اسبوعيا و 180 ساعه سنويا. تشمل متطلبات الجانب العملي السنوية لطالب المرحلة الخامسة ما يلي:

قلع الاسنان البسيط.

قلع الاسنان الجراحي.

المساعدة في عمليات جراحة الفم و زراعة الاسنان.

المشاركة في جولات سريرية في ردهات جراحة الفم و الوجه و الفكين في المستشفى.

Clinical requirement	
• **Extraction of teeth (simple extraction)** • **Surgical extraction of teeth** • **Surgical assistant in minor oral surgery and dental implants.** • **Participating in oral and maxillofacial surgery ward rounds**	**6 hours/ week** **180 hours/ year**

Department of Orthodontics

A- Basic information

1-Subject title	**Orthodontics**	**تقويم الاسنان**
2-Number of credits	Theory:2	Clinical: 4
3-Number of contact hours	Theory:1 h/wk	Clinic/ Seminars: 4 hrs./w
4-Subject time	Fifth Year	

No.	Title of the lectures	Hours
1	**Orthodontic diagnosis and treatment planning:** a- Personal data b- Consent form c- Clinical examination i. General body stature	**1**
2	ii. Face examination in 3 dimensions iii. skeletal examination iv. Soft tissue examination	**1**
3	v. Occlusion	**1**
4	vi. Dentition vii. Temporomandibular joint	**1**
5	d- Diagnostic aids i. Cephalometrics	**1**
6	ii. Orthopantomography iii. Other views	**1**
7	iv. Study models	**1**
8	v. Photography vi. 3D imaging	**1**
9	e- Treatment planning	**1**
10	f- Treatment of Medically compromised patients	**1**
11	g- Orthodontic indices	**1**
12	**Space analysis, Bolton's ratio**	**1**
13	**Teeth extraction in orthodontics**	**1**
14	**Serial extraction**	**1**
15	**Vertical and transverse problems:** a. Deep bite	**1**
16	b. Open bite	**1**
17	c. Crossbite and scissors bite	**1**

18	**Treatment of common local factors:** a. supernumerary and hypodontia b. Early loss of deciduous teeth c. Retained teeth, delayed eruption, impaction, ankylosis d. Abnormal eruptive behavior e. Large frenum	**1**
19	f. Bad oral habits	**1**
20	**Treatment of aberrant position of canines**	**1**
21	**Treatment of general factors:** a. Class I treatment (crowding, spacing, biprotrusion)	**1**
22	*Continue* class I treatment (method of space creation)	**1**
23	b. Class II div. 1 treatment	**1**
24	c. Class II div. 2 treatment	**1**
25	d. Class III treatment	**1**
26	**Treatment of adults** a- Periodontal problems	**1**
27	b- Orthognathic surgery	**1**
28	**Cleft lip and palate**	**1**
29	*Continue* **cleft lip and palate**	**1**
30	**Digital orthodontics** (digital approach in orthodontic diagnosis and treatment)	**1**
Total		**30**

Clinical requirements

Item	Minimum Requirements	Hours
	Treatment of at least one patient: 1- Diagnosis :(Mandatory) a- Case sheet filling & presentation b- Upper and lower impression. c-Study models preparation d- Extra & intra oral photographs e- Cephalometric tracing 2-Treatment plan:(Mandatory) 3- Insertion(Optional) 4- Adjustment or Activation(Optional)	
Total	The student should receive at least one orthodontic case to enter the final exam	120

Department of pedodontics and preventive dentistry

A- Basic information

1-Subject title	**Pediatric dentistry**	**طب اسنان الاطفال**
2-Number of credits	Theory:2	Clinical: 3
3-Number of contact hours	Theory:1hour /wk.	.Clinic:3/ wk
4-Subject time	Fifth Year	

No.	Title of the lectures		Hours
1	**Diagnosis and treatment planning**	Advantages of treatment planning, The diagnostic methods, Components of oral examination and diagnosis	**1**
2	**Preliminary medical and dental history**	Clinical examination , Radio graphic examination	**1**
3	**Art and science of behavior management**	Child development, Major area of development, Variables influencing children's dental behaviors ,classification of children's behavior	**1**
4	**Non pharmacologic management of patient behavior**	, Purpose, Classifying children, s cooperative behavior	**1**
5	**Pharmacologic management of patient behavior**	Degree of sedation, Indications for pharmacological behavior management technique, Pre-treatment documentation and assessment,	**1**
6	**Sedation in pediatric dentistry**	Conscious sedation, Routes of drug administration, Enteral sedation ,Rectal route, Intra muscular route, Intravenous route, Inhalation, Drugs and agents used for sedation, General anesthesia	**1**
7	**management of traumatic injuries to the teeth and supporting tissues of children,**		**1**
8	**classification of injuries to the anterior teeth of children classification methods of clinical examination**		**1**
9	**Traumatic injuries of the primary teeth and its effect on permanent teeth**		**1**
10	**Treatment of injury of permanent teeth, emergency treatment, temporary restoration**		**1**

	of fractured teeth		
11	**Advances in Pediatric Dentistry: Advances in diagnostic aids, Advances in cavity preparation methods**		**1**
12	**Advances in endodontics, Advances in local anesthesia**		**1**
13	**Advances in restorative materials, Advances in surgical procedures, miscellaneous**		**1**
14	**Acquired disturbances of oral structures**		**1**
15	**Developmental disturbances of oral structures**		**1**
16	**Gingivitis and periodontal disease in children:**	Introduction simple gingivitis, eruption gingivitis, acute gingival disease; herpes simplex viral infection.	**1**
17	**Acute candidacies (thrush), acute bacterial infection, chronic non specific gingivitis, gingival diseases modified by systemic factors.**		**1**
18	**Gingival lesions of genetic origin, ascorbic acid deficiency gingivitis.**		**1**
19	**Periodontal diseases in children, early onset periodontitis, prepubertal periodontitis, localized juvenile periodontitis.**		**1**
20	**Papillon – Lefevere syndrome, gingival recession, extrinsic stains and deposits on teeth**		**1**
21	**Management of space problems, planning for space maintenance, loss of primary incisors**		**1**
22	**Space Maintenance for the First and Second Primary Molar and the Primary Canine Area, premature loss of second primary molar**		**1**
23	**Loss of the Second Primary Molar Before Eruption of the First Permanent Molar, Areas of Multiple Primary Molar Loss**		**1**
24	**Development of dental arch and**	deciduous phase, mixed dentition	**1**

	occlusion;	phase.	
25	**Arch length analysis;**	Nance analysis, Moyers mixed dentition analysis, Tanaka and Johnston analysis, Bolton analysis.	**1**
26	**Dental problems of the disabled child**	first dental visit, Radiographic examination, Preventive dentistry, Management of a child with special care needs during dental treatment , immobilization,	**1**
27	**Mental disability, Down syndrome, Intellectual disability, Learning disability**		**1**
28	**Fragile X syndrome, cerebral palsy, autism,**		**1**
29	**Respiratory diseases, hearing loss, visual impairment, epilepsy**		**1**
30	**Heart disease, hemophilia, ,sickle cell anemia, viral hepatitis, AIDS, children with systemic diseases**		**1**
			30

Clinical requirement

No	Title	hours
1	Diagnosis and treatment planning	**2**
2	Preliminary medical and dental history,Clinical examination , Radio graphic examination	**2**
3	Demonstration how to obtain a complete case sheet	**2**
4	Monitoring the developing dentition and recognition of any sign of malocclusion	**2**
5	Types of Caries removal techniques	**2**
6	Restoration of primary and young permanent teeth with variety types of restorative materials	**2**
7	Management of traumatic injuries of the anterior teeth	**2**
8	Minor oral surgery	**2**
9	Minimal intervention dentistry	**2**
10	Pulp therapy for permanent dentition	**2**
11	Pulp therapy for primary dentition	**2**
12	Materials used for pulp therapy	**2**
13	Chrome steel crowns	**2**
14	Management of simple cases of dental anomalies and other developmental defects	**2**
15	Maintenance of pulp vitality by use of regenerative materials	**2**

16	Root canal treatment for anterior non vital teeth	**2**
17	Extraction for non restorable primary and permanent teeth or over-retained primary dentition and permanent teeth for space creation for orthodontic treatment	**2**
18	Management of molar incisor hypomineralization MIH	**2**
19	Behavior management for young patients	**2**
20	Infection control re-assurance and guidance of students	**2**
21	Tooth colored restoration technique	**2**
22	Radiographic prescription and interpretation of results	**2**
23	Space maintainers	**2**
24	Fluoride application as a preventive measure	**2**
25	Amelogenesis imperfecta	**2**
26	Supernumerary teeth and their impact on teeth eruption	**2**
27	Management of medically compromised children	**2**
28	Peg teeth management	**2**
29	ART technique	**2**
30	Prosthesis usage in pediatric dentistry	**2**
Total		**60**

Department of Pedodontics and Preventive dentistry

A- Basic information

1-Subject title	**Preventive dentistry**	**طب الاسنان الوقائي**
2-Number of credits	Theory:2	Clinical: 3
3-Number of contact hours	Theory:1hour /wk.	.Clinic:3 hours /wk
4-Subject time	Fifth year	

No.	Title of the lectures	Hours
1	Prevention of oral diseases (introduction) • What is preventive dentistry? • prevention is better than a cure • Is preventive dentistry still needed? • Levels of prevention • Caries prevention: how far it had come in one century!	**1**
2	Dental caries development • Etiology of dental caries • Inorganic and organic components of tooth • Terminology of dental caries • Dynamics Process of De-/Remineralization	**1**

	• The development of a carious lesion • Root caries • Clinical appearance of root caries • Classification of root caries	
3	Diagnosis of dental caries • Detection systems of caries • visual and tactile examinations • Radiographic techniques • Electrical current measurement (electronic resistant method) • Fiber Optic Transillumination (FOTI and DiFOTI) (Enhanced visual techniques) • Fluorescent techniques • Other techniques like Dyes, Ultrasound techniques, Photo-thermal Radiometry (PTR).	**1**
4	Fluoride in Dentistry • Introduction • Fluoride in Environment • Fluoride Metabolism (Absorption, Distribution and Excretion of Fluoride in the Body).	**1**
5	Fluorides in prevention and controlling dental caries • Mechanism of action • Fluoride's effect on tooth mineral • Fluoride effect on plaque and bacterial metabolism	**1**
6	Topical fluoride therapy Professionally applied fluoride • Introduction • Advantages and disadvantages of topical fluoride application • Fluoride Compounds • Classification of Professionally applied fluoride.	**1**
7	Topical fluoride therapy :Self- applied fluoride • Requisites for self-applied fluoride agents • Fluoride dentifrices and Mechanism of Action • Fluoride mouth rinses, Indications and Recommendations.	**1**
8	Safety and toxicity of fluoride • Fluoride Toxicity • Factors influencing acute toxicity • Management of acute toxicity • Recommendations for parents • Chronic Toxicity(Dental fluorosis and bone fluorosis)	**1**

9	Dental sealants • definition • History • indication and contraindication • sealant in adult • Ideal sealants materials • Requisites for Sealant Retention • Sealant Placement Guidelines • Fluoride-Releasing Sealants • Glass ionomer sealants • Colored Versus Clear Sealant***s*** • Sealants for proximal enamel surfaces • Sealing over caries lesions	**1**
10	New approach in restorative dentistry • Minimally Invasive Treatment Technique • Minimally Invasive Cavity Preparation • Non-machinery Preparation • LASER • Chemo mechanical Caries Removal • Preventive Resin Restorations • Remineralization Treatment	**1**
11	Microbiology of dental caries • Microbial ecology in the oral cavity • Acquisition of the resident oral microflora • Site distribution of oral bacteria • Ecological factors affecting the growth and metabolism of oral bacteria • Dental biofilms: development, structure, composition and properties • Development of dental biofilms • Pellicle formation • Microbial colonization • Initial microbial colonization • Microbial succession • Microbial composition of the climax community (mature biofilm) • Virulence of microorganisms • Major dental caries-associated bacteria • Other caries-associated bacteria	**1**
12	Saliva and host defense mechanism • Function of saliva	**1**

	• Composition of saliva • Salivary flow rate • Influence of saliva on dental caries • Oral immune system • Non-specific immune factors • Specific immune factors • Immunization of dental caries	
13	Caries risk assessment • Goals of Caries Risk Assesment • Caries Disease Indicators • Caries Risk Factors • Caries Protective Factors • Factors in Low, Moderate and High Caries • Cariogram	**1**
14	infection control • Transmission of infection • Standard precautions • Components of infection control • Treatment room features • Single use disposable instruments • Biomedical waste management	**1**
15	Oral hygiene measures (Mechanical) • Acquired pellicle • Dental plaque • Dental calculus • Mechanical plaque control aids • Toothbrushes • Tooth brushing methods • Powered toothbrush • Objectives of toothbrushing • Interdental Cleaning aids • Dental floss • Wooden tips • Interdental brushes • Miswak • Oral irrigation devices • Gingival massage	**1**
16	Oral hygiene measures (Chemical) • Ideal properties of chemical plaque control agents • Modes of action • Chlorhexidine • Triclosan • Essential oil mouthwashes or Listerine • Enzymes	**1**

	• Sanguinarine extracts • Metal ions • Antibiotics • Dentifrices • Composition of dentifrices	
17	Diet and dental caries • Role of carbohydrates in caries development • Evidences • Factors affecting food cariogenicity • Physical form of food and clearance time • Types of fermentable carbohydrate • The basic Stephan curve • Frequency of intake sugar and dental caries	**1**
18	Non- sugar sweeteners • The sweetness of sugars • Non- sugar sweeteners • Bulk sweeteners • Intense sweeteners • Protective factors in food • Fruit and dental caries • Testing food cariogenicity	**1**
19	Dietary counseling in dental practice • Nutritional status assessment ▪ Body Mass Index • Assessment of dietary intake • Objectives of dietary assessment • 24-hour recall • Dietary record • Food frequency questionnaires • Evaluation of cariogenic potentiall • Evaluation of nutritive value • Dietary counseling • Approach to counseling • Motivation	**1**
20	Nutrition and dental health • Nutrition dental caries • Systemic effect ▪ Morphology of the teeth ▪ The quality of the hard tissues • Quality of saliva • Evidences of the effect of some nutrients on dental caries • Nutrition and eruption of teeth	**1**

21	Prevention of periodontal disease and oral cancer by nutrition • Nutrition and periodontal health • The mechanisms by which nutrition may affect periodontal disease • Effect of food texture on periodontal health • Nutrition and oral mucosal disease • Nutrition and oral cancer • Primary prevention • Secondary prevention	**1**
22	Probiotics and dental health • Caries-related mechanisms of probiotic activity • Probiotics and counts of *mutans streptococci* • Probiotics and caries occurrence • Probiotics and periodontal health	**1**
23	Diagnosis and prevention of dental erosion • Prevalence • Early detection • Etiology • Protection against erosion • Prevention of erosion	**1**
24	Prevention of malocclusion • Normal development • Etiology of malocclusion • Interceptive measures • Tooth anomalies • Risk assessment	**1**
25	preventive measure for population with developmental disabilities • Disability definition • Classification of disabling conditions • The issues regarding the delivery of care to people with disabilities • Dental management and preventive measures among disabled individuals • The risk factors for dental caries among disabled individuals • People with physical (neurological) impairment • Visual Deficits • Hearing problems • Mentally retardation • Specialized Equipment for disabled patient management • Dental care for Institutionalized disabled individual	**1**
26	preventive treatment strategies for medically compromised	**1**

	populations • Introduction • Eating disorders: Characteristics and preventive treatment strategies • Depression: Characteristics and preventive treatment strategies • Diabetes mellitus: Characteristics and preventive treatment strategies • Epilepsy: Characteristics and preventive treatment strategies • Blood disorders: Characteristics and preventive treatment strategies	
27	Ozone in the prevention of dental diseases • Definition and physical properties • Mode of action • Safety • Application of ozone in dentistry • Effects of ozone on oral microorganisms and oral cells • Ozone for disinfecting dentures • Ozone instruments designed for dentistry • Ozone in the management of incipient caries • Ozone in the management of open caries • Treating root caries with ozone	**1**
28	Geriatric dentistry • population characteristics • Physiologic Changes • Functional status • common oral manifestation • preventive measures • long term care	**1**
29	Implant care • Dental implant parts • Dental implant and biofilm • Implant Maintenance • Professional care in dental clinic • Home care	**1**
30	Protection of the dentition • Impact of dental trauma • Types of traumatic dental injuries to teeth • Sports dentistry • Protective mouth-guards • Evidence of effectiveness • mouth-guards and oral & systemic infections	

Total		30

Clinical requirement

No	Title	hours
1	Diagnosis and treatment planning	2
2	Diagnosis and treatment planning	2
3	Preliminary medical and dental history,Clinical examination , Radio graphic examination	2
4	Preliminary medical and dental history,Clinical examination , Radio graphic examination	2
5	Demonstration and use of Primary prevention program by removal of dental plaque and calculus and application of fluoride and fissure sealants	2
6	Demonstration and use of Primary prevention program by removal of dental plaque and calculus and application of fluoride and fissure sealants	2
7	Monitoring of developing dentition and recognition and prevention (through use of space maintainers) or interception of any occurrence of malocclusion	2
8	Monitoring of developing dentition and recognition and prevention (through use of space maintainers) or interception of any occurrence of malocclusion	2
9	Caries removal and restoration of primary and young developing permanent dentition with variety of restorative materials	2
10	Caries removal and restoration of primary and young developing permanent dentition with variety of restorative materials	2
11	Trauma management in anterior teeth	2
12	Trauma management in anterior teeth	2
13	Minimal intervention dentistry by removal of dental decay and choice of suitable restorative material	2
14	Minimal intervention dentistry by removal of dental decay and choice of suitable restorative material	2
15	Pulp therapy for primary dentition	2
16	Pulp therapy for primary dentition	2
17	Management of simple cases of dental anomalies and other developmental defects	2
18	Management of simple cases of dental anomalies and other developmental defects	2
19	Maintenance of pulp vitality by use of regenerative materials and Root canal treatment for anterior non vital teeth	2
20	Maintenance of pulp vitality by use of regenerative materials and	2

	Root canal treatment for anterior non vital teeth	
21	Extraction for non restorable primary and permanent teeth or over-retained primary dentition and permanent teeth for space creation for orthodontic treatment	**2**
22	Extraction for non restorable primary and permanent teeth or over-retained primary dentition and permanent teeth for space creation for orthodontic treatment	**2**
23	Management of molar incisor hypomineralization MIH	**2**
24	Behavior management for young patients	**2**
25	Behavior management for young patients	**2**
26	Infection control re-assurance and guidance of students	**2**
27	Infection control re-assurance and guidance of students	**2**
28	Tooth colored restoration technique	**2**
29	Tooth colored restoration technique	**2**
30	Radiographic prescription and interpretation of results	**2**
Total		**60**

Department of periodontics

A- Basic information

1-Subject title	**Periodontics**	**امراض و جراحة ما حول الاسنان**
2-Number of credits	Theory:2	Clinical:3
3-Number of contact hours	Theory:1h/wk.	Clinic:3 h/wk.
4-Subject time	Fifth year	

No	Lectures	Hours
1	Periodontal examination and diagnosis - Overall appraisal of the patient - Medical history - Dental history: o Chief complaint - Photographic documentation - Clinical Examination: o Extraoral examination o Intraoral examination o Examination of the periodontium o Visual examination of biofilm and calculus o Visual examination of the gingiva - Probing force and angulation - Periodontal examination: o Suppuration o Probing depth o Probing around implants o Bleeding on probing	**1**

	○ Attachment loss and level ○ Attached gingiva ○ Wasting disease of the teeth ○ Tooth mobility ○ Furcation involvement ○ Trauma from occlusion ○ Pathologic migration of the teeth - Radiographic examination - Laboratory aids to clinical diagnosis	
2	Bone loss and patterns of bone destruction - Bone destruction caused by the extension of gingival inflammation: ○ Histopathology ○ Rate of bone loss ○ Mechanisms of bone destruction - Bone destruction caused by trauma from occlusion - Bone destruction caused by systemic disorders - Factors determining bone morphology in periodontal disease: ○ Normal variation in alveolar bone ○ Exostoses ○ Trauma from occlusion ○ Buttressing bone formation ○ Food impaction - Bone destruction patterns in periodontal disease: ○ Horizontal bone loss ○ Vertical or angular defects ○ Osseous craters ○ Bulbous bone contours ○ Reversed architecture ○ Ledges ○ Furcation involvement	**1**
3	Radiographic aids in the diagnosis of periodontal disease - Normal interdental bone - Radiographic techniques - Bone Loss: ○ Amount ○ Distribution - Radiographic appearance of periodontal disease ○ Periodontitis ○ Interdental craters ○ Furcation involvement ○ Periodontal abscess ○ Clinical probing ○ Trauma from occlusion - Digital intraoral radiography	**1**
4	Advanced diagnosis [§] - Objectives of diagnosis - Advances in periodontal probing - Generations of periodontal probes:	**1**

	○ First-generation (conventional) probes ○ Second-generation (constant-pressure) probes i- Pressure-sensitive probe ii- Electronic pressure-sensitive (Yeaple) probe ○ Third-generation (automated) probes: i- Foster-Miller probe ii- Florida Probe® iii- Toronto Automated probe iv- InterProbe™ ○ Fourth-generation probes: i- Three-dimensional (3D) probes ○ Fifth-generation probes: i- UltraSonographic (US) probe - Advances in microbiologic/biochemical analyses ○ Conventional culture techniques ○ Molecular biology techniques: i- DNA-analysis method ii- Checkboard DNA-DNA hybridization iii- Polymerase Chain Reaction (PCR) ○ Immunologic-based tests for putative pathogens: i- Immunofluorescent microscopy ii- ELISA iii- Flow cytometry iv- Latex agglutination test v- Microbiologic enzyme assay - Advances in characterizing host response ○ Assessment of the susceptible host using makers in peripheral blood ○ Identification of host constituent in GCF ○ Salivary biomarkers ○ Subgingival temperature - Advanced Imaging Modalities ○ Conventional radiograph ○ Digital radiograph ○ Subtraction radiography ○ Computer-assisted-densitometric-image-analysis (CADIA) ○ Cone Beam Computed Tomography (CBCT) § For each section, mention the limitations for the "conventional" technique to justify using more advanced methods. For the rest of diagnostic modalities, mentioning principle of action/mechanism, advantages, and disadvantage is essential.	
5	Periodontal response to external forces - Occlusion - Assessment of occlusion - Adaptive capacity of the periodontium to occlusal forces - Trauma from occlusion: ○ Classification of trauma from occlusion: i- Acute and chronic	**1**

	ii- Primary and secondary - Stages of tissue response to trauma from occlusion: o Stage I: Injury o Stage II: Repair o Stage III: Adaptive remodeling of the periodontium - Relationship between plaque-induced periodontal diseases and trauma from occlusion - Clinical and radiographic signs of trauma from occlusion - Pathologic tooth migration: o Pathogenesis: i- Weakened periodontal support ii- Changes in the forces exerted on the teeth - Treatment	
6	Immunology - Innate immunity o Components of innate immunity: i- Saliva: ● Salivary peroxidase system ● Lactoferrin ● Lysozyme ii- Gingival epithelial barrier iii- Gingival crevicular fluid o Pathogen recognition and activation of cellular innate responses: i- Toll like receptors ii- Pro inflammatory cytokines o Cells of innate immunity: i- Neutrophils ii- Macrophages	**1**
7	Immunology - Adaptive immunity o Characteristics o Cellular elements o Cellular immunity to dental plaque o The humoral response to plaque o Osteo-immunology in periodontal diseases - Therapeutic Strategies	**1**
8	Tooth mobility - Introduction - Types: o Physiologic mobility o Pathologic mobility - Directions of movement: o Horizontal o Vertical - Factors influencing tooth mobility - Classification of tooth mobility - Initial & secondary tooth mobility - Sign & symptoms	**1**

	- Treatment: o Situation I: Increased mobility of a tooth with increased width of PDL but normal height of the alveolar bone o Situation II: Increased mobility of a tooth with increased width of PDL & reduced height of alveolar bone o Situation III: Increased mobility of a tooth with reduced height of alveolar bone & normal width of PDL o Situation IV: progressive mobility of a tooth (teeth) as a result of gradually increasing width of PDL in teeth with reduced height of alveolar bone o Situation V: Increased bridge mobility despite splinting	
9	Epidemiology of periodontal diseases - Introduction: The need for epidemiology - Measuring the occurrence of conditions or diseases: o Prevalence o Risk o The odds o Incidence - Typical measurement of periodontal disease - True and surrogate measures of the periodontal condition - Epidemiologic study designs: o Randomized controlled trials o Cohort studies o Case–control studies - Suspected modifiable causative factors for periodontal disease: o Tobacco smoking o Nutrition o Dental plaque	**1**
10	Determination of prognosis - Definitions - Types of prognosis - Overall versus individual tooth prognosis - Detrimental factors: o Overall clinical factors: i. Patient age ii. Disease severity iii. Biofilm control iv. Patient compliance o Systemic and environmental factors: i. Smoking ii. Systemic disease or condition iii. Genetic factors iv. Stress o Local factors i. Biofilm and calculus ii. Subgingival restorations	**1**

	o Anatomic factors i- Short, tapered roots ii- Cervical enamel projections iii- Enamel pearls iv- Bifurcation ridges v- Root concavities vi- Developmental grooves vii- Root proximity viii- Furcation invasion ix- Tooth mobility x- Caries xi- Tooth vitality xii- Root resorption o Prosthetic and Restorative Factors - Prognosis of specific periodontal diseases: o Prognosis for patients with gingival disease: *i*- Biofilm-induced gingival diseases *ii*- Prognosis for patients with periodontitis § - Determination and reassessment of prognosis § Diagnostic and prognostic criteria according to the new classification of periodontal disease and conditions (2017) must be considered in this section	
11	Interrelationships of periodontal disease and therapy with other dental disciplines Restorative interrelationships - Biologic considerations: o Margin placement and biologic width o Biologic width evaluation o Margin placement guidelines o Marginal fit o Crown contour - Aesthetic tissue management: o Managing interproximal embrasures o Pontic design o Correcting open gingival embrasures Periodontal – orthodontic interaction - Orthodontic tooth movement in adults with periodontal tissue breakdown - Orthodontic treatment considerations - Periodontal surgery associated with ortho therapy Prosthodontic and Periodontic interaction	**1**
12	Periodontal surgery. General principles - Rationale for periodontal surgery - Indications - Contraindication - Surgical instruments o Excisional and incisional instruments i- Periodontal knives (gingivectomy knives) ii- Interdental knives iii- Surgical blades	**1**

	○ Surgical curettes and sickles ○ Periosteal elevators ○ Surgical chisels ○ Tissue forceps ○ Scissors and nippers ○ Needleholders ○ Additional instruments - Fundamentals of periodontal surgery: ○ Incisions: i- Horizontal incisions ii- Vertical incisions - Papilla management - Flap elevation	
13	Sonic and ultrasonic instrumentation and irrigation - Power-driven instruments: overview - Mechanism of action of power scalers - Type of power instruments - Mechanized instruments vs manual instruments - Clinical outcomes of power-driven instruments: ○ Special considerations ○ Root surface roughness ○ Aerosol production ○ Cardiac pacemakers - Principles of instrumentation - Power-driven devices and COVID-19-associated limitations - Irrigators: ○ Mechanism of action of irrigation ○ Clinical outcomes of irrigation ○ Individuals with special considerations	**1**
14	Gingivectomy and local excision - Gingivectomy: ○ Indications and contraindication ○ Advantages and disadvantages ○ Surgical procedure - Gingivoplasty - Gingival curettage - Periodontal dressings (Periodontal Packs) ○ Zinc oxide–eugenol dressing ○ Non-eugenol dressing - Postoperative instructions - Management of postoperative pain	**1**
15	Flap surgery - Objectives, indication, and contraindications - Flap techniques: § ○ Modified Widman flap ○ Undisplaced flap	**1**

	o Apically displaced flap o Distal wedge flap o Papilla preservation flap - Full and partial thickness flap - Osteoplasty - Suturing techniques § For each surgical technique demonstrate advantage, disadvantage, and surgical technique	
16	Mucogingival and aesthetic surgery - Objectives - Techniques to increase attached gingiva: o Gingival augmentation apical to recession: i- Free gingival graft ii- Free connective tissue graft iii- Apically displaced flap § o Gingival augmentation coronal to recession i- Free gingival graft ii- Subepithelial connective tissue graft iii- Pouch and tunnel technique - Techniques to deepen the vestibule - Techniques to remove the frenum: o Frenectomy and frenotomy: i- Procedure - Techniques to improve aesthetics: o Root coverage o Papilla reconstruction - Therapy to correct excessive gingival display: o Surgical techniques o Osseous surgery § This technique has been described sufficiently in previous lecture. Brief reminder of the concept and technique is only required	**1**
17	Furcation: involvement and treatment - Introduction - Anatomy of furcation area: o Root complex o Root trunk o Root cone o Furcation entrance - Local anatomic factors - Classification of furcation involvement - Diagnosis: o Clinical o Radiographic analysis - Differential diagnosis: o Pulpal pathologies o Trauma from occlusion - Treatment: o Objectives	**1**

	o Scaling and root planing o Furcation plasty o Tunnel preparation o Root resection/separation, tooth division& hemisection o Tooth extraction o Treatment guidelines according to degree of involvement o Regeneration of Furcation Defects: i- Guided tissue regeneration &Bone grafting o Failures of furcation therapy - Prognosis	
18	Laser therapy [§] - Laser physics and biologic interactions - Laser Types: o Diode Laser o Neodymium:Yttrium-Aluminum-Garnet Laser o Erbium:Yttrium-Aluminum-Garnet Laser o Er,Cr:YSGG Laser o CO_2 Laser - Laser applications in periodontics: o Aesthetic and pre-prosthetic surgeries o Nonsurgical periodontal therapy: i- Lasers in the management of periodontitis ii- Lasers in the management of peri-implantitis - Advantages and disadvantages - Complications and risks of laser therapy [§] Case scenario, questions about decision whether using laser or not should be formulated	**1**
19	Locally delivered, controlled-release antimicrobials - Objectives - Types: o Chlorhexidine-based products: i- Chlorhexidine chip ii- PerioCol-CG iii- Chlo-Site o Doxycycline-based products: i- Ligosan slow release ii- Doxycycline gel o Periodontal Plus AB o Minocycline Microspheres - Rationale for local delivery and controlled release - Clinical significance - Clinical indications: o Adjunctive therapy o Surgical therapy o Peri-implantitis o Tobacco smoking - Adverse effects	**1**

20	Management of medically compromised patients - Cardiovascular diseases: o Hypertension o Angina pectoris o Myocardial infarction o Previous cerebrovascular accident o Congestive heart failure o Cardiac pacemakers o Infective endocarditis - Renal disease - Chemotherapy	**1**
21	Management of medically compromised patients - Endocrine/metabolic disorders: o Diabetes mellitus o Thyroid disorders o Adrenal Insufficiency - Pregnancy - Hemorrhagic disorders - Blood dyscrasias - Liver diseases - Neurologic Disorders: o Epilepsy - Infectious diseases: o COVID-19 o Hepatitis o AIDS o Tuberculosis	**1**
22	Gingival crevicular fluid (GCF) - Introduction - Permeability of junctional and sulcular epithelia - Function - Amount: o Methods for estimating GCF amount - Composition: o Cellular elements o Electrolytes o Organic compounds - Methods of collection: o Absorbing paper strip: i- Intra-crevicular method ii- Extra-crevicular method o Crevicular washing o Micropipettes or capillary tubes - Cellular and humoral activity in GCF - Clinical significance: o Circadian periodicity o Sex hormones o Mechanical stimulation o Smoking	**1**

	o Periodontal therapy - Drugs in GCF - GCF as a diagnostic/prognostic tool for periodontal disease	
23	Dentin hypersensitivity 605.e1 - Introduction - Epidemiology - Etiology - Theories of dentin hypersensitivity: o Direct innervation o Odontoblast receptor o Fluid movement/hydrodynamic - Diagnosis - Measurement methods - Prevention and management o Classification of desensitizing agents: i- Mode of administration ii- Mechanism of action	**1**
24	Tissue regeneration. General principles Periodontal Wound Healing - Wound healing: Outcomes and definitions o Healing patterns in the periodontal tissues o Outcomes of periodontal wound healing: i- Repair ii- Reattachment iii- New attachment iv- Regeneration v- Resorption vi- Ankylosis - Phases of wound healing: o Inflammation phase o Granulation phase o Matrix formation and remodeling (maturation) phase - Factors that affect healing: o Local factors o Systemic factors - Periodontal wound healing: o Healing after nonsurgical treatment o Healing after periodontal surgery: i- Gingivectomy ii- Flap operation iii- Grafting procedures o Healing after regenerative therapy o Healing after implant placement: i- bone tissue interface ii- Mucosal interface	**1**
25	Regenerative periodontal therapy - Regenerative capacity of bone cells - Regenerative capacity of gingival connective tissue cells - Regenerative capacity of periodontal ligament cells	**1**

	- Role of epithelium in periodontal wound healing - The possible outcomes of periodontal therapy - Regenerative concepts: o Grafting procedures o Root surface biomodification o Guided tissue regeneration - Assessment of periodontal regeneration: o Clinical assessment i- Pocket probing. ii- Attachment level iii- Gingival indices iv- Alveolar bone level o Radiographic methods o Re-entry operations o Histologic methods	
26	Reconstructive surgical techniques: o Non- bone graft associated new attachment: i- Principles ii- Procedure Bone Graft associated new attachment or combination of both approaches i- Types of bone graft: ● Autogenous graft ● Allograft ● Xenograft ● Alloplastic (synthetic) materials - Guided tissue regeneration (principle, advantages, disadvantages, and indications)	**1**
27	Advanced regenerative approaches - Enamel matrix Derivatives - Acellular dermal matrix allograft - Clinical applications of growth factors - Cell therapy for periodontal regeneration - Gene therapeutics for periodontal tissue repair - Factors influencing the success or failure of all regeneration techniques	**1**
28	Oral implantology Peri-implant anatomy and Peri-implant diseases classification - Introduction - Epithelial structure around natural tooth - Epithelial structure around dental implant - Structure of the interface between the tooth and gingivae - Structure of the interface between implant and oral epithelium - Structure of the interface between the implant and connective tissue - Keratinized tissue (attached gingiva) around implant - Clinical Comparison of Teeth and Implants - Peri-implant health - Peri-implant mucositis:	**1**

	o Diagnosis o Treatment - Peri-implantitis o Diagnosis o Treatment	
29	Oral implantology Implant-related complications and failure - Definitions of implant survival and success - Types and prevalence of implant complications - Surgical complications: o Hemorrhage and hematoma o Neurosensory disturbances o Implant malposition - Biologic Complications: o Inflammation and proliferation o Dehiscence and recession o Peri-implantitis and bone loss o Implant loss or failure - Prosthetic or mechanical complications: o Screw loosening and fracture o Implant fracture o Fracture of restorative materials - Aesthetic and phonetic complications: o Aesthetic complications o Phonetic problems	**1**
30	Oral implantology Supportive implant treatment - Rationale for supportive implant treatment - Examination of implants o Peri-implant probing o Microbial testing o Stability measures o Implant percussion o Radiographic examination - Assessment of peri-implant health o Evaluation of biofilm control o Evaluation of peri-implant health and disease o Evaluation of implant osseointegration o Evaluation of implant restorations - Implant maintenance o Methods for patient oral hygiene o Methods for professional recall maintenance - Treatment of peri-implant diseases o Peri-implant mucositis o Peri-implantitis - Referral of patients to the periodontist	**1**
Total		**30**

B- Clinical requirement

Credit hours required	Details
3 h/week (90 h/year)	**Clinical:** - Recording medical and dental history - Patient's education and motivation - Oral hygiene instructions (OHI) - Recording periodontal indices: ● Bleeding on probing (BOP) ● Plaque index (% of plaque) ● Probing pocket depth (PPD) ● Clinical attachment loss (CAL) - For periodontitis cases, determination of bone loss level by radiograph or clinically - Diagnosis according to classification of periodontal disease and conditions (2017) - Non-surgical periodontal therapy (manual/ultrasonic scaling, root planing) and removal of all plaque retentive factors - Referral of cases that potentially requiring surgical therapy - Maintenance and follow-up after 3 months **Requirements:** - Recording periodontal indices and diagnosis (min= 15) - Non-surgical periodontal treatment: ● Scaling (min= 8) ● Root planing (min= 3 teeth) ● Periodontal surgery assistant (one case optional)

Department Of Restorative and Aesthetic Dentistry

A- Basic information

1-Subject title	**Clinical Endodontics & Clinical Fixed Prosthodontics**	**حشوات الجذور و التعويضات الاصطناعية الثابتة السريرية**
2-Number of credits	Theory:2	Clinical:6
3-Number of contact hours	Theory:1h/2wk Endodontics 1h/2wk Fixed Prosthodontic.	Laboratory/ Clinic:6h/wk.
4-Subject time	Fifth Year	

No.	Title of the lectures/ Endodontics	Hours
1	Endodontic diagnosis	**1**
2	Pain control in Endodontics	**1**
3	Endodontic radiography	**1**
4	Working length Determination	**1**

5	Microbiology	**1**
6	Microbiology	**1**
7	Intracanal instruments	**1**
8	Intracanal instruments	**1**
9	Obturation of the root canal system	**1**
10	Obturation of the root canal system	**1**
11	Endodontic Emergency Treatment	**1**
12	Restoration of Endodontically Treated Teeth	**1**
13	Endodontic-Periodontal Relations	**1**
14	Tooth discoloration and bleaching.	**1**
15	Tooth discoloration and bleaching.	**1**
Total		**15**

Number	Title of the lectures Fixed Prosthodontics	Hours
1	Terminology, definition of fixed partial denture , Effect of Tooth Loss, Comparism with R.P.D	**1**
2	Types of Fixed Bridge including Basic Bridge Design	**1**
3	Components of Fixed Bridge; • Retainers.----------	**1**
4	Components of Fixed Bridge; • Pontics..... • Connectors.----------	**1**
5	• Clinical Consideration for Bridge Construction.- _Abutment Tooth(evaluation and selection) _Crown/Root Ratio. _Splinting of teeth. _Patient Occlusal Status. _General Factors.	**1**
6	• Clinical Situations affecting Bridge Design; • (Post. Tilted Abutments, Span Length, Pier Abut., Arch	**1**

	Curvature)	
7	♦ Resin bonded bridge	
8	♦ Diagnosis And Treatment Plan. a. Intra-oral Examination. b. X-Rays Examination. c. Diagnostic Cast Examination.	**1**
9	♦ Gingival retraction and impression(techniques)and impression disinfection	**1**
10	♦ provisional Restoration , Oclussion and Aesthetics (Principles of occlusion occlusal plane, Anterior guidance) Bite Registeration, and Articulation	**1**
11	♦ provisional Restoration , Oclussion and Aesthetics (Principles of occlusion occlusal plane, Anterior guidance) Bite Registeration, and Articulation	**1**
12	♦ Try-in and Shade Selection (Colour dimensions Hue,Chroma,and Value).	**1**
13	♦ Final Cementation of F.P.Ds.(Techniques)	**1**
14	♦ Failure in Fixed Prosthodontics.	**1**
15	♦ Porcelain in Fixed Prosthodontics (Current Ceramic).	**1**
Total		**15**

Clinical Requirements

Minimum Requirement	Hours
The students are required to complete the following restorations:- a. Amalgam Restorations Class I, Class II, Compound and complex restorations. b. Composite (tooth colored) Restorations Class I, Class II, Class III, Class IV ,and Class V. c. Fixed prosthesis including crown and bridge work. d. Endodontic treatment for anterior teeth and premolars. e. Seminars	6h/wk
Total	**180 h/year**

Research project

Research project بحث التخرج	1hr./ week
Credits	Theory : 2

ت	اسم المادة)research method(	عدد المحاضرات
1	statistics	3
2	Medical research ethics	2
3	Biosafety	2
4	Designing research	3
5	Citation in academic writing	3
6	Planning a research protocol	2
	المجموع	15

1st semester (10 Marks) . Mid year exam. :20 Marks. 2nd semester supervisor assessment 10 Marks. Final research discussion: 60 Marks

Summary: Fifth Year

Total Theories - Hours/ Week: 9
Total Theories - Hours/ year: 9x30= 270

Total Practical Hours/ Week: 35
Total Practical Hours/ year: 35x30= 1050

Total Hours / Year: 1320
Total credits: 53

Total credits for the five years : 221

Notes:

- Each studying hour is equal to 60 minutes
- The theoretical hour is equal to one studying credit for 15 weeks
- Two practical hours are equal to one studying credit for 15 weeks
- Each academic year includes 30 weeks for the 1 st , 2nd and 3rd years and 38 weeks
- For the 4th and 5th years with the summer training
- The 4 th and 5th academic year students should complete summer training program of 8 weeks with the following subject Fourth year

Number	Subject
1	Oral surgery
2	Pedodontics
3	prosthodontics
4	Restorative dentistry
5	Periodontics
6	Orthodontics

Fifth year

Number	Subject
1	Oral medicine
2	Oral surgery
3	Restorative dentistry
4	prosthodontics
5	Orthodontics
6	Pedodontics
7	prevention
8	Periodontics

Text book references for the syllabus

Oral diagnosis

No	Stage	Subject	References
1	second	Oral histology and Embryology	1. Ten cate's oral histology development, structures and function. Antonio Nanci. 9th edition. 2017, Elsevier. 2. Orban's oral histology and embryology. Kumar. 14th edition. 2015, Elsevier.
2	third	Dental Radiology	1. White and Pharoah's Oral radiology principles and interpretation. Sanjay Mallya and Ernest Lam. 8th edition. 2019, Elsevier. 2. Ghom, Anil Govindrao. Textbook of oral radiology-E-Book. 2016, Elsevier Health Sciences.
3	third	General Pathology	1. Robbins basic pathology. Kumar, Abbas and Aster. 10th edition. 2018, Elsevier. 2. Stevens, Alan, James S. Lowe, and Ian Scott. Core pathology. 2008, Elsevier Health Sciences.
4	fourth	Oral Pathology	1. Oral and maxillofacial pathology. Brad Neville,Douglas Damm Carl Allen and Jerry Bouquot. 4th edition. 2016, Elsevier. 2. Robinson, Max, Keith Hunter, Michael Pemberton, and Philip Sloan. Soames'& Southam's Oral Pathology. 2018, Oxford University Press.
5	fifth	Oral Medicine	1. Burket's oral medicine. Michael Glick, Martin Greenberg, Peter Lockhart and Dtephen Challacombe. 13th edition.2021, Wiley Black well. 2. Bumann, A., & Lotzmann, U. TMJ disorders and orofacial pain. The role of dentistry in a multidisciplinary approach. 2011, Thieme.

Periodontics

No	Stage	subject	References
1	Fourth	Periodontics	1-Clinical Periodontology and Implant Dentistry, Seventh Edition, Niklaus P. Lang and Jan Lindhe, 2022 2-Newman and Carranza's Clinical Periodontology, Thirteen Edition, 2019

2	Fifth	Periodontics	1-Clinical Periodontology and Implant Dentistry, Seventh Edition, Niklaus P. Lang and Jan Lindhe 2-Newman and Carranza's Clinical Periodontology, Thirteen Edition

Restorative and Aesthetic Dentistry

Stage	Name of subject	Reference
1st	Dental anatomy	1- Woelfel's Dental Anatomy It's Relevance to Dentistry. 2- Wheeler's Atlas of Tooth Form
3rd	Conservative Operative Lect.	1- Summitt's fundamentals of operative dentistry: A contemporary approach. 4th edition. 2- Art and science of operative dentistry 7th edition
	Crown Lect.	1- Fundamentals of Fixed Prosthodontics, 2012, Quintessence Pub. SHILLINGBURG, H. T. & SATHER, D. A. 2- Contemporary Fixed Prosthodontics, 2016 Elsevier. ROSENSTIEL, S. F., LAND, M. F. & FUJIMOTO, J.
4th	Conservative Operative Lect.	

		1- Summitt's fundamentals of operative dentistry: A contemporary approach. 4th edition. 2- Dental composite materials for direct restorations. Vesna Miletic Springer, eBook, 2018. 3- Textbook of operative dentistry. 3rd edition. Nisha Garg, Amit Garg.
	Endodontic Lect.	1- Cohen's Pathways of the Dental Pulp. 12th ed. Louis H. Berman and Kenneth M. Hargreaves. 2- Textbook of Endodontics. 2nd ed. 2010. Nisha Garg, Amit Garg.
5th	Conservative Endodontic Lect.	Cohen's Pathways of the Dental Pulp. 12th ed. Louis H. Berman and Kenneth M. Hargreaves.
	Crown and bridge Lect.	1- Fundamentals of Fixed Prosthodontics, 2012, Quintessence Pub. SHILLINGBURG, H. T. & SATHER, D. A. 2- Contemporary Fixed Prosthodontics, 2016 Elsevier. ROSENSTIEL, S. F., LAND, M. F. & FUJIMOTO, J.

Orthodontics

No	Stage	Subject	References
1	fourth	Orthodontics	1. An Introduction to Orthodontics 5th Edition Simon J. Littlewood and Laura Mitchell 2019. 2. Orthodontics: Principles and Practice: Principles and Practice 2nd Edition 2017
2	fifth	Orthodontics	1. An Introduction to Orthodontics 5th Edition Simon J. Littlewood and Laura Mitchell 2019. 2. Orthodontics: Principles and Practice: Principles and Practice 2nd Edition 2017

pedodontics and preventive dentistry

No	Stage	Subject	References
1	third	Community Dentistry	- Preventive and Community Dentistry Public Health DentistryThird Edition. - A Textbook of Public Health Dentistry, CM Marya, JAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD,2011 -
2	fourth	Pedodontics	McDONALD AND AVERY'S DENTISTRY for CHILD and ADOLESCENT 2022 by Elsevier Hand book of pediatric dentistry (Cameron) mosby/
3	fifth	Preventive dentistry	Primary Preventive Dentistry by Harris NO Garcia-GodoyF-NatheCN 8th Ed (20014) . Comprehensive preventive dentistry (2012) Edited by Hardy Limeback
4	fifth	Pedodontics	McDONALD AND AVERY'S DENTISTRY for CHILD and ADOLESCENT 2022 by Elsevier Text book of pediatric dentistry Nikhil Marwa 2nd ed. 2019 New Delh

Prosthodontics

No	Stage	Subject	References
1	second	Dental materials	Philips scince of dental materials 2012 edition 12 Craig's Restirative dental materials 2018 edition 14
2	second	Prosthodontics	Textbook of complete denture 6th edition updated 2009 Dental laboratory technology for removable prosthodontics
3	third	Prosthodontics	McCracken's Removable Partial Prosthodontics13th Edition - November 3, 2015 ▪ Robert, W. L. (2018) Removable Partial Denture Manual. Dalhousie University
4	fourth	Prosthodontics	Zarb, Hobkirk, Eckert, Jacob et al. Prosthodontic treatment for edentulous patients: Complete dentures and implant-supported Mosby, prostheses.13th edition 2013 Elsevier Inc. McCracken's removable partial prosthodontics, 13th edition 2016 by Elsevier, Inc
5	fifth	Prosthodontics	Zarb, Hobkirk, Eckert, Jacob et al. Prosthodontic treatment for edentulous patients: Complete dentures and implant-supported prostheses.13th edition 2013 by Mosby, Elsevier Inc. ▪ Golden and Driscoll. Treating the complete denture patient. 1st edition 2020 John Wiley & Sons, Inc.

Oral Surgery

Stage	Subject	References
first	Human anatomy	1. Snell's Clinical Anatomy by Regions, 10th edition. Wolters Kluwer 2019 2. Netter's Head and Neck Anatomy for Dentistry, 3rd edition. Elsevier 2017 3. Gray's Atlas of Anatomy, 3rd edition. Elsevier 2021
second	Human anatomy	1. Snell's Clinical Anatomy by Regions, 10th edition. Wolters Kluwer 2019 2. Netter's Head and Neck Anatomy for Dentistry, 3rd edition. Elsevier 2017 3. Gray's Atlas of Anatomy, 3rd edition. Elsevier 2021
third	Oral Surgery	1. Hand book of local anesthesia 7th edition Stanely F. Malamed , Elsevier.2019 2. Contemporary oral and maxillofacial surgery 7th edition 2019 (Elsevier)
fourth	Oral Surgery	1. Dental Management of the Medically Compromised Patient, Ninth Edition, 2018 2. Contemporary oral and maxillofacial surgery 7th edition 2019 (Elsevier).
fourth	General Medicine	1. Dental Management of the Medically Compromised Patient, Ninth Edition, 2018 2. Essentials of Medicine for Dental Students
fourth	General Surgery	Baily and Love's short practice of surgery 27th edition 2018.
fifth	Oral & Maxillofacial Surgery	1. Contemporary oral and maxillofacial surgery 7th edition 2019 (Elsevier) . 2. Perry M, Brown A, Banks P (2015). Fractures of The Facial Skeleton, second edition. Wiley Blackwell.

Basic sciences

No	Stage	Subjects	References	Authors
1	first	Medical Physics	Medical Physics	John Cameron
			Physics of the Human Body	Irving Herman
2	first	Computer	E-learning concepts and techniques	Mousa Afaneh, Vince Basile, Justin Bennett, Pamela Berman, Michael Bond
			Computer application in management	Dr. P. S. Aithal
3	first	English	Headway-English Course	John and Liz Soars
			Oxford English Grammar Course	Michael Swan and Catherine Walter
4	first	اللغة العربية	اللغة العربية لاقسام غير الاختصاص	قحطان رشيد
			اللغة العربية العامة	رشيد عبد الرحمن
5	first	Biology	Human biology,8 edition	Inderbir Singh
			Cell Biology,3 edition.2017	Thomas,D; William,C; Jennefer, L and Graham, T.
6	first	Medical Chemistry	The Chemical Basis of Life	George H. Schmid
			The Chemistry of Medical and Dental Materials	Nicholson .W .J
7	first	حقوق الإنسان	كتاب (حقوق الانسان) ،جامعة بغداد ،كلية العلوم السياسية ،2009 .	أ.د. حافظ علوان الدليمي
			كتاب حقوق الانسان (تطورها ومضامينها حمايتها)،2009 .	أ.د .رياض عزيز هادي
8	first	Medical Terminology	Dental Terminology 3rd Edition	Dofka .Charline M
			A dictionary of Medical Dental ,Terminology Surgery and the Collateral Sciences 2018	Chapin Aaron Ferdinand ,Harris James Samuel Gorgas
9	second	Physiology	Guyton and Hall Medical Physiology 12th edition	.Hall & C . John E Guyton
			Essentials of Physiology for Dental students	K Sembulingam & Prema Sembulingam
10	second	General Histology	Junqueira's Basic Histology TEXT & ATLAS	.Anthony L MESCHER

			Illustrated Dental ,Histology ,Embryology and Anatomy	.Margaret J Fehrenbach and Tracy Popowics
11	second	Biochemistry	Lippincott's Illustrated Biochemistry ,Reviews	Richared Harvey And Denise Ferrier
			Tietz Fundamentals of Clinical Chemistry	Burtis and Ashwod
12	third	Microbiology	Kuby Immunology Eighth Edition ©2019	Jenni Punt; Sharon Stanford; Patricia Jones; Judy Owen
			Essential Microbiology for Dentistry 5th Edition (2018)	Lakshman Samaranayake
13	third	Pharmacology	Pharmacology (Lippincott Illustrated Reviews Series) 7th Edition (2019)	Karen Whalen
			Contemporary Dental Evidence- :Pharmacology Based Considerations 1st ed (2019)	Arthur H Jeske