جامعة البيان

Academic Program Description

Al-Bayan University

College of Dentistry

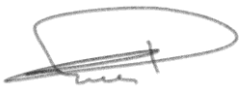
2026 - 2027

College of Dentistry

30/8/2026

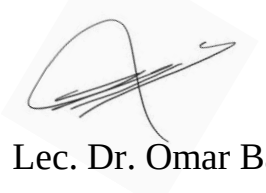
University	Al-Bayan University
Faculty/Institute	College of Dentistry
Scientific Department	
Academic/Professional Program Name	Academic Program Description of College of Dentistry
Final Certificate Name	Bachelor in Dentistry
Academic System	Annual
Description Preparation Date	2026
File Completion Date	30/8/2026

Head of Department	
Signe	
Name	
Date	

Scientific Associate	
Signe	
Name	Lec. Dr. Alaa Mohammed Shaheed
Date	31/8/2026

This File has been checked by Quality Assurance and University Performance

Director of Quality Assurance and University Performance Department

Head of Quality Assurance Section	
Signe	
Name	Lec. Dr. Omar Bakr Hazm
Date	31/8/2026



Assis Prof Dr. Mudher Mohammed Baqir

Approval of the Dean

31/8/2026

1. Program Vision

Leadership in education and scientific research at the national and global levels, keeping up with modern technologies, artificial intelligence, and ensuring quality oral and dental health care.

2. Program Mission

The College of Dentistry believes that oral health is an integral part of general health and strives to improve the quality of life in the community through its advanced educational programs and by harnessing artificial intelligence skills. It aims to graduate a new generation of inspiring dentists who uphold high professional ethics.

3. Program Objectives

1. Provide distinguished educational programs that ensure the development of students with high skills and professional ethics.
2. Support scientific research and innovation to develop treatments and techniques used in the field of dentistry and provide specialized, high-quality health care to patients.
3. Enhance the effectiveness of the educational process by using modern technology, represented by artificial intelligence and software for diagnosis and treatment, while achieving sustainable development concepts.
4. Promote communication and understanding between students and community members from diverse cultures and backgrounds, and commit to the values of justice and social equality.

4. The Program Accreditation

The program got the full accreditation in accordance with the ministerial order 5504/أ/د ج in 18/8/2025

5. Other External Influences

N/A

6. Program Structure

Course Structure	Number of Courses	Credit Units	(%)	Reviews
Institutional Requirements	*5*	*12*	*5.6%*	*primary*
College Requirements	*43*	*201*	*94.4%*	*Primary*
Department Requirements				
Summer Training	*14*	*78.5*	*36.8%*	*primary*
Other				

7. Program Description

Year / Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
1st	050101	Dental Anatomy	2	2
	050102	Biology	2	2
	050103	Medical physics	2	2
	050104	Medical chemistry	2	2
	050105	General human anatomy	1	2
	050106	Computer	1	2
	050107	Arabic language	2	0
	050108	terminology	1	0
	050109	Human rights	1	0
2nd	050201	Prosthetic dentistry	1	4
	050202	Dental materials	1	2
	050203	Oral histology and embryology	2	2
	050204	General histology	2	2
	050205	General physiology	2	2
	050206	General human anatomy	1	2
	050207	Biochemistry	2	2
	050208	Baath party crimes	1	0
3ed	050301	Prosthetic dentistry	1	2
	050303	Pre-clinical conservative dentistry	1	2
	050304	Pre-clinical fixed prosthodontics	1	2
	050305	Oral surgery	1	2
	050306	Community dentistry	1	2
	050307	Pharmacology	2	2
	050308	General pathology	2	2

	050309	Microbiology	2	2
	050310	Radiology	1	2
	050311	Dental ethics	1	0
4th	050401	Prosthetic dentistry	1	3
	050402	Operative and esthetic dentistry & endodontics	1	6
	050403	Oral surgery	1	4
	050404	Periodontics	1	3
	050405	Orthodontics	1	4
	050406	Oral pathology	2	2
	050407	General medicine	1	0
	050408	General surgery	1	0
	050409	Pediatric dentistry	1	2
5th	050501	Prosthodontics	1	6
	050502	Oral medicine	1	4
	050503	Oral surgery	1	6
	050504	Orthodontics	1	4
	050505	Pediatric dentistry	1	3
	050506	Preventive dentistry	1	3
	050507	Periodontics	1	3
	050508	Clinical endodontics & clinical fixed prosthesis	1	6
	050509	Research project	2	0

8. Expected learning outcomes of the program

Knowledge

Learning Outcome 1: A1- Formulating information in a way that enables students to understand and comprehend.

Learning Outcome 2: A2- Increasing students' knowledge of oral and dental examination and treatment methods.

Learning Outcome 3: A3- Enabling students to identify and diagnose cases associated with complete removable and fixed dentures, and to clinically treat them.

Learning Outcome 4: A4- Enabling students to treat patients of all age groups, including children and the elderly.

Skills

Learning Outcome 1: B1- Gaining the knowledge and experience that helps in diagnosing diseases and identifying their causes.

Learning Outcome 2: B2- Enabling students to acquire the skills to make appropriate decisions for medical cases.

Learning Outcome 3: B3- Methods for examining and treating dental caries and endodontic treatments for children and adults.

Learning Outcome 4: B4- Enabling students to create fixed and removable dental prostheses.

Values

Learning Outcome 1: C1- Educating students on humanitarian and professional work.

Learning Outcome 2: C2- Enhancing and instilling professional and ethical values in students for practicing dentistry.

Learning Outcome 3: C3- Developing a sense of responsibility in students during their studies and in the workplace.

Learning Outcome 4: C4- Supporting and promoting medical awareness among students and community members.

9. Teaching and Learning Strategies

A- Knowledge and Understanding:

1. Empowering students to acquire and comprehend the fundamental principles of anatomy, oral surgery, and gum diseases.
2. Equipping students with the ability to document patients' general medical history.
3. Enabling students to possess self-learning skills to acquire new information and expertise within the field.
4. Empowering students to act in response to any patient-related incidents during work.

B- Subject-specific Skills:

1. Presenting brainstorming questions that enable students to link study materials together and relate them to medical and health reality.
2. Developing skills in conducting motivational interviews to encourage patients to adopt preventive measures, adhere to treatment, and follow post-operative instructions.

C- Thinking Skills:

1. Encouraging students through expressive communication, thinking speed, and responsiveness.
2. Prompting students to problem-solving and fostering distinctive thinking.
3. Engaging lectures through student interaction and brainstorming.
4. Discussing medical cases and how to handle them.

D- General and Transferable Skills (Other skills related to employability and personal development):

1. Professional preparation and urging students toward positive behavior in their personal lives.
2. Scientific preparation and encouraging students to communicate in other scientific fields.
3. Cultural preparation and refining students' personalities.

4. Employing acquired skills to enable students to become dentists capable of performing various minor surgeries.

E- Teaching and Learning Methods:

1. Lectures using data show and PowerPoint presentations.
2. Educational films.
3. Display screens.
4. E-learning.
5. Whiteboards.
6. Student group discussions.
7. Patient reception and treatment in clinics.

10. Evaluation Methods

1. Daily quizzes for theoretical subjects.
2. Oral questions.
3. Midterm examination.
4. Final examination.

11. Faculty Members	Specialization	Special Requirements/Skills	Numbers	
Titles	**General**	**Special**	**Staff**	**lecturer**
Prof.	Bachelor in oral surgery and medicine	PhD. Preventive dentistry	1	
	Bachelor in veterinary medicine	Cell physiology	1	
	Bachelor in oral surgery and medicine	PhD. Preventive dentistry		1
Ass. Prof.	Bachelor in oral surgery and medicine	PhD. Oral and maxillofacial surgery	1	
	Biology	mycology	1	
Lecturer doctor	Bachelor in oral surgery and medicine	PhD. Oral and maxillofacial surgery	3	
	Bachelor in oral surgery and medicine	PhD. Oral medicine	2	
	Bachelor in oral surgery and medicine	PhD. Prosthodontics	2	1
	Bachelor in oral surgery and medicine	PhD. Orthodontics	1	

	Bachelor in oral surgery and medicine	PhD.Preventive dentistry	1	
	Bachelor in oral surgery and medicine	PhD. Oral pathology	1	
	Bachelor of Medicine & General Surgery	PhD. General surgery	1	
	Bachelor of Medicine & General Surgery	PhD. Family medicine	1	
	Bachelor of Biotechnology	PhD. Molecular biology	1	
	Bachelor of Science in Biology	PhD. Microbiology	1	
	Bachelor of Arabic Language	PhD.Arabic language		
	Bachelor in oral surgery and medicine	Periodontics	1	
	Bachelor in oral surgery and medicine	Radiology	1	
Lecturer	Bachelor in oral surgery and medicine	M.Sc. Aesthetic and restorative dentistry		2
	Bachelor in oral surgery and medicine	M.Sc. Oral surgery	3	
	Bachelor in oral surgery and medicine	M.Sc. Orthodontics	1	
	Bachelor in oral surgery and medicine	M.Sc. Aesthetic and restorative dentistry	4	
	Bachelor in oral surgery and medicine	M.Sc. Periodontics	1	
	Bachelor in oral surgery and medicine	M.Sc. Pediatric dentistry	1	
	Bachelor in oral surgery and medicine	M.Sc. prosthodontics	3	
Ass. lecturer	Bachelor in pharmacy	M.Sc. pharmacology	1	
	Chemistry	M.Sc. Biochemistry	2	
	Biology	M.Sc. zoology	1	
	Bachelor of Applied Sciences	M.Sc. Material science	1	
	English language	English language		1
	Computer science	M.Sc. Computer	1	
	Law	M.Sc. Law		1

12. Professional Development

Mentoring New Faculty Members

- Providing technical and technological support for new members to help them adapt to the tools and technologies used in teaching and research.
- Offering academic guidance by more experienced faculty members to assist in setting research and teaching goals and directing efforts toward achieving them.
- Regularly monitoring the progress of new members and evaluating their experiences at the college to ensure they meet their goals and improve their performance.

Professional Development for Faculty Members

- Organizing training courses and workshops for faculty members to update their knowledge in their specialties and learn new and effective teaching methods. These programs should include training on the effective use of technology in education and research.
- Providing mechanisms for regularly evaluating the performance of faculty members and offering constructive feedback to help them improve their performance and achieve their personal and professional goals.
- Faculty members should be encouraged to participate in local and international scientific conferences, present their research, and share their experiences with colleagues in the field.

13. Acceptance Criteria

Admission is based on the student's grade average after completing the sixth preparatory ministerial exam, with selection being made by the Ministry of Higher Education and other channels approved by the ministry.

14. The most important Sources of Information about the Program

Adopting programs from reputable international universities in the same field, as well as approved sources from textbooks published by reputable publishers and high-ranking academic journals.

15. Program Development Plan

- Providing academic mentoring programs for faculty members to help them set their research and teaching goals and develop their career plans.
- Organizing academic exchange programs with other universities or prestigious medical institutions to enhance collaboration and knowledge sharing.
- Offering training courses to develop leadership and management skills for faculty members, enabling them to apply these skills in managing academic and research programs and developing university policies.
- Providing financial and technical support for faculty members to conduct advanced scientific research and publish their findings in peer-reviewed scientific journals. Additionally, workshops on scientific writing and data analysis can be organized.

16.Program Skills

Year/Level	Course Code	Course Title	Primary or Optional	Learning Outcomes Required from the Program											
				Knowledge							Skills				Values
				A 1	A 2	A 3	A 4	B 1	B 2	B 3	B 4	C 1	C2	C3	C4
1st	050101	Dental Anatomy	primary	X				X							X
	050102	Biology	primary	X				X							X
	050103	Medical physics	primary	X				X							X
	050104	Medical chemistry	primary	X				X							X
	050105	General human anatomy	primary	X				X							X
	050106	Computer	primary	X				X							X
	050107	Arabic language	university	X				X							X

	050108	terminology	primary	X			X					X
	050109	Human rights	University	X			X					X
2nd	050201	prosthodontics	primary			X			X		X	
	050202	Dental material	primary	X						X		
	050203	Oral histology and embryology	primary	X						X		
	050201	Prosthetic dentistry	primary	X		X		X		X		X
	050202	Dental materials	primary	x	x		x	x	x	x	x	x
	050203	Oral histology and embryology	primary		X					X		
	050204	General histology	primary	X		X		X		X		X
	050205	General physiology	primary	x	x		x	x	x	x	x	x

	050206	General human anatomy	primary		X							X			
	050207	Biochemistry	primary	X			X		X			X			X
	050208	Baath party crimes	university	x		x		x	x	x		x		x	x
3rd	050301	Prosthetic dentistry	primary				X	X	X			X	X		
	050303	Pre-clinical conservative dentistry	primary					X	X			X	X		
	050304	Pre-clinical fixed prosthodontics	primary			X	X			X		X	X		
	050305	Oral surgery	primary					X	X			X	X		
	050306	Community dentistry	primary					X	X				X		
	050307	Pharmacology	primary	x		x		x	x	x		x		x	x

	050308	General pathology	primary						X	X	X						X		X						
	050309	Microbiology	primary							X	X						X		X						
	050310	Radiology	primary				X		X				X				X		X						
	050311	Dental ethics	primary							X	X						X		X						
4th	050401	Prosthetic dentistry	primary	X		X		X		X			X		X										
	050402	Operative and esthetic dentistry & endodontics	primary		X		X		X		X									X		X			
	050403	Oral surgery	primary			X		X								X		X							
	050404	Periodontics	primary					X		X						X		X							
	050405	Orthodontics	primary			X						X				X		X							X

	050406	Oral pathology	primary			X	X			X	X					
	050407	General medicine	primary	X	X	X		X	X					X		X
	050408	General surgery	primary	X	X	X	X					X				X
	050409	Pediatric dentistry	primary	X	X					X	X					X
5th	050501	Prosthodontics	primary		X					X	X					
	050502	Oral medicine	primary	X								X		X		
	050503	Oral surgery	primary	X		X	X		X			X		X		
	050504	Orthodontics	primary	X		X	X		X			X		X		
	050505	Pediatric dentistry	primary			X		X		X		X				
	050506	Preventive dentistry	primary			X	X			X		X				

	050507	Periodontics	primary	X	X	X		X	X				X	X
	050508	Clinical endodontics & clinical fixed prosthesis	primary	X	X	X	X					X		X
	050509	Research project	primary	X	X					X	X			X

Program Skills															
				Learning Outcomes Required from the Program											
Year/Level	Course Code	Course Title	Primary or Optional	Knowledge						Skills				Values	
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
1st	050105	General human anatomy	primary	X				X					X		
2nd	050206	General human anatomy	primary		X			X					X		
3rd	050303	Oral surgery	primary			X			X				X		
4th	050403	Oral surgery	primary				X				X	X	X		
	050408	General surgery	primary				X						X		
	050404	Periodontics	primary							X		X	X		
	050406	Oral pathology	primary	X						X			X		
5th	050503	Oral surgery	primary		X						X	X	X		

	050507	Periodontics	primary	**X**		**X**	**X**	**X**

Program Skills																	
				Learning Outcomes Required from the Program													
Year/Level	Course Code	Course Title	Primary or Optional	Knowledge						Skills						Values	
				A 1	A 2	A 3	A 4	B 1	B 2	B 3	B4	C 1	C2	C 3	C4		
1st	050102	Biology	primary	X				X					X				
	050103	Medical physics	primary	X						X	X		X				
	050104	Medical chemistry	primary	X						X	X		X				
	050106	computer	primary		X					X	X		X				
	050107	Arabic language	primary							X	X		X				
	050108	English language	primary							X	X		X				
	050109	Human rights	primary										X				

	050110	Baath party crimes	primary						X	
2nd	050204	General histology	primary		X		X		X	
	050205	General physiology	primary		X		X		X	
	050207	Biochemistry	primary		X		X		X	
3rd	050307	pharmacology	primary		X			X	X	
	050308	General pathology	primary		X			X	X	
	050309	Microbiology	primary		X			X	X	
4th	050407	General medicine	primary		X			X		X
5th	050509	Research project	primary		X			X		X

Basic Sciences Department

جامعة البيان

Course Description (1)

1. Course Title	**Medical terminology**
2. Course Code	**050108**
3. Semester/Year	**Annually**
4. Description Preparation Date	**10-8-2026**
5. Available Attendance Form	**Lecs**
6. No. of Hours (Total)	**30 hours lectures**
7. No. of Credits (Total)	**2units**
8. Course Administrator Name	**Ass.lec Huda abdul baqi Rasheed**
9. E-mail	**Huda.ab@albayan.edu.iq**

10. Course Objectives

Knowledge	**A1**	to provide first year medical student with a foundational understanding of medical terminology .
	A2	To enable students to identify, analyze, and construct medical terms using prefixes, suffixes, and root words.
	A3	To prepare students for effective communication in healthcare settings by enhancing their understanding of medical vocabulary.
	A4	
Skills	**B1**	Develop familiarity with medical terminology and its structure .
	B2	Understand and apply terms related to body systems, diagnostic tools, and mwdical procedures.
	B3	Interpret and use abbreviations, eponyms, and homonyms in medical contexts.
	B4	
Values	**C1**	Professional preparation and encouraging the student to have positive behavior in his public life
	C2	Scientific preparation and urging the student to communicate in other fields of science
	C3	Cultural preparation and refining the student's personality
	C4	Utilizing the acquired skills so that the student becomes a dentist capable of treating patients

11. Teaching and Learning Strategies

1.	Online Authoring systems	**4.**	Microsoft power point for lecture presentations

2.	Internet access and E-mail	**5.**	Video and audio media equipment
3.	A data show projector	**6.**	

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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1hr.theory	Introduction to medical terminology, word roots, suffixes and prefixes.	Word Analysis &Combining Forms, suffixes, and prefixes	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
2	1hr.theory	Case study on diabetes, practice, exercises on medical terminology	In person: Living With Type 1Diabetes & Exercises and Answers.	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
3	1hr.theory	Practice pronunciation of medical terms, application of medical terminology in real-world scenarios	Pronunciation of Terms &practical applications	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
4	1hr.theory	learning of medical terms, comprehensive review of Units 1	Picture Show & Review Visual	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
5	1hr.theoty	Assessment of terminology knowledge, overview of human body systems.	Terminology Checkup & Introduction to body systems	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
6	1hr.theory	Study of body cavities and	Body cavities &divisions of the	Lectures using Power point	Written essay, quarterly

		divisions of the back	back	presentation, group discussion, presenting the scientific material using smart screen & whiteboard	monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
7	1hr.theory	Learning about anatomical planes, review of medical terminology.	Planes of the body & terminology	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
8	1hr.theory	Case study on imaging practice exercises on medical terminology	In person: CT and MRI & exercises and answers	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
9	1hr.theory	Practice pronunciation of medical terms, application of medical terminology in real-world scenarios	Pronunciation on terms & practical applications	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
10	1hr.theory	Visual learning of medical terms, comprehensive review of Unit 2.	Picture Show & review	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.

11	1hr.theory	Review of word parts	Combining forms, suffixes and Terminology	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
12	1hr.theory	.Case study on gallbladder disease, practice exercises on medical terminology.	In Person: gallbladder stones & Exercises and Answers	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
13	1hr.theory	Practice pronunciation of medical terms, application of medical terminology in real-world scenarios.	Pronunciation of terms & practical applications.	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
14	1hr.theory	Visual learning of medical terms, comprehensive review of Units 3.	Picture show & review	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
15	1hr.theory	Explore ethical and legal aspects of healthcare.	Additional Topics (e.g. medical ethics, legal issues)	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
16	1hr.theory	Review of word parts	Combining forms, suffixes and terminology	Lectures using Power point presentation, group discussion, presenting the	Written essay, quarterly monthly exams, scores awarded for daily

				scientific material using smart screen & whiteboard	participations, oral exam scores for attendance in lectures.
17	1hr.theory	Identify the components of the lmmune System . Describe the functions of the Immune System	Immune System	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
18	1hr.theory	Identify the components of the Endocrine System . describe the functions of the Endocrine System	Endocrine system	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
19	1hr.theory	Learn the hormones and glands in medical terminology	Hormones and Glands in Medical Terminology	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
20	1hr.theory	learn the of Common Diseases and Disorders	Common Diseases and Disorders	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
21	1hr.theory	Learn the heart	The heart	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
22	1hr.theory	Learn the of Five Senses	Five Senses	Lectures using Power point presentation, group discussion, presenting the	Written essay, quarterly monthly exams, scores

				scientific material using smart screen & whiteboard	awarded for daily participations, oral exam scores for attendance in lectures.
23	1hr.theory	Learn artificial intelligence applications in healthcare terminology education	AI and Medical Terminology	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
24	1hr.theory	Learn the of Dental Carriers	Dental Carriers	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
25	1hr.theory	Learn of the Oral and maxillofacial surgery	Oral and maxillofacial surgery	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
26	1hr.theory	Learn the Periodontology	Periodontology	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
27	1hr.theory	Learn of the Pediatric dentistry	Pediatric dentistry	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
28	1hr.theory	Learn of the orthodontices	Orthodontics	Lectures using Power point presentation, group	Written essay, quarterly

				discussion, presenting the scientific material using smart screen & whiteboard	monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
29	1hr.theory	Identify the components of the .Prosthodontics of Describe the functions Of the Prosthodontics	Prosthodontics	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.
30	1hr.theory	Identify the components of the Procedures involved in Surgery. Describe the functions of the Procedures involved in surgery	Procedures Involved in Surgery	Lectures using Power point presentation, group discussion, presenting the scientific material using smart screen & whiteboard	Written essay, quarterly monthly exams, scores awarded for daily participations, oral exam scores for attendance in lectures.

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13. Course Evaluation

No.	Assessment measurement	Score distribution concerning theoretical lectures
1	First semester	7.5 %
2	Mid year examination (15%)	15%
3	Second semester	7.5%
4	Final examination (70 %)	70%
Total	100%	100%

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Medical Terminology for Health Care Professionals- 9th Ed. (Jane Rice)
Main References (sources)	Dental Terminology 3rd Edition (Charline M Dotka)
Recommended Books & References (Scientific Journals, Reports …)	Write periodic reports and read recent research in reputable journals
Websites or Electronic References	Google scholar and research gate

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Course Description (1)

1. Course Title	Medical Chemistry
2. Course Code	050105
3. Semester/Year	First Year / First and Second Semesters
4. Description Preparation Date	**2026–2027 Academic Year**
5. Available Attendance Form	**Full-time (In-person): Lectures, Laboratory Sessions, Seminars, and E-learning Activities**
6. No. of Hours (Total)	**120 Hours** (Theory: 60 Hours; Laboratory: 60 Hours)
7. No. of Credits (Total)	**6 Credits** (Theory: 4 Credits; Laboratory: 2 Credits)
8. Course Administrator Name	Sarah Mohammed Hamid
9. E-mail	Sarah.mo@albayan.edu.iq

10. Course Objective: The Medical Chemistry course aims to provide first-year dental students with a comprehensive understanding of the chemical principles underlying normal biological functions and disease processes. The course integrates fundamental concepts of general, organic, and biochemistry with clinical applications in dentistry. Students will develop knowledge of biomolecules, enzymes, metabolism, acid–base balance, electrolytes, body fluids, hormones, vitamins, minerals, and biochemical laboratory investigations. The course also introduces modern analytical techniques and **Artificial Intelligence (AI)** applications in medical chemistry, including laboratory automation, biochemical data analysis, molecular modeling, and precision medicine, preparing students for evidence-based clinical practice.

Knowledge	**A1**	Explain the chemical structure, properties, and biological functions biomolecules, enzymes, vitamins, minerals, hormones, and body fluids.
	A2	Describe biochemical pathways, metabolism, acid–base balance, electrol homeostasis, and biochemical changes associated with health and disease.
	A3	Explain the principles of clinical biochemistry, laboratory investigatio molecular diagnostics, and their applications in dentistry.
	A4	Describe modern analytical technologies and Artificial Intelligence (A applications in medical chemistry, laboratory medicine, and precisi healthcare.
Skills	**B1**	Perform basic biochemical laboratory techniques safely and accurately, including solution preparation, spectrophotometry, pH measurement, and biochemical

		assays.
	B2	Interpret biochemical laboratory findings and correlate them with physiological and pathological conditions.
	B3	Apply laboratory safety procedures, quality control measures, and analytical principles during biochemical investigations.
	B4	Utilize digital technologies and AI-assisted tools for biochemical data interpretation, laboratory automation, and evidence-based clinical decision-making.
Values	**C1**	Demonstrate professionalism, ethical responsibility, and commitment to laboratory safety and evidence-based practice.
	C2	Adhere to ethical standards, biosafety regulations, and quality assurance principles during laboratory work.
	C3	Demonstrate effective communication, teamwork, leadership, and respect for colleagues during laboratory and academic activities.
	C4	Appreciate lifelong learning and the integration of emerging technologies, including Artificial Intelligence, into medical chemistry and dental practice.

11. Teaching and Learning Strategies

1.	Interactive lectures supported by multimedia presentations to explain fundamental concepts of medical chemistry and their clinical relevance in dentistry.	**4.**	Small-group discussions, seminars, and student presentations to encourage active participation and collaborative learning.
2.	Practical laboratory sessions involving biochemical experiments, analytical techniques, spectrophotometry, solution preparation, pH analysis, and laboratory safety procedures.	**5.**	Self-directed learning through textbooks, scientific literature, online databases, and evidence-based learning resources.
3.	Case-based learning (CBL) and problem-based learning (PBL) to enhance analytical thinking and clinical problem-solving skills.	**6.**	Integration of digital learning technologies and Artificial Intelligence (AI) applications in biochemical laboratory analysis, molecular modeling, clinical decision support, and precision medicine.

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic / Subject Name**	**Learning Method**	**Evaluation Method**
1	2	**Acids, Bases and Salts**	Definitions and concepts of acids and bases; theories of acids and bases; properties of acids, bases and salts; physiological importance	Interactive lecture, discussion	Quiz, class participation
2	2	**Salts and Their Preparation**	Types of salts; properties of salts; methods of salt preparation; chemical reactions of salts; biological importance	Lecture, problem-solving	Quiz
3	2	**Fluids and Electrolytes**	Body fluids; fluid compartments; major electrolytes; functions of sodium, potassium and chloride; fluid and electrolyte balance	Interactive lecture	Quiz, assignment
4	2	**Buffers and Acid–Base Balance**	Buffer systems; components of buffers; Henderson–Hasselbalch concept; pH; physiological buffer systems	Lecture with demonstrations	Written examination
5	2	**Acid–Base Balance and Blood pH**	Blood pH; bicarbonate buffer system; respiratory regulation; renal regulation; acidosis and alkalosis	Case-based learning	Quiz
6	2	**Colloids and Colloidal Dispersions**	Definition and classification of colloids; properties of colloidal systems; colloidal dispersions; proteins as colloids; biological importance	Interactive lecture	Assignment
7	2	**Chirality in Biological Systems**	Chirality; chiral centers; enantiomers; optical activity; biological significance of	Lecture, discussion	Quiz

			chirality		
8	2	**Concentration and Preparation of Solutions**	Concentration units; molarity; molality; normality; percentage solutions; dilution; solution preparation	Lecture and practical demonstration	Practical assessment
9	2	**Pollution**	Environmental pollution; chemical pollutants; sources of pollution; effects on human health; prevention and control	Lecture, seminar	Assignment
10	2	**Radiochemistry**	Radioactivity; radioactive isotopes; types of radiation; radioactive decay; biological effects; medical applications	Interactive lecture	Written examination
11	2	**Alkanes and Cycloalkanes**	Structure and nomenclature; physical properties; chemical reactions; combustion; structure and properties of cycloalkanes	Lecture	Quiz
12	2	**Alkenes and Alkynes**	Structure and nomenclature; physical and chemical properties; addition reactions; oxidation; biological and medical applications	Lecture	Quiz
13	2	**Aromatic Compounds**	Aromaticity; benzene structure; nomenclature; electrophilic substitution reactions; biological and medical importance	Lecture	Written examination
14	2	**Aromatic Compounds in Nature**	Natural aromatic compounds; phenolic compounds; plant-derived aromatics; biologically active compounds; medical applications	Lecture, discussion	Quiz
15	2	**Stereoisomers of Carbon**	Stereoisomerism; geometric isomerism; optical isomerism;	Lecture	Quiz

			configuration and conformation; biological significance		
16	2	**Diastereomers**	Definition; classification; diastereomers vs. enantiomers; stereochemical representation; physical and biological properties	Lecture	Assignment
17	2	**Alcohols, Phenols, Ethers and Thiols**	Structure and classification; preparation; physical properties; chemical reactions; biological and medical applications	Lecture, case discussion	Written examination
18	2	**Carboxylic Acids and Their Derivatives I**	Structure and nomenclature; classification; physical properties; acidity; preparation of carboxylic acids	Lecture	Quiz
19	2	**Carboxylic Acids and Their Derivatives II**	Esters; amides; acid anhydrides; acid halides; chemical reactions of derivatives	Lecture	Quiz
20	2	**Aldehydes and Ketones**	Structure and nomenclature; physical properties; preparation; carbonyl reactions; oxidation and reduction; biological importance	Lecture	Midterm examination
21	2	**Carbohydrates**	Classification and structure; monosaccharides, disaccharides and polysaccharides; chemical properties; biological functions	Lecture	Quiz
22	2	**Monosaccharides**	Structure and classification; glucose; fructose; galactose; stereoisomerism; biological functions	Interactive lecture	Quiz
23	2	**. Disaccharides, Carbohydrates and Oral Health**	Sucrose; lactose; maltose; carbohydrate metabolism; role of carbohydrates in dental caries;	Lecture, case-based learning	Assignment

			oral health		
24	2	**Lipids**	Classification of lipids; fatty acids; triglycerides; phospholipids; biological functions of lipids	Lecture	Quiz
25	2	**Derived Lipids and Oral Health**	Steroids; cholesterol; lipid-derived hormones; lipids and oral tissues; role of lipids in dental diseases	Lecture	Written examination
26	2	**Proteins**	Structure and classification; levels of protein organization; properties; denaturation; biological functions	Interactive lecture	Quiz
27	2	**Amino Acids and Protein in Oral Health**	Structure and classification of amino acids; essential and nonessential amino acids; peptide bonds; protein synthesis; role in oral health	Lecture, discussion	Assignment
28	2	**Nucleic Acids, Nucleosides and Nucleotides**	Structure of nucleic acids; nucleosides; nucleotides; purines and pyrimidines; biological functions	Lecture	Quiz
29	2	**DNA and RNA**	DNA structure; DNA replication; RNA structure and types; transcription; translation; genetic information	Lecture	Written examination
30	2	**Artificial Intelligence Applications in Medical Chemistry**	Introduction to AI; AI in clinical chemistry; interpretation of biochemical tests; AI in molecular modeling and drug discovery; AI in oral biochemistry; ethical considerations and limitations	Interactive lecture, AI demonstration, case-based learning and seminar	Presentation, assignment, class participation

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13. Course Evaluation	
توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Rodwell, V. W., Bender, D. A., Botham, K. M., Kennelly, P. J., & Weil, P. A. (2024). *Harper's Illustrated Biochemistry* (33rd ed.). McGraw-Hill. 2. Nelson, D. L., & Cox, M. M. (2021). *Lehninger Principles of Biochemistry* (8th ed.). W.H. Freeman. 3. Devlin, T. M. (2023). *Textbook of Biochemistry with Clinical Correlations* (9th ed.). Wiley.
Main References (sources)	1. Bishop, M. L., Fody, E. P., & Schoeff, L. E. (2023). *Principles, Techniques, and Correlations* (9th ed.). Wol 2. Rifai, N., Horvath, A. R., & Wittwer, C. T. (2023). *Medicine* (7th ed.). Elsevier.
Recommended Books & References (Scientific Journals, Reports …)	• *Clinical Chemistry*. • *Clinical Biochemistry*. • *Journal of Biological chemistry*. • *Biochemical Journal*. • *Journal of Dental Research*. • *Nature Reviews Chemistry*.
Websites or Electronic References	• World Health Organization (WHO): https://www.who.int • National Center for Biotechnology Information (NCBI): https://www.ncbi.nlm.nih.gov • PubMed: https://pubmed.ncbi.nlm.nih.gov • American Association for Clinical Chemistry (AACC): https://www.aacc.org • International Federation of Clinical Chemistry and Laboratory Medicine (IFCC): https://www.ifcc.org • MedlinePlus: https://medlineplus.gov

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Course Description (1)

1. Course Title	Computer Science and Artificial Intelligence
2. Course Code	050106
3. Semester/Year	First and Second Semesters / First Year
4. Description Preparation Date	2026-2027
5. Available Attendance Form	Weekly in-person attendance: theoretical lecture and computer laboratory
6. No. of Hours (Total)	90 hours annually (30 theoretical + 60 practical)
7. No. of Credits (Total)	2 units in the annual system
8. Course Administrator Name	Rami Khaleel Ahmed
9. E-mail	Rami.khaleel@albayan.edu.iq

10. Course Objectives: Knowledge, Skills, and Values

A1	**Knowledge**	Explain fundamental concepts of computers, data and information, hardware, software, operating systems, and user interfaces.
A2		Describe the basic use of word processing, spreadsheets, presentations, the Internet, e-mail, and cloud services.
A3		Explain elementary networking, digital security, e-commerce, troubleshooting, and the principles, applications, and ethical challenges of AI.
A4		Relate digital skills to supportive educational and administrative tasks in Dentistry without teaching specialized programming or clinical diagnosis.
B1	**Skills**	Operate a computer, manage the operating system, files, folders, peripherals, and basic troubleshooting tasks.
B2		Create organized documents, spreadsheets, charts, and presentations using office-productivity applications.
B3		Use the Internet, e-mail, cloud services, and networks safely and collaborate digitally.
B4		Critically evaluate digital and AI tools and use them responsibly in dentistry-related educational tasks.
C1	**Values**	Use computers, software, data, and information efficiently and responsibly.
C2		Respect privacy and confidentiality, especially patient data, and comply with legal and ethical requirements.
C3		Demonstrate teamwork, academic integrity, respect for intellectual property, and appropriate digital communication.
C4		Recognize cybersecurity risks, AI limitations, bias, inaccurate information, and the need to verify sources.

11. Teaching and Learning Strategies

1.	Interactive lectures supported by slides and the whiteboard.	**4.**	Problem-based learning using simplified Dentistry contexts.
2.	Live demonstrations of software and digital tools.	**5.**	Collaborative learning and individual/group mini-projects.
3.	Guided practical exercises in the computer laboratory.	**6.**	Brainstorming, discussion, and formative feedback.

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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3 (1T+2P)	**Theory:** Distinguishes hardware, software, data, information, and the concept of computing. **Practical:** Identifies computer components and safely connects input/output devices and peripherals.	**Level I - Introduction to Computers**	Interactive lecture + component demonstration + lab	Short quiz + practical checklist
2	3 (1T+2P)	**Theory:** Explains computer parts, input/output units, and memory types. **Practical:** Classifies hardware components and identifies I/O and memory/storage devices.	**Computer Components and Memory**	Visual explanation + guided hardware inspection	Short quiz + performance observation
3	3 (1T+2P)	**Theory:** Identifies basic CPU components, computer ports, and personal-computer features and types. **Practical:** Recognizes ports, connects peripherals, and compares selected device specifications.	**CPU, Ports, and Types of Computers**	Lecture + demonstration + practical exercise	Practical task + oral questions
4	3 (1T+2P)	**Theory:** Explains operating-system functions, GUI elements, and mouse techniques. **Practical:** Uses the desktop, windows, basic settings, and common mouse actions.	**Operating System and Graphical User Interface**	Interactive lecture + live demonstration + lab	Short quiz + practical task
5	3 (1T+2P)	**Theory:** Recognizes icons, status bars, menus, folders, windows, and shortcuts. **Practical:** Creates and organizes folders/files, manages windows, and creates shortcuts.	**Interface, File, and Folder Management**	Demonstration + guided lab practice	Practical homework + checklist
6	3 (1T+2P)	**Theory:** Explains word-processor features, opening/closing documents, text manipulation, formatting, and templates. **Practical:** Creates and formats a short academic document on oral health and saves it correctly.	**Word Processing - Fundamentals**	Brief lecture + step-by-step lab	Submitted Word file + observation
7	3 (1T+2P)	**Theory:** Explains tables, styles, themes, spelling/grammar tools, headers, and footers. **Practical:** Prepares an educational report or referral form using fictitious data, tables, and styles.	**Word Processing - Tables and Styles**	Live demonstration + individual lab task	Practical assignment with rubric

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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
8	3 (1T+2P)	**Theory:** Explains worksheets, formatting, sorting, filtering, formulas, and basic functions. **Practical:** Builds a fictitious appointment or grade sheet and uses SUM, AVERAGE, sorting, and filtering.	**Spreadsheets - Fundamentals**	Lecture + guided Excel practice	Short practical test + homework
9	3 (1T+2P)	**Theory:** Explains functions, PivotTables, data validation, error checking, and charts. **Practical:** Summarizes fictitious oral-health data and creates a PivotTable and an appropriate chart.	**Spreadsheets - Analysis and Visualization**	Problem solving + laboratory application	Data-analysis task + rubric
10	3 (1T+2P)	**Theory:** Explains presentation tools, templates, themes, text/images, transitions, and animations. **Practical:** Creates a concise oral-health awareness presentation with clear design.	**Presentation Software - Fundamentals**	Demonstration + mini-project	Presentation file and design assessment
11	3 (1T+2P)	**Theory:** Explains speaker notes, timers, hyperlinks, action buttons, troubleshooting, and future trends. **Practical:** Builds an interactive presentation, adds notes and links, and rehearses delivery.	**Presentation Software - Advanced Tools**	Project-based learning + practical training	Short oral presentation + rubric
12	3 (1T+2P)	**Theory:** Explains network basics, LAN, WAN, the Internet, its applications, and connectivity. **Practical:** Views connection settings, connects to a network, and practices safe browsing.	**Internet and Basic Networking**	Lecture + network-settings demonstration + lab	Short quiz + practical activity
13	3 (1T+2P)	**Theory:** Differentiates the Web, browsers, search engines, URLs, domain names, and IP addresses. **Practical:** Performs an advanced search for reliable oral-health sources, evaluates them, bookmarks them, and cites them.	**The Web, Search Engines, and Addresses**	Guided inquiry + lab practice	Search-and-source evaluation task
14	3 (1T+2P)	**Theory:** Explains e-mail basics, account use, sending/receiving, sent mail, and document collaboration. **Practical:** Writes a professional message, attaches a file, and shares a document using proper etiquette.	**Communications and E-mail**	Live demonstration + communication simulation	E-mail and file-sharing task

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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
15	3 (1T+2P)	**Theory:** Defines cloud computing and cloud office suites such as Microsoft 365 and Google Workspace. **Practical:** Creates a shared folder/document, sets permissions, and collaborates with peers.	**Cloud Computing and Services**	Collaborative learning + guided cloud practice	Group task + checklist
16	3 (1T+2P)	**Theory:** Defines a network, its types, and basic components. **Practical:** Identifies network devices and draws a simple network map for a lab or clinic.	**Level II - Networking Fundamentals**	Lecture + device models + mapping activity	Short quiz + network diagram
17	3 (1T+2P)	**Theory:** Explains basic network security, common threats, and elementary safeguards. **Practical:** Creates strong passwords, uses MFA, recognizes phishing signs, and reviews protection settings.	**Network Security and Threats**	Case study + safe simulation + lab	Case analysis + security checklist
18	3 (1T+2P)	**Theory:** Explains electronic banking, ATMs, debit cards, phone/SMS banking, alerts, and mobile banking. **Practical:** Recognizes secure-transaction indicators and analyzes fictitious digital-payment scenarios without real data.	**E-Commerce and Digital Banking Services**	Lecture + case studies	Short quiz + scenario analysis
19	3 (1T+2P)	**Theory:** Identifies common hardware and software problems encountered by users. **Practical:** Diagnoses prepared cases such as a frozen application, printer failure, or lost connectivity.	**Computer Troubleshooting - Fundamentals**	Problem-based learning + lab	Diagnostic worksheet + observation
20	3 (1T+2P)	**Theory:** Explains diagnostic steps, troubleshooting tools, backup, and recovery. **Practical:** Uses Task Manager, system information, built-in troubleshooters, and a training backup task.	**Troubleshooting Tools and Techniques**	Live demonstration + practical stations	Practical test + short report
21	3 (1T+2P)	**Theory:** Defines AI, its history, major techniques, and approaches. **Practical:** Classifies examples as AI/non-AI and explores a simple educational AI tool.	**Introduction to Artificial Intelligence**	Interactive lecture + classification activity	Concept quiz + practical activity
22	3 (1T+2P)	**Theory:** Explains AI characteristics, benefits, challenges, and ethical considerations. **Practical:** Evaluates an AI-generated output for accuracy and bias and develops responsible-use criteria.	**AI Characteristics, Benefits, and Challenges**	Discussion + case study + application	Short evaluation sheet + participation

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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
23	3 (1T+2P)	**Theory:** Explains AI-driven mobile technologies and virtual assistants. **Practical:** Uses voice-assistant, reminder, search, and accessibility features and reviews privacy settings.	**AI in Modern Smartphones**	Applied demonstration + mobile exercise	Checklist + short question
24	3 (1T+2P)	**Theory:** Explains adaptive learning and AI-supported real-time translation. **Practical:** Compares translation or adaptive-learning outputs and verifies terminology and accuracy.	**Adaptive Learning and Real-Time Translation**	Comparative activity + individual practice	Brief comparison report
25	3 (1T+2P)	**Theory:** Surveys AI applications across industries, education, and healthcare. **Practical:** Maps use cases and designs a non-clinical dentistry-support scenario such as education or scheduling.	**AI Applications in Education and Healthcare**	Lecture + case-based learning	Concept map + short presentation
26	3 (1T+2P)	**Theory:** Explains AI applications in transportation, marketing, and advertising. **Practical:** Analyzes a recommendation or targeted-ad example and discusses data use and privacy.	**AI in Transportation, Marketing, and Advertising**	Example analysis + group discussion	Case analysis + participation
27	3 (1T+2P)	**Theory:** Explains AI applications in finance, robotics, and automation technologies. **Practical:** Draws a simple automation workflow for appointments or inventory in an educational/clinical setting.	**AI in Finance, Robotics, and Automation**	Lecture + workflow design	Practical task + oral explanation
28	3 (1T+2P)	**Theory:** Discusses AI effects on society, international relations, and the future of humanity. **Practical:** Creates a balanced impact map and participates in an evidence-based discussion.	**AI and Society**	Guided debate + collaborative learning	Impact map + participation assessment
29	3 (1T+2P)	**Theory:** Explains ethics, privacy, surveillance, and AI effects on the job market. **Practical:** Analyzes a patient-data privacy, consent, and accountability case and proposes safeguards.	**Ethical Challenges in AI**	Ethical case study + discussion	Short written analysis
30	3 (1T+2P)	**Theory:** Reviews future AI trends, recent research, and emerging technologies. **Practical:** Prepares a short poster or presentation on the future of AI in dentistry using reliable sources.	**The Future of AI and Emerging Technologies**	Capstone mini-project + presentation	Project and presentation assessment

13. Course Evaluation

• First- and second-semester activities: 25 marks (10 written/theoretical + 15 practical).
• Mid-year written examination: 15 marks.
• Annual coursework/endeavor: 40 marks (semester activities plus the mid-year examination).
• Final examination: 60 marks (35 written/theoretical + 25 practical).
• Total: 100 marks.

14. Learning & Teaching Resources

Required textbooks (curricular if any)	• Lecture notes for Computer Course Syllabus - Level I. • Lecture notes for Computer and Artificial Intelligence Course Syllabus - Level II. • Practical laboratory guide for Office applications, the Internet, cloud services, digital security, and AI.
Main References (sources)	• Graham Brown & David Watson, Cambridge IGCSE Information and Communication Technology, 3rd ed., 2020. • Alan Evans, Kendall Martin & Mary Anne Poatsy, Technology in Action Complete, 16th ed., 2020. • Curtis Frye & Joan Lambert, Microsoft Office 2019 Step by Step, 1st ed. • Ahmed Bahaa, Introduction to Artificial Intelligence (AI), 1st ed., 2024. • Joan Lambert, Microsoft Windows 10 Step by Step.
Recommended Books & References (Scientific Journals, Reports ...)	• Recent peer-reviewed reviews on digital health and artificial intelligence in Dentistry. • Reports and guidance on information security, data privacy, and AI ethics.
Websites or Electronic References	• Microsoft Learn. • Google Workspace Learning Center. • WHO Digital Health resources. • NIST Cybersecurity resources.

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Course Description (1)

1. Course Title	**Medical Physics**	
2. Course Code	**050103**	
3. Semester/Year	**First Year/ Annual**	
4. Description Preparation Date	**2027–2026**	
5. Available Attendance Form	**In person (Lectures + Laboratories)**	
6. No. of Hours (Total)	**Laboratory 2h/wk.**	**Theory:2 h/wk**
7. No. of Credits (Total)	**6**	
8. Course Administrator Name	**Assit.lec.Areej Talal Ayyash**	
9. E-mail	**Areej.t@albayan.edu.iq**	

10. Course Objectives

Knowledge	A1	Understand the fundamental physical principles underlying medical technologies and equipment used in dentistry.
	A2	Identify the physical principles of radiation, x-rays, laser applications, and diagnostic imaging (e.g., CBCT and ultrasound) in dental practice.
	A3	Comprehend the mechanical and physical properties of biological tissues and materials related to dental biomechanics.
	A4	Explain safety guidelines, radiation protection protocols, and physical hazards in clinical environments.
Skills	B1	Apply physical principles to solve practical and clinical problems in dental diagnosis and treatment.
	B2	Safely operate and interpret basic diagnostic imaging and radiation equipment used in dental clinics.
	B3	Analyze experimental physics data and prepare accurate laboratory reports
	B4	Demonstrate critical thinking skills in evaluating new dental technologies from a physical perspective.
Values	C1	Demonstrate high ethical standards regarding patient radiation safety and environmental bio-safety
	C2	Commit to continuous learning and keeping up with advanced technological updates in dental medical physics.
	C3	Promote teamwork and professional communication during collaborative laboratory tasks and group projects
	C4	Appraise the importance of accuracy and precision in physical measurements for patient diagnosis and treatment planning.

11. Teaching and Learning Strategies

1.	**Lectures using programs data show and power point**	**4.**	**E-learning**
2.	**Laboratories and report preparation**	**5.**	**Performing Physics Experiments in the Laboratory**
3.	**Homework**	**6.**	**Problem-Based & Self-Directed Learning**

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	2	• **Terms: Medical Physics, physical medicine, Physical therapy, Health Physics, Radiological Physics, clinical physics.**	**Terminology**	• Lectures • Power point presentation	• Quizzes • Final Exam
2	2	• **Modeling, Accuracy, Precision, False Positive, False Negative**	**Terminology**	• Lectures • Power point presentation	• Quizzes • Final Exam
3	2	• **Static forces :(type of levers with medical examples).**	**Force on &in body**	• Lectures • Power point presentation	• Quizzes • Final Exam
4	2	• **Dynamic forces (Centrifuge)**	**Force on &in body**	• Lectures • Power point presentation	• Quizzes • Final Exam
5	2	• **Bones:(Function of bones, Composition of bone, bone remodeling, compact and trabecular bone)** • **Bone joints :(Synovial fluid, coefficient of a joint).**	**Physics of the skeleton**	• Lectures • Power point presentation	• Quizzes • Final Exam

6	2	• **Stress-strain curve :(compressive and tensile stress, young modulus)**	**Physics of the skeleton**	• Lectures • Power point presentation	• Quizzes • Final Exam
7	2	• **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)**	**Heat and cold in medicine**	• Lectures • Power point presentation	• Quizzes • Final Exam
8	2	• **Thermometry, Heat therapy, Thermography, Cold in medicine and cryosurgery. Thermal conductivity.**	**Heat and cold in medicine**	• Lectures • Power point presentation	• Quizzes • Final Exam
9	2	• **First law of thermodynamic. Energy change in the body (Met, Basal metabolic rate (BMR).**	**Energy, work and power of the body**	• Lectures • Power point presentation	• Quizzes • Final Exam
10	2	• **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).**	**Energy, work and power of the body**	• Lectures • Power point presentation	• Quizzes • Final Exam
11	2	• **Definition, absolute pressure, gauge pressure, negative pressure, unit of pressure.**	**Pressure**	• Lectures • Power point presentation	• Quizzes • Final Exam

		Measurement of pressure in the body (Manometer).Pressure inside the skull. Eye pressure.			
12	2	• **Pressure in the skeleton. Pressure in the urinary bladder.Boyle's law: (pressure while diving).HOT (hyperbaric oxygen therapy).**	**Pressure**	• Lectures • Power point presentation	• Quizzes • Final Exam
13	2	• **Electricity within the body Electrical potential of nerves (resting potential, action potential in myelinated and unmyelinated nerves) Electromyogram (EMG).**	**Electricity within the body**	• Lectures • Power point presentation	• Quizzes • Final Exam
14	2	• **Electrical potential in the heart (electrocardiogram ECG). Electroencephalogram (EEG)**	**Electricity within the body**	• Lectures • Power point presentation	• Quizzes • Final Exam
15	2	• **Sound in medicine: Properties of sound. Stethoscope (including heart sound)**	**Sound in medicine**	• Lectures • Power point presentation	• Quizzes • Final Exam
16	2	• **.Mechanism of hearing**	**Sound in medicine**	• Lectures • Power point presentation	• Quizzes • Final Exam
17	2	• **(A-scan, B-scan, M-scan and Doppler effect), History of Ultrasound Imaging, Ultrasound generation,**	**Ultrasound**	• Lectures • Power point presentation	• Quizzes • Final Exam
18	2	• **Image formation ,Benefits vs. Risks, Limitations of**	**Ultrasound**	• Lectures	• Quizzes • Final Exam

		General Ultrasound Imaging, Physiological effect of ultrasound in therapy • **AI Applications in Ultrasound Imaging**		• Power point presentation	
19	2	• **Light in medicine: Light nature, Planck Equation, (Reflection, Refraction and Absorption of Light, Properties of light), Diffuse reflection, Specular reflection**	**Light in medicine**	• Lectures • Power point presentation	• Quizzes • Final Exam
20	2	• **Phototherapy, Application of ultraviolet and infrared light in medicine, Tanning and Skin Cancer.**	**Light in medicine**	• Lectures • Power point presentation	• Quizzes • Final Exam
21	2	• **What is laser? Application of laser in medicine Atomic Transitions, Population inversion, Laser Typical Characteristics, General Applications of Laser.**	**Laser in medicine.**	• Lectures • Power point presentation	• Quizzes • Final Exam
22	2	• **The Laser types o Dental** • **Laser Dental Applications, Reshape gum tissue, Laser aided teeth whitening, Laser Drill.**	**Laser in medicine.**	• Lectures • Power point presentation	• Quizzes • Final Exam
23	2	• **Focusing element of the eye (cornea, lens). Element of the eye (pupil, aqueous humor, vitreous humor, sclera)**	**Physics of eye and vision**	•	•
24	2	• **Visual acuity ,Visual acuity tests, Accommodation**	**Physics of eye and vision**	• Lectures • Power point presentation	• Quizzes • Final Exam

25	2	• **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).**	**Physics of diagnostic X-ray**	• Lectures • Power point presentation	• Quizzes • Final Exam
26	2	• **Radiation to patients from X-ray (filters)** • **Radiation protection** • **Dental application of x-ray imaging techniques** • **AI in dental radiography**	**Physics of diagnostic X-ray**	• Lectures • Power point presentation	• Quizzes • Final Exam
27	2	• **Radiation , Ionizing radiation , non-Ionizing radiation , Nuclear Radiation , Discovery of radioactivity, Atom , Stability of nuclides ,Radioactivity decay,**	**Physics of nuclear medicine**	• Lectures • Power point presentation	• Quizzes • Final Exam
28	2	• **Radioactivity decay,Conservation of Energy**	**Physics of nuclear medicine**	• Lectures • Power point presentation	• Quizzes • Final Exam
29	2	• **Radiotherapy, Type of radiation, Radiation Dose, Requirement for Radiotherapy, AI in Radiotherapy Treatment Planning, Factors affecting radiosensivity, Cancer Treatments**	**Physics of radiation therapy**	• Lectures • Power point presentation	• Quizzes • Final Exam
30	2	○ **Principles of radiation therapy, ,The Oxygen enhancement of**	**Physics of radiation therapy**	• Lectures	• Quizzes • Final Exam

		radiation effect, Interaction of Radiation with the Biological Target		• Power point presentation	

جامعة البيان

13. Course Evaluation

- First and second semesters 25 degrees ((10exam+ 5 report) practical + 10 theoretical).
- Mid-year 15 degrees.
- Final examination 60 degrees (40 theoretical + 20 practical).
- Total:100 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	• **Medical Physics- J.R.Cameron and J.G.Skofronick**
Main References (sources)	• **Physics of of the human body(Irving Herman) 4th Edition, Wolters Kluwer / Lippincott Williams & Wilkins, 2020.** • **:Bushberg JT, Seibert JA, Boone JM, et al. The Essential Physics of Medical Imaging. 5th Edition. Wolters Kluwer, 2024.** • **White SC, Pharoah MJ. Oral Radiology: Principles and Interpretation. 9th Edition. Elsevier, 2024.**
Recommended Books & References (Scientific Journals, Reports …)	• **Medical Physics Journal** • **Radiology** • **Physics in Medicine & Biology** • **Radiation Protection Dosimetry** • **European Journal of Medical Physics (Physica Medica)**
Websites or Electronic References	• https://www.medicalphysics.org/SimpleCMS.php?content=bookpage.php&isbn=9781930524958 • https://shop.lww.com/The-Essential-Physics-of-Medical-Imaging/p/9781975155056

	• https://shop.lww.com/The-Essential-Physics-of-Medical-Imaging/p/9781975155056

جامعة البيان

Course Description (1)

1. Course Title	**Human Rights**
2. Course Code	**050109**
3. Semester/Year	**Year**
4. Description Preparation Date	**2026-2027**
5. Available Attendance Form	**Theoretical lectures**
6. No. of Hours (Total)	**30 hours theory,**
7. No. of Credits (Total)	**2**
8. Course Administrator Name	Asst. lect. Alaa Mohammed Rashid
9. E-mail	**Alaa.m@albayan.edu.iq**

10. Course Objectives :

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Knowledge	**A1**	Enable students to understand and recognize human rights and freedoms at the international, regional, and national levels, with emphasis on the reality of the effective implementation of human rights and its impact on the meaning of freedom throughout the world
	A2	Enable students to understand and recognize the international system that emphasizes human rights and freedoms, including the efforts of states to incorporate these rights into their constitutions and to promote awareness of human rights in order to develop a generation that is conscious of its rights and responsibility.
	A3	Enable students to understand the role of national institutions and organizations within society, while moving beyond limited objectives and narrow perspectives toward active participation in national life.
Skills	**B1**	Ability to analyze human rights and public freedom issues.
	B2	Ability to apply human rights principles in different situations.
	B3	Develop critical thinking, discussion, and dialogue skills.
	B4	Ability to communicate and act responsibly while respecting others' right.
Values	**C1**	Respect for human rights and fundamental freedoms.
	C2	Promote justice, equality, and non-discrimination.
	C3	Commitment to responsibility and active citizenship.
	C4	Respect for diversity, tolerance, and the rule of law.

11. Teaching and Learning Strategies

1.	Lectures using Data show and power point.	**4.**	Electronic education
2.	Educational films	**5.**	Student presentations.
3.	Monitors	**6.**	Data show

جامعة البيان

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	• Chapter One: Human Rights in Ancient Civilizations • Section One: Human Rights in Greek and Egyptian Civilizations ○ First Requirement: Human Rights in Greek Civilization ○ Second Requirement: Human Rights in Ancient Egyptian Civilization • Section Two: Human Rights in Ancient Civilizations	Introduction / Chapter One: Human Rights	**Data show presentation and white board**	**Quiz**
2	**1**	• Section One: Human Rights in Christianity and Judaism • Section Two: Human Rights in Islam.	chapter Two: Human Rights in Divine Laws and Religions	**Data show presentation and white board**	**Quiz**
3	1	**Section One: International Sources** • **First Requirement: The Universal Declaration of Human Rights**	Chapter Three: Sources of Human Rights	**Data show presentation and white board**	**Quiz**

4	1	• **The Two International Covenants on Human Rights**	**Second Requirement**	**Data show presentation and white board**	**Quiz**
5	1	**•First Requirement: The French Declaration of the Rights of Man and of the Citizen (26 August 1789)**	**Section Two: National Sources**	**Data show presentation and white board**	**Quiz**
6	1	**French Constitutions and Declarations Following the Declaration of Rights of 1789**	**Second Requirement**	**Data show presentation and white board**	**Quiz**
7	**1**	**The Constitution of the Republic of Iraq of 2005**	**Third Requirement**	**Data show presentation and white board**	**Quiz**
8	**1**	• **Section One: Guarantees of Human Rights at the Domestic Level** • **First Requirement: Constitutional Guarantees.**	**Chapter Four: Guarantees of Human Rights**	**Data show presentation and white board**	**Quiz**
9	**1**	**Judicial Guarantees**	**Second Requirement**	**Data show presentation and white board**	**Quiz**
10	**1**	• First Requirement: Recognition of the Principle of Dual Responsibility in Islamic Society • Second Requirement: The Religious Nature o of Islamic Law	**Section Two: Guarantees of Human Rights in Islam**	**Data show presentation and white board**	**Quiz**

11	**1**	Some Islamic Systems for the Benefit of the Individual, Society, and Ruling Authorities	**Third Requirement**	**Data show presentation and white board**	**Quiz**
12	1	• First Requirement: The Charter of the United Nations • Second Requirement: The United Nations General Assembly	**Section Three: International Guarantees of Human Rights**	**Data show presentation and white board**	**Quiz**
13	1	• The Economic and Social Council • The Human Rights Council	Third **Requirement** **Fourth Requirement**	**Data show presentation and white board**	**Quiz**
14	1	First Requirement: The European Convention on Human Rights	**Section Four: The Role of Regional Organizations in the Protection of Human Rights**	**Data show presentation and white board**	**Quiz**
15	**1**	• The American Convention on Human Rights. • The African Charter on Human and Peoples' Rights • The Arab Charter on Human Rights • Section One: Technological Advancement and Its Impact on Human Rights and Freedoms	Second Requirement Third Requirement Fourth Requirement Chapter Five: The Future of Human Rights	**Data show presentation and white board**	**Quiz**
16	**1**	Political Parties and Human Rights The Role of the Media and Socialization	**First Requirement** **Second Requirement**	**Data show presentation and white board**	**Quiz**

17	**1**	• First Requirement: Privacy and Human Rights • Second Requirement: Hegemony and Human Rights	**Section Two: Globalization and Human Rights**	**Data show presentation and white board**	**Quiz**
18	1	Section One: The Origins and Development of the Concept of Democracy	Chapter One: The Concept of Democracy, Its Development, Definition, and Dimension	**Data show presentation and white board**	**Quiz**
19	1	Definition of Democracy	**Section Two**	**Data show presentation and white board**	**Quiz**
20	1	Democracy between Universality and Particularity	**Section Three**	**Data show presentation and white board**	**Quiz**
21	1	• Section One: Direct Democracy ○ First Requirement: The Content of Direct Democracy ○ Second Requirement: Applications of Direct Democracy ○ Third Requirement: Evaluation of the Direct Democracy System	**Chapter Two: The Challenges of Democracy**	**Data show presentation and white board**	**Quiz**
22	**1**	• First Requirement: The Concept of Semi-Direct Democracy • Second Requirement: Forms of Semi-Direct Democracy	**Section Two: Semi-Direct Democracy**	**Data show presentation and white board**	**Quiz**

23	1	• Third Requirement: Evaluation of the Semi-Direct Democracy System	**Section Three: Representative Democracy**	**Data show presentation and white board**	**Quiz**
24	1	• The Concept of the Representative System and Its Legal Nature • The Elements of the Representative System	**First Requirement Second Requirement**	**Data show presentation and white board**	**Quiz**
25	1	The Challenges of the Representative Parliamentary System	**Third Requirement**	**Data show presentation and white board**	**Quiz**
26	1	• First Requirement: The Unicameral and Bicameral Parliamentary Systems • Second Requirement: The Internal Organization of the Parliamentary Council	**Section Four: The Parliamentary Council**	**Data show presentation and white board**	**Quiz**
27	1	•Section One: The Concept of Elections and Their Legal Characterization ○ First Requirement: The Concept of Elections ○ Second Requirement: The Legal Characterization of Elections • Section Two: The Electorate ○ First Requirement: The Concept of the Electorate ○ Second Requirement: The Composition of the Electorate	**Chapter Three: The Mechanism of the Representative Parliamentary System: Elections**	**Data show presentation and white board**	**Quiz**

28	**1**	• Section Three: Organization of the Electoral Process ○ First Requirement: Determining Electoral Districts ○ Second Requirement: Electoral Districts	**Third Requirement: Candidates for Election**	**Data show presentation and white board**	**Quiz**
29	**1**	○ Third Requirement: Candidates ○ Fourth Requirement: Electoral Campaign ○ Fifth Requirement: Voting • Second Requirement: The Single-Member and List Electoral Systems (American System)	**Section Four: Electoral Systems**	**Data show presentation and white board**	**Quiz**
30	**1**	• The Single-Member and List Electoral Systems (American System) • The Majority System and the Proportional Representation System • The Interest Representation System • Optional Voting and Compulsory Voting Systems • Secret and Public Voting Systems	**Third Requirement Fourth Requirement Fifth Requirement Sixth Requirement**	**Data show presentation and white board**	**Quiz**

13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

Distribution of the score out of 100 according to the tasks assigned to the student, such as daily preparation, daily exams, oral, monthly, written and records

Includes:

1. **Daily and term exams**
2. **Mid term exam**

Final exam (theory and practical)

Distribution degree	Method of evaluation
Theory 10	1st + 2nd term 10%
20%	Midterm theory
70% theory	Final exam 70%
100 theory	Total 100%

14. Learning & Teaching Resources

Required textbooks (curricular if any)	**1. Human Rights and Democracy: Concepts and Foundations** By **Salman Kadhim Al-Bahadli and Samah Mahdi Al-Aliawi** ***2. Human Rights, Democracy and Public Freedoms*By** Ibrahim Abbas Al-Jubouri (2018)
Main References (sources)	***Political Systems* By** Dr. Issam Ali Al-Dabs
Recommended Books & References (Scientific Journals, Reports …)	**The Two International Covenants on Human Rights: Between Commitment and Reservation *By*** *Baya Abdelkader (2014)*

جامعة البيان

Course Description (1)

1. Course Title	Biology
2. Course Code	050102
3. Semester/Year	First Year / First and Second Semesters
4. Description Preparation Date	2026–2027 Academic Year
5. Available Attendance Form	Full-time (In-person): Lectures, Laboratory Sessions, Seminars, and E-learning Activities
6. No. of Hours (Total)	120 Hours (60 hrs. theory :60 hrs. laboratory)
7. No. of Credits (Total)	6 Credits (2 theory :2 laboratory)
8. Course Administrator Name	Mohammed Yassin Khdiar
9. E-mail	Mohammed.yaseen@albayan.edu.iq

10. Course Objectives

Knowledge	**A1**	Understand the fundamental concepts of medical and oral biology and their relevance to dentistry.
	A2	Describe cell structure, tissues, genetics, immunology, microbiology, and parasitology related to oral health.
	A3	Explain the biological basis of oral diseases and host defense mechanisms.
	A4	Recognize modern applications of artificial intelligence in biology, genetics, and healthcare.
Skills	**B1**	Identify normal biological structures using laboratory techniques.
	B2	Interpret biological and microscopic findings relevant to dentistry.
	B3	Apply biological principles in solving clinical dental problems.
	B4	Use digital technologies and AI-assisted biological tools appropriately
Values	**C1**	Demonstrate professional ethics in biological sciences.
	C2	Promote teamwork and effective scientific communication.
	C3	Respect biosafety regulations and laboratory safety.
	C4	Develop lifelong learning and responsible use of artificial intelligence in healthcare.

11. Teaching and Learning Strategies

1.	Interactive lectures using multimedia presentations.	**4.**	E-learning activities and self-directed learning.
2.	Laboratory practical sessions and microscopic demonstrations.	**5.**	AI-assisted educational platforms and virtual learning tools.

3.	Case-based learning, seminars, and student presentations	**6.**	Small-group discussions and formative assessments

جامعة البيان

12. The Structure of the Course					
Evaluation Method	**Learning Method**	**Topic/Subject Name**	**RLOs**	**Hours**	**Week**
Quiz & Participation	Lecture	Introduction to Medical and Oral Biology	A1	2	1
Quiz	Lecture	Prokaryotes and Eukaryotes	A1	2	2
Quiz	Lecture	General and Oral Immunity	A2	2	3
Assignment	Lecture	Bacteria and Oral Diseases	A2	2	4
Quiz	Lecture	Genetics and its Role in Oral Diseases	A2	2	5
Quiz	Lecture	Simple Epithelial Tissue (Tongue)	A2	2	6
Quiz	Lecture	Stratified Epithelial Tissue	A2	2	7
Quiz	Lecture	Glandular Epithelial Tissue (Salivary Glands)	A2	2	8
Quiz	Lecture	General Connective Tissue (Blood)	A2	2	9
Quiz	Lecture	Muscular Tissue	A2	2	10
Quiz	Lecture	Nerve Tissue	A2	2	11
Assignment	Lecture	Cell Structure (Oral Mucous Membrane)	A2	2	12
Quiz	Lecture	Plasma Membrane Structure	A2	2	13
Quiz	Lecture	Passage of Materials Across Cell Membrane	A2	2	14
Midterm Exam	Lecture	Cell Cycle	A2	2	15
Quiz	Lecture	Mitosis and Meiosis	A2	2	16
Quiz	Lecture	Cell Energy	A2	2	17
Quiz	Lecture	Nucleic Acids (DNA & RNA)	A2	2	18
Quiz	Lecture	Introduction to Parasitology	A3	2	19
Quiz	Lecture	Types of Parasites and Hosts	A3	2	20
Quiz	Lecture	General and Oral Protozoa	A3	2	21
Assignment	Lecture	Human Amoebae (*E. histolytica*, *E. coli*, *E. gingivalis*)	A3	2	22

Quiz	Lecture	Flagellates (*Giardia*, *Trichomonas* spp.)	A3	2	23
Quiz	Lecture	*Leishmania* (Cutaneous and Visceral)	A3	2	24
Quiz	Lecture	Sporozoa (*Plasmodium* spp.)	A3	2	25
Quiz	Lecture	*Toxoplasma gondii and Ascaris lumbricoides (Nemathelminthes)*	A3	2	26
Quiz	Lecture	*Ancylostoma duodenale, Enterobius vermicular Fasciola hepatica, and Schistosoma spp.*	A3	2	27
Presentation	Interactive Lecture & Discussion	**Artificial Intelligence in Medical Imaging and Oral Diagnosis**	A4	2	28
Assignment	Lecture & E-learning	**AI Applications in DNA/RNA Sequence Analysis**	A4	2	29
Final Assessment	Seminar	**Ethics and Future Trends of Artificial Intelligence in Healthcare**	A4, B4, C4	1	30

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13. Course Evaluation	
The final grade (100%) will be distributed as follows: • Daily quizzes and classroom participation: **5 %** • Assignments and reports: **5 %** • Laboratory performance: **15 %** • Midterm examination: **15 %** • Final theoretical examination: **40%** • Final laboratorial examination: **20 %**	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	• Campbell Biology. • Tortora, Funke & Case's *Microbiology: An Introduction*.
Main References (sources)	• Junqueira's *Basic Histology: Text and Atlas*. • Alberts B. et al. *Molecular Biology of the Cell*. • Brooks' *Medical Microbiology*. • Jawetz, Melnick & Adelberg's *Medical Microbiology*.
Recommended Books & References (Scientific Journals, Reports …)	• *Nature Reviews Microbiology* • *Nature Reviews Genetics* • *Journal of Oral Biology and Craniofacial Research* • *Journal of Dental Research* • *Clinical Microbiology Reviews*
Websites or Electronic References	• National Center for Biotechnology Information (NCBI) • PubMed • World Health Organization (WHO) • Centers for Disease Control and Prevention (CDC) • American Society for Microbiology (ASM)

جامعة البيان

Course Description (1)

1. Course Title	**Medical chemistry**
2. Course Code	**050104**
3. Semester/Year	**Year**
4. Description Preparation Date	**2026-2027**
5. Available Attendance Form	**Lectures and laboratories**
6. No. of Hours (Total)	**60 hours' lectures** **60 hours labs**
7. No. of Credits (Total)	**6 units**
8. Course Administrator Name	**Aya mohammed saadoun**
9. E-mail	**Aya.m@albayan.edu.iq**

10. Course Objectives

Knowledge	A1	Preparing dental students to be fully aware of the importance of biochemistry and connection with dentistry
	A2	studying the percentage of essential minerals in visceral and structural structures
	A3	studying some chemical reactions within the body of a living organism in order for outputs to fit the needs of the labor market and keep pace with scientific a technological developments in the field of laboratory techniques
	A4	computational chemistry, artificial intelligence (AI), and advanced medical devices i dental research and laboratory
	A5	Understanding the role of social media, digital health communication, and onl medical information in modern oral
Skills	B	Critical thinking, problem-solving, interactive brainstorming, and digital
Value	C	Academic integrity in continuous assessment, seminars, and ethical use of digital healthcare resources.

11. Teaching and Learning Strategies

1.	Lectures using data show and power point	4.	E-learning
2.	Educational films	5.	Smart boards

3.	**Display screens**	6.	**Educational laboratories**

جامعة البيان

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	2	**Acid, Base and Salt**	**Introduction to acid and base**	Data show presentation and white board	quiz
2	2	**preparation of salts**	**Methods of preparation salts**	Data show presentat and white board	Quiz
3	2	**Fluid and electrolyte**	**electrolyte solutions in physiological syste**	Data show presentat and white board	Quiz
4	2	**Buffer-pH and Acid-Balance**	**Buffer system in biological fluids**	Data show presentat and white board	Quiz
5	2	**acid-base balance and bl pH**	**PH of blood regulation mechanism**	Data show presentat and white board	Quiz
6	2	**Colloids**	**Colloids and colloidal dispersions**	Data show presentat and white board	Quiz
7	2	**Chirality**	**Chirality carbon and its importance in biological stereochemistry**	Data show presentat and white board	Quiz
8	2	**concentration**	**preparation and calculation of solutions concentration**	Data show presentat and white board	Quiz
9	2	**Pollution**	**Environmental chemical pollution a prevention**	Data show presentat and white board	Quiz
10	2	**Radiochemistry**	**radioactive materials and medi applications**	Data show presentat and white board	Quiz
11	2	**Alkanes and Cycloalkanes**	**aliphatic and cyclic hydrocarbon hemistr**	Data show presentat and white board	Quiz
12	2	**Alkenes and Alkynes**	**preparation and reactions of unsatura hydrocarbon**	Data show presentat and white board	Quiz
13	2	**Aromatic compounds**	**Nomenclature and reactions of Aromatic system**	Data show presentat and white board	Quiz

14	2	**Aromatic compounds Nature**	**Naturally occurring Aromatic structure a benefit**	Data show presentat and white board	Quiz
15	2	**Stereoisomers of Carbon**	**Stereoisomers and molecular geometry**	Data show presentat and white board	Quiz
16	2	**Stereoisomers chemistry**	**Diastereomer and biological activity**	Data show presentat and white board	quiz
17	2	**Alcohols, Phenols, Ethers a Thiols**	**Synthesis and reaction mechanism**	Data show presentat and white board	quiz
18	2	**Carboxylic Acids And Derivatives , part 1**	**Derivatives of Carboxylic Acids**	Data show presentat and white board	quiz
19	2	**Carboxylic Acids And Derivatives , part 2**	**Synthesis and reaction of Derivatives**	Data show presentat and white board	Quiz
20	2	**Aldehydes and ketones**	**Nomenclature , preparation and reaction**	Data show presentat and white board	Quiz
21	2	**Carbohydrates**	**Classification and chemistry of carbohydrate**	Data show presentat and white board	Quiz
22	2	**Monosaccharide's**	**Chemical composition and cyclic form**	Data show presentat and white board	Quiz
23	2	**Disaccharides Carbohydra and oral health**	**Impact of sugar on plaque , biofilm and oral bacterial**	Data show presentat and white board	Quiz
24	2	**Lipids**	**Structural biochemistry of simple a complex lipids**	Data show presentat and white board	Quiz
25	2	**Derived lipids & Oral healt**	**The role of lipids in periodontal health a inflammation**	Data show presentat and white board	Quiz
26	2	**Proteins & amino acid**	**Amino acid structure, protein folding a functions**	Data show presentat and white board	Quiz
27	2	**Protein in oral biology**	**salivary proteins, enamel matrix, a structural proteins**	Data show presentat and white board	Quiz

28	2	**Nucleic Acids & molecular Genetic**	**Nucleosides ,Nucleotides ,and DNA/RNA biochemistry**	Data show presentat and white board	Quiz\ seminar
29	2	**Artificial Intelligence (AI) Medical & Dental Chemistr**	**Study the composition of Nucleosid Nucleotides Applications of AI in dr design, molecular modeling, predict chemical reactions, and AI-assis biomaterial development**	Smart board And Interactive al tools	Quiz/ presentation
30	2	**Digital Health,Social Media & Modern Chemi Technology**	**Social media impact on public dental hea awareness, digital health literacy, evaluat online chemical/medical claims, and mod diagnostic technologies**	Interactive seminar, And, case discussion	Final evaluation \ seminar

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13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير والعرض التقديمي .... الخ

14. Learning & Teaching Resources

1. **Ferrier, D. R.** (2017). *Lippincott Illustrated Reviews: Biochemistry* (7th ed.). Wolters Kluwer.
2. **Denniston, K. J., Topping, J. J., & Caret, R. L.** (2020). *General, Organic, and Biological Chemistry* (10th ed.). McGraw-Hill Education.
3. **Eliel, E. L., & Wilen, S. H.** (1994). *Stereochemistry of Organic Compounds*. John Wiley & Sons.

Main & Recommended References

1. **Nelson, D. L., & Cox, M. M.** (2021). *Lehninger Principles of Biochemistry* (8th ed.). W. H. Freeman and Company.
2. **Schleyer, P. v. R., et al.** (Eds.). *Encyclopedia of Computational Chemistry*. Wiley..
3. **Hung, M., et al.** (2020). "Application of Artificial Intelligence in Dentistry and Oral Health." *Journal of Dental Research*, 99(11), 1220–1228.

Electronic References & Web Portals

PubChem - National Center for Biotechnology Information (NCBI): https://pubchem.ncbi.nlm.nih.gov

ScienceDirect (Biochemistry & Dental Materials): https://www.sciencedirect.com

RSC Chemical Biology & AI in Chemistry (Royal Society of Chemistry): https://pubs.rsc.org

جامعة البيان

Course Description (1)

1. Course Title	**General histology**
2. Course Code	**050204**
3. Semester/Year	**Year**
4. Description Preparation Date	**2026-2027**
5. Available Attendance Form	**Theoretical and practical lectures**
6. No. of Hours (Total)	**60 hours theory , 60 hours practical**
7. No. of Credits (Total)	**6**
8. Course Administrator Name	**Hadeel talal ayash**
9. E-mail	**hadeel.t@albayan.edu.iq**

10. Course Objectives :

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Knowledge	**A1**	Enable students to acquire a comprehensive understanding of the fundamental concepts of general histology**,** including cell structure, the major types of tissues, and the histological organization of the different organs and body systems, with an emphasis on the relationship between tissue structure and function
	A2	Develop students' ability to examine and identify histological specimens by recognizing the characteristic microscopic features of different tissues and organs and by using light microscopy and practical laboratory techniques to distinguish and interpret various histological structures
	A3	Develop students' scientific skills, critical thinking, and problem-solving abilities through discussion, brainstorming, observation, deduction, and active participation in theoretical and practical sessions, while encouraging them to relate histological knowledge to relevant medical and clinical applications in dentistry
	A4	Prepare students scientifically and professionally to apply their acquired histological knowledge and practical skills in their future dental practice, while promoting effective scientific communication, positive professional attitudes, and the ability to integrate histology with other medical and dental sciences.
Skills	**B1**	1. Acquiring skills and information's that help the student in diagnosing and how to examine different histological slide sections.
	B2	Motivating the student through the expression style, thinking, and quick communicat and response.
	B3	Encouraging the student to solve problems and possess distinctive thinking.
	B4	Relying on student interaction and brainstorming in the lecture.
Values	**C1**	Professional preparation and promotion of positive behavior in public life
	C2	Scientific preparation and encouragement of students to communicate in other fields science.
	C3	Cultural preparation and refining of the student's personality.

	C4	Employing acquired skills for the student to become a dentist capable of Examin histological sections.

11. Teaching and Learning Strategies

1.	Lectures using Data show and power point.	**4.**	Electronic education
2.	Educational films	**5.**	Practical Examination of histological slides
3.	Monitors	**6.**	Data show

جامعة البيان

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	**2**	• **Introduction to Cells** • Structure of the cell • Cell organelles and their functions • Cell membrane and transport mechanisms • **Basic Tissue Types** • Overview of the four basic tissue types: epithelial, connective, muscle, and nervous tissue	**Cells, Basic Tissue**	**Data show presentation and white board and microscope**	**Short quiz**
2	**2**	○ **Types of Epithelial Tissue** ○ Simple vs. stratified epithelium ○ Squamous, cuboidal, and columnar shapes ○ **Functions of Epithelial Tissue** ○ Protection, absorption, secretion, and sensation ○ **Locations and Examples** ○ Skin, lining of organs, glands ○ **Histologic basis of tissue regeneration and repair** ○ **Histologic changes during aging**	**Epithelial Tissue**	**Data show presentation and white board and microscope**	**Oral examination**
3	**2**	• **Types of Connective Tissue** ○ Loose connective tissue ○ Dense connective tissue ○ Specialized connective tissues (adipose, cartilage, bone, blood) • **Functions of Connective Tissue** ○ Support, protection,	**Connective Tissue**	**Data show presentation and white board and microscope**	**Oral examination**

		insulation, transportation • **Components of Connective Tissue** ○ Extracellular matrix, fibers, and cells • **Histologic basis of tissue regeneration and repair** • **Histologic basis of oral wound healing**			
4	**2**	• **Anatomy of the Conducting Portion** ○ Nose, nasal cavity, pharynx, larynx, trachea, bronchi • **Functions** ○ Air passage, filtration, humidification, and warming • **Histology of Conducting Structures** ○ Mucosa, submucosa, and adventitia layers	**Respiratory System: conducting portion**	**Data show presentation and white board**	**Oral examination**
5	**2**	• **Anatomy of the Respiratory Portion** ○ Bronchioles, alveolar ducts, alveoli • **Gas Exchange Mechanism** ○ Structure of alveoli and pulmonary capillaries • **Respiratory Membrane** ○ Composition and function	**Respiratory System: Respiratory portion**	**Data show presentation and white board and microscope**	**1st term examination**
6	**2**	• **Structure of the Kidney** ○ Anatomy of the nephron (glomerulus, tubules) • **Nephron Functions** ○ Filtration, reabsorption, secretion	**Urinary System: kidney nephrons, collecting tubules and ducts**	**Data show presentation and white board and microscope**	**Oral examination**

		• **Collecting System** ○ Role of collecting tubules and ducts in urine formation			
7	**2**	• **Anatomy of the Ureters** ○ Structure and function • **Urinary Bladder** ○ Layers of the bladder wall and function • **Urethra Differences** ○ Male vs. female urethra anatomy and function	**Urinary System: ureter, urinary, bladder and male and female urethra**	**Data show presentation and white board**	**Oral examination**
8	**2**	• **Layers of the Skin** ○ Epidermis: cell types, keratinization ○ Dermis: papillary and reticular layers • **Skin Functions** ○ Protection, temperature regulation, sensation	**Integumentary System: Skin: epidermis, dermis**	**Data show presentation and white board and microscope**	**Oral examination**
9	**2**	• **Skin Glands** ○ Sebaceous glands, sweat glands, and their functions • **Hair Structure and Function** ○ Follicles, growth cycle • **Nails** ○ Structure, growth, and function	**Integumentary System: skin glands, hair, and nails**	**Data show presentation and white board and microscope**	**Oral examination**
10	**2**	• **Bone Marrow Structure** ○ Red vs. yellow marrow	**Hemopoiesis: Bone marrow**	**Data show presentation and white board and microscope**	**Oral examination**

		• **Hemopoiesis Process** ○ Stem cells and differentiation into blood cells • Bone Remodeling			
11	**2**	• **Types of Blood Cells** ○ Erythrocytes, leukocytes, thrombocytes • **Functions of Blood Cells** ○ Oxygen transport, immune response, clotting	**Hemopoiesis : blood cells**	**Data show presentation and white board and microscope**	**Oral examination**
12	**2**	• **Components of the Circulatory System** ○ Heart, blood vessels, blood • **Heart Anatomy and Function** ○ Chambers, valves, and conduction system	**Circulatory System**	**Data show presentation and white board**	**Oral examination**
13	**2**	• **Blood Vessels** ○ Arteries, veins, capillaries • **Blood Flow Pathway** ○ Systemic vs. pulmonary circulation	**Circulatory System**	**Data show presentation and white board**	**Oral examination**
14	**2**	• **Overview of the Lymphatic System** ○ Components: lymph nodes, lymph vessels, spleen, thymus • **Functions of the Lymphatic System** ○ Fluid balance, immune response	**Lymphoid System**	**Data show presentation and white board and microscope**	**Oral examination**
15	**2**	• **Lymphatic Organs** ○ Structure and function of	**Lymphoid System**	**Data show presentation and white board**	**Mid term examination**

		lymph nodes, spleen, and thymus • **Lymphocyte Development** ○ Role of bone marrow and thymus			
16	**2**	• **Overview of the Nervous System** ○ Central vs. peripheral nervous system • **Neurons and Glial Cells** ○ Structure and function of neurons ○ Types and roles of glial cells	**Nervous System**	**Data show presentation and white board**	**Oral examination**
17	**2**	• **Brain Anatomy and Function** ○ Major regions (cerebrum, cerebellum, brainstem) • **Spinal Cord Structure** ○ Segments and function	**Nervous System**	**Data show presentation and white board**	**Oral examination**
18	**2**	• **Overview of the Endocrine System** ○ Major glands: pituitary, thyroid, adrenal • **Hormones and Their Functions** ○ Mechanisms of hormone action	**Endocrine System**	**Data show presentation and white board and microscope**	**Oral examination**
19	**2**	• **Regulation of Hormonal Activity** ○ Feedback mechanisms (negative and positive) • **Disorders of the Endocrine System** ○ Common endocrine disorders	**Endocrine System**	**Data show presentation and white board**	**Oral examination**

20	**2**	• **Interactions with Other Systems** ○ Nervous and endocrine system interplay • **Clinical Applications** ○ Hormone replacement therapies and treatments	**Endocrine System**	**Data show presentation and white board**	**Oral examination**
21	**2**	• **Overview of the Digestive System** ○ Anatomy: mouth, esophagus, stomach • **Digestive Processes** ○ Mechanical and chemical digestion	**Digestive System**	**Data show presentation and white board and microscope**	**Oral examination**
22	**2**	• **Small Intestine Anatomy and Function** ○ Duodenum, jejunum, ileum • **Absorption Mechanisms** ○ Nutrient absorption processes	**Digestive System**	**Data show presentation and white board and microscope**	**Oral examination**
23	**2**	• **Large Intestine Anatomy and Function** ○ Structure and role in water absorption • **Gut Microbiota** ○ Importance in digestion and health	**Digestive System**	**Data show presentation and white board**	**Oral examination**
24	**2**	• **Accessory Organs** ○ Liver, pancreas, gallbladder • **Digestive Enzymes and Bile** ○ Functions and roles in	**Digestive System**	**Data show presentation and white board and microscope**	**Oral examination**

		digestion			
25	**2**	• **Anatomy of Male Reproductive Organs** ○ Testes, epididymis, vas deferens • **Spermatogenesis** ○ Process of sperm production	**Male Reproductive System**	**Data show presentation and white board and microscope**	**Oral examination**
26	**2**	• **Accessory Glands** ○ Seminal vesicles, prostate gland, bulbourethral glands • **Hormonal Regulation** ○ Role of testosterone and its effects	**Male Reproductive System**	**Data show presentation and white board**	**Oral examination**
27	**2**	• **Anatomy of Female Reproductive Organs** ○ Ovaries, fallopian tubes, uterus, vagina • **Oogenesis** ○ Process of egg formation	**Female Reproductive System**	**Data show presentation and white board**	**Oral examination**
28	**2**	• **Menstrual Cycle Phases** ○ Follicular, ovulatory, luteal phases • **Hormonal Regulation** ○ Role of estrogen and progesterone	**Female Reproductive System**	**Data show presentation and white board**	**2nd term examination**
29	**2**	• **Anatomy of the Eye** ○ Structure of the eyeball (cornea, lens, retina)	**Special Sense Organs: eye**	**Data show presentation and white board**	**Oral examination**

		• **Visual Pathway** ○ How light is processed and transmitted to the brain			
30	**2**	• **Anatomy of the Ear** ○ Outer, middle, and inner ear structures • **Hearing Mechanism** ○ Sound transmission and processing	**Special Sense Organs: ear**	**Data show presentation and white board**	**Final examination**

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13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

Distribution of the score out of 100 according to the tasks assigned to the student, such as daily preparation, daily exams, oral, monthly, written and records

Includes:

1. **Daily and term exams**
2. **Mid term exam**

Final exam (theory and practical)

Distribution degree	Method of evaluation
Theory 10 % practical 15%	1st + 2nd term 25%
15%	Mid term theory
20% practical + 40% theory	Final exam 60%
65 % theory 35 % practical	Total 100%

14. Learning & Teaching Resources

Required textbooks (curricular if any)	**1. unqueira's Basic Histology TEXT & ATLAS llustrated Dental ,Histology ,Embryology and Anatomy .** **Author: Anthony L MESCHER .Margaret J Fehrenbach and Tracy Popowics**
Main References (sources)	**1. Atlas of human histology** **Handbook of basic general histology (author:datis kalali)**
Recommended Books & References (Scientific Journals, Reports …)	**HISTOLOGY FULL-TEXT** **William A Beresford MA, D Phil©** **Professor of Anatomy** **Anatomy Department, West Virginia University, Morgantown, USA**

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Websites or Electronic References	1. **Pubmed** 2. **Scopas**

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Course Description (1)

1. Course Title	**PHYSIOLOGY**
2. Course Code	**050205**
3. Semester/Year	**year**
4. Description Preparation Date	**2026 / 2027**
5. Available Attendance Form	**Theoretical and practical lectures**
6. No. of Hours (Total)	**60 hours theory, 60 hours practical**
7. No. of Credits (Total)	**6**
8. Course Administrator Name	**Prof. Dr. Sahib M. H. Mohammadbakir**
9. E-mail	**Sahib.mohammad@albayan.edu.iq**

10. Course Objectives

The course of human physiology, highlight about the study of the function and regulation of the human body and the complexities and interactions of cells, tissues, major organs and systems. Lectures covering membrane transport mechanisms; intracellular and electrical signaling; the physiology of excitable tissues; the physiology of blood; the cardiovascular system, gastrointestinal tract; the respiratory system; the renal system; endocrinology; and the reproductive system.

Practical part of physiology: Students will study most the experiments that have relationship with the blood picture.

Knowledge	**A1**	Urging students to identify the normal functions of the human body and compare that with abnormal imbalances.
	A2	Gaining experience and information that will help him identify the disease a know its causes.
	A3	Increasing students' knowledge of methods for examining and helping to identify some the conditions associated with blood changes through practical lectures in the laboratory.
	A4	
Skills	**B1**	Acquiring skills in conducting some blood-related tests
	B2	Motivating the student through the expression style, thinking, and qu communicate and response.
	B3	Encouraging the student to solve problems and possess distinctive thinking
	B4	Relying on student interaction and brainstorming in the lecture
Values	**C1**	Professional preparation and promotion of positive behavior in public life
	C2	Scientific preparation and encouragement of students to communicate in other fields science

	C3	Cultural preparation and refining of the student's personality
	C4	Employing acquired skills for the student to become a dentist capable of Examination of histological sections.

11. Teaching and Learning Strategies

1.	Lectures using Data show and power point.	**4.**	Electronic education
2.	Educational films	**5.**	Smart Whiteboards
3.	Monitors	**6.**	Practical Examination of physiology experiments

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Introduction: Function organization of the human body, Cell physiology, Cell membrane, Cell components, Cell Junction.	Introduction: Cell physiology	Data show presentation and white board	Short quiz
2	2	Homeostasis and Transport across cell membrane (Diffusion (passive), Carrier-mediated transport (passive or active), Vesicular transport). Protein Channels. Special Types of Passive and Active Transport. 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, Dehydration, Types of dehydration, Classification, Causes, Signs and Symptoms of Dehydrations). Mode of Action of Homeostatic Control System	Body fluid, Edema, Homeostasis and Transport across cell membrane	Data show presentation and white board	Short quiz
3	2	Oral cavity and Salivary Glands (Functions of Mouth, Salivary Glands (Structure, Developme Major glands, Minor glands. Classification of salivary Glands. Factors Influencing Salivary Flow and Composition. Mastication. Deglutitic Bolus Formation for Swallowing, Digestion), (Speech: Definition, Mechanism, Nervous Control, Applied Physiology.	Oral Cavity and Salivary Glands	Data show presentation and white board	Short quiz

4	2	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,	Salivary function and Salivary Secretion	Data show presentation and white board	Short quiz
5	2	BLOOD (Composition of blood, Hematocrit, Plasma, Functions of blood), Red blood cells: (Genesis of RBCs. Advantages of biconcave shape of RBC, Process of Erythropoiesis. Factors necessary for Erythropoiesis. Properties of RBC. Polycythemia, Anemia, Destruction of RBCs). Platelets. Lymph.	Blood: Erythrocytes	Data show presentation and white board	Short quiz
6	2	Hemoglobin (Hb): Function of Hb. Formation of Hemoglobin. Abnormal Hb derivatives. Iron Metabolism. Hb Compounds. Destruction Hb. The common causes of jaundice)	Hemoglobin	Data show presentation and white board	Short quiz
7	2	White Blood Cells (Types of W.B.C., Genesis the leukocytes, Life span of the W.B.C, Properties of WBCs. Phagocytosis, Inflammation, Leukemia's, Leukopenia)	White Blood Cells	Data show presentation and white board	Short quiz
8	2	Blood groups (Agglutination, Agglutinins, The Rh Group, Formation of Anti-Rh, agglutinins, Erythroblastosis Fetalis, Effect of Mother's Antibodies on the Fetus, Transfusion Reactions resulting from mismatched Blood Types, Nature of Antibodies)	Blood Groups	Data show presentation and white board	Short quiz
9	2	Hemostasis and blood coagulation. Vascular Spasm, Formation and 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)	Hemostasis and blood coagulation	Data show presentation and white board	Short quiz

10	2	Cardiovascular system: Blood vessels (Heart: Layers, Valves, Actions of heart, Blood Vessel Division of circulation, Properties of Cardiac Muscle, Excitability: Action Potential and Ionic Basis, Conductive system of Human Heart. Rhythmicity, Contractility, All-or-None Law, Staircase Phenomenon, Summation of Subliminal Stimuli, Refractory period (Absolute and refractory Periods).	Cardiovascular system: Blood vessels	Data show presentation and white board	Short quiz
11	2	Cardiovascular system: Blood pressure. Cardiac Cycle, Heart Sounds, Cardiac Output, Heart Rate and Regulation, Arterial Blood Pressure and Regulation of ABP. Factors Maintaining ABP. Regulation of ABP. Mechanism of Action of Vasomotor Center in Regulation of ABP. Baroreceptors. Chemoreceptors. Regulation of Extracellular Fluid Volume. Through renin-Angiotensin Mechanism. Local Mechanism for Regulation BP. Pathological variations. Venous Pressure and Capillary Pressure, Arterial Pulse and Venous Pulse, Regional Circulation.	Cardiovascular system: Blood pressure	Data show presentation and white board	Short quiz
12	2	Applied Physiology: Cardiovascular system (Electrocardiogram, Hemorrhage, Circulatory Shock and Heart Failure, Cardiovascular Adjustments during Exercise)	Cardiovascular system (Electrocardiogram)	Data show presentation and white board	Short quiz
13	2	Respiratory system: Types of Respiration, Stages of Respiration, Respiratory tract, Non respiratory functions of respiratory tract, Mechanics of Pulmonary Ventilation, Types of Respiratory pressures, Compliance. Factors causing and preventing collapsing tendency of lungs. Surfactant. Pulmonary BP.	Respiratory system	Data show presentation and white board	Short quiz
14	2	Respiratory system: Lung volumes and	Respiratory system: Lung	Data show presentation	Short quiz

		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. Respiratory Protective Reflexes. Regulation of Respiration. Oxygen-Hemoglobin Dissociation Curve. Hypoxia and Hypoxemia.	volumes and capacities	and white board	
15	2	**EXAMINATION**	**EXAMINATION**	**EXAMINATION**	**EXAMINATION**
16	2	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)	Urinary system	Data show presentation and white board	Short quiz
17	2	Urinary system: Urine formation. Mechanism of urine formation, Glomerular Filtration, Pressure determining filtration, Tubular Reabsorption, Tubular secretion. Micturition, Nerve supply to urinary bladder and sphincters, Renal Function Tests, Relation between renal disease & oral health. Kidneys Acid-Base Balance.	Urinary system: Urine formation	Data show presentation and white board	Short quiz
18	2	Muscular system: Muscle structure (Types, Structure, Microscopic Structure, Muscle Physiology, Properties, Contraction and contractile elements, Tone, Electrical and Molecular Changes during Muscular Contraction)	Muscular system: Muscle structure	Data show presentation and white board	Short quiz
19	2	Muscular system: Tone, contraction: Molecular Changes During Muscular Contraction, Neuromuscular Junction-	Muscular system: Tone, contraction	Data show presentation and white board	Short quiz

		Neuromuscular Transmission and Blockers, Nutrition and Metabolism. Energy Requirements. Smooth muscles			
20	2	Nervous System: Nerve impulse, synapses, Nervous System Division, Cranial nerves, Neuron and Neuroglia, Receptors, Nerve impulse, Synapse and Neurotransmitters. Function Classification. Autonomic Nervous System (ANS).	Nervous System: Nerve impul synapses	Data show presentation and white board	Short quiz
21	2	Nervous System (Reflex Activity, Somatosensory System and Somatomotor System, Physiology of Pain)	Nervous System	Data show presentation and white board	Short quiz
22	2	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)	Special sensation	Data show presentation and white board	Short quiz
23	2	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” Excitati of heat production)	Temperature of the Body	Data show presentation and white board	Short quiz
24	2	Endocrine System (Introduction, Endocrine glands, Hormones, Nature of Hormones, Classification of hormones, Hormone Secretors, Hormonal action. Hormone receptors, Synthesis and storage of	Endocrine System	Data show presentation and white board	Short quiz

		hormones, Mechanism of hormonal function, Measurement of Hormone Concentrations in the Blood)			
25	2	Major Endocrine Glands (Oral manifestations endocrine dysfunction, Control Systems Involving Hypothalamus and Pituitary glands, The pituitary gland, Thyroid gland, Pancreas gland, Adrenal glands)	Major Endocrine Glands	Data show presentation and white board	Short quiz
26	2	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	Digestive system	Data show presentation and white board	Short quiz
27	2	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, Movement in the Large Intestine Digestion, Absorption, and Transport)	Digestive system	Data show presentation and white board	Short quiz
28	2	Reproductive system: Aging & reproductive system (Male Reproductive System Female Reproductive System, Meiosis, Aging and Reproductive system.	Reproductive system: Aging & reproductive system	Data show presentation and white board	Short quiz
29	2	Aviation and Deep physiology (Body Response in high altitudes, physiological Changes in the Sea deep). Nutrition and metabolism (daily energy requirement, obesity and fitness)	Aviation and Deep physiology	Data show presentation and white board	Short quiz
30	2	**EXAMINATION**	**EXAMINATION**	**EXAMINATION**	**EXAMINATION**

13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

Distribution of the score out of 100 according to the tasks assigned to the student, such as daily preparation, daily exams, oral, monthly, written and records

Includes:

1. Daily and term exams

2. Mid-term exam Final exam (theory and practical)

No.	Evaluation methods	Grading Distribution
1	25% The first + the second semester	Theoretical 10% Practical 15%
2	15% Midyear exam	Theoretical 15%
3	60% Final exam	Theoretical 40% Practical 20%
4	100%	Theoretical 65% Practical 35%

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Essentials of physiology for Dental Students. K Sembulingam A TEXTBOOK OF PRACTICAL PHYSIOLOGY. CL Ghai
Main References (sources)	Essentials of Medical Physiology. K Sembulingam and Prema Sembulingam
Recommended Books & References (Scientific Journals, Reports …)	Guyton and Hall Textbook of Medical Physiology. John E. Hall. Ganong's Review of Medical Physiology
Websites or Electronic References	

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Course Description (1)

1. Course Title	**Microbiology**
2. Course Code	**050309**
3. Semester/Year	Third Year / First and Second Semesters
4. Description Preparation Date	**2026–2027 Academic Year**
5. Available Attendance Form	**Full-time (In-person): Lectures, Laboratory Sessions, Seminars, and E-learning Activities**
6. No. of Hours (Total)	**120 Hours** (Theory: 60 Hours; Laboratory: 60 Hours)
7. No. of Credits (Total)	**6 Credits** (Theory: 4 Credits; Laboratory: 2 Credits)
8. Course Administrator Name	Dr. Susan Fawzi Khadhem Al-Sudani
9. E-mail	**Susan.f@albayan.edu.iq**

10. Course Objective: The Microbiology course provides undergraduate dental students with a comprehensive understanding of medically important microorganisms and their role in oral and systemic diseases. The course covers bacterial morphology, physiology, genetics, metabolism, immunology, sterilization and disinfection, antimicrobial agents, microbial pathogenesis, and host–microbe interactions. Students study clinically significant bacteria, viruses, fungi, and parasites associated with oral and systemic infections, dental caries, periodontal diseases, and endodontic infections. Laboratory sessions emphasize aseptic techniques, microbial cultivation, staining methods, bacterial identification, biochemical and serological testing, antimicrobial susceptibility testing, and molecular diagnostic techniques. The course also introduces Artificial Intelligence (AI) applications in medical and oral microbiology, including AI-assisted microbial identification, laboratory automation, antimicrobial susceptibility analysis, oral microbiome analysis, and digital diagnostic technologies, preparing students for modern evidence-based dental practice.

Knowledge	**A1**	Explain the morphology, physiology, metabolism, genetics, a classification of medically important microorganisms relevant to oral a systemic diseases.
	A2	Describe the principles of immunology, host–microbe interactions, microb pathogenesis, sterilization, disinfection, antimicrobial agents, a mechanisms of antimicrobial resistance.

	A3	Discuss the microbiology of dental caries, periodontal diseases, endodon infections, oral mycology, oral virology, and oral parasitology, includi their prevention and control.
	A4	Explain the principles and applications of modern diagnostic techniqu including molecular microbiology and Artificial Intelligence (applications in medical and oral microbiology.
Skills	**B1**	Perform basic microbiological laboratory procedures safely, includi specimen collection, culture techniques, staining methods, microb identification, biochemical testing, and antimicrobial susceptibility testing.
	B2	Interpret microbiological laboratory results and correlate findings w clinical manifestations of oral and systemic infectious diseases.
	B3	Apply infection prevention and control measures, sterilization, disinfecti protocols, and biosafety principles in dental practice and microbiolo laboratories.
	B4	Utilize digital technologies and AI-assisted tools for microbial identificati laboratory data interpretation, and evidence-based clinical decision-making
Values	**C1**	Demonstrate professionalism, ethical responsibility, teamwork, biosafety awareness, lifelong learning, and commitment to evidence-based practice in microbiology and dental healthcare.
	C2	Adhere to infection prevention and control guidelines, laboratory safety regulations, and ethical standards when handling microorganisms and biological specimens.
	C3	Demonstrate effective communication, teamwork, and respect for colleagues and patients during laboratory activities and clinical practice.
	C4	Appreciate the importance of continuous professional development by integrating emerging technologies, including Artificial Intelligence (AI), and evidence-based scientific advances into microbiology and dental practice.

11. Teaching and Learning Strategies

1.	Interactive lectures supported by multimedia presentations to explain fundamental concepts of microbiology and their applications in oral and systemic health.	**4.**	Small-group discussions, seminars, and student presentations to enhance communication skills, teamwork, and independent learning.
2.	Laboratory practical sessions focusing on aseptic techniques, microbial cultivation, staining methods, microscopic examination,	**5.**	Self-directed learning through literature review, scientific articles, online databases, and evidence-based learning resources.

	biochemical identification, and antimicrobial susceptibility testing.		
3.	Case-based learning (CBL) and problem-based learning (PBL) to develop critical thinking and clinical decision-making skills in diagnosing and managing microbial diseases.	**6.**	Integration of digital learning technologies and Artificial Intelligence (AI) tools for microbial identification, laboratory data interpretation, virtual microscopy, oral microbiome analysis, and simulation-based learning.

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	2	Microbial Structure and Function	Morphology, Ultrastructure, Physiology and Metabolism of Microorganisms	Interactive lecture, multimedia presentation	Quiz, class participation
2	2	Microbial Growth and Genetics	Microbial Growth, Metabolism of Microorganisms, Molecular Biology and Bacterial Genetics	Lecture, discussion	Quiz
3	2	Sterilization and Disinfection	Sterilization and Disinfection	Lecture, laboratory demonstration	Written examination
4	2	Antibiotics and Chemotherapy	Antibiotics and Chemotherapy	Lecture, case-based learning	Quiz, assignment
5	2	General and Oral Immunology	Introduction to General and Oral Immunology	Interactive lecture	Midterm examination
6	2	Immune System and HLA	Cells and Organs of the Immune System, Complement System and HLA	Lecture, discussion	Quiz
7	2	Mucosal Immunity and Autoimmunity	Oral and Mucosal Immunity, Autoimmunity and Immune Tolerance	Lecture	Written examination
8	2	AI in Microbiology	Artificial Intelligence in Medical and Oral Microbiology	Interactive lecture, AI demonstration	Presentation, assignment
9	2	Hypersensitivity and Salivary Defense	Hypersensitivity Reactions and Immunological Defenses of Saliva	Lecture	Quiz
10	2	Host–Parasite	Host–Parasite Relationship and	Lecture, case	Written examination

		Relationship	Nosocomial Infection	discussion	
11	2	Streptococci	Streptococci	Lecture	Quiz
12	2	Staphylococci	Staphylococci	Lecture	Quiz
13	2	Gram-Negative Cocci	Gram-negative Diplococci, Veillonella and Moraxella	Lecture	Written examination
14	2	Lactobacilli and Actinomyces	Lactobacilli, Actinomyces, Corynebacterium diphtheriae and Diphtheroids	Lecture	Quiz
15	2	Bacillus	Bacillus spp.	Lecture	Practical assessment
16	2	Clostridium	Clostridium spp.	Lecture	Quiz
17	2	Enterobacteriaceae I	Enterobacteriaceae: *Escherichia coli*, *Salmonella* and *Shigella*	Lecture	Quiz
18	2	Enterobacteriaceae II	Enterobacter, Klebsiella, Proteus and Yersinia	Lecture	Written examination
19	2	Mycobacterium	Mycobacterium: Tuberculosis and Leprosy	Lecture	Quiz
20	2	Brucella, Haemophilus and Vibrio	Brucella, Haemophilus and Vibrio	Lecture	Assignment
21	2	Anaerobic Oral Bacteria	Aggregatibacter, Porphyromonas, Prevotella and Bacteroides	Lecture	Quiz
22	2	Fusiforms and Spirochaetes	Fusiforms and Spirochaetes	Lecture	Quiz
23	2	Treponema	Treponema and Oral Treponema	Lecture	Written examination
24	2	Atypical Bacteria	Mycoplasma, Chlamydia and Rickettsiae	Lecture	Quiz
25	2	Oral Microbial Ecology	Ecology of Oral Flora	Lecture, discussion	Assignment
26	2	Dental Caries	Microbiology of Dental Caries	Lecture, case-based	Written examination

		Microbiology		learning	
27	2	Oral Colonization and Caries Prevention	Microbial Colonization, Caries Prevention and Antibacterial Factors in Saliva	Lecture	Quiz
28	2	Periodontal and Endodontic Microbiology	Microbiology of Periodontal Disease and Endodontics	Lecture, seminar	Midterm examination
29	2	AI in Clinical Microbiology	Artificial Intelligence in Clinical Microbiology	Interactive lecture, digital demonstration	Presentation, assignment
30	2	AI in Oral Microbiology and Dentistry	Artificial Intelligence in Oral Microbiology and Dentistry	Interactive lecture, AI-based case study	Assignment, seminar evaluation

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13. Course Evaluation	
توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Marsh, P. D., & Martin, M. V. (2023). *Oral Microbiology* (7th ed.). Elsevier. 2. Murray, P. R., Rosenthal, K. S., & Pfaller, M. A. (2024). *Medical Microbiology* (10th ed.). Elsevier. 3. Jawetz, Melnick & Adelberg's *Medical Microbiology* (29th ed., 2024). McGraw-Hill Education.
Main References (sources)	1. Brooks, G. F., Carroll, K. C., Butel, J. S., Morse, S. A., & Mietzner, T. A. *Jawetz, Melnick & Adelberg's Medical Microbiology* (29th ed.). McGraw-Hill. 2. Tille, P. (2022). *Bailey & Scott's Diagnostic Microbiology* (15th ed.). Elsevier. 3. Willey, J., Sherwood, L., & Woolverton, C. (2023). *Prescott's Microbiology* (12th ed.). McGraw-Hill.
Recommended Books & References (Scientific Journals, Reports …)	• *Journal of Clinical Microbiology* (ASM). • *Clinical Microbiology Reviews*. • *Journal of Oral Microbiology*. • *Journal of Dental Research*. • *Journal of Oral Microbiology and Immunology*. • *Nature Reviews Microbiology*. • *Clinical Infectious Diseases*.
Websites or Electronic References	• World Health Organization (WHO): https://www.who.int • Centers for Disease Control and Prevention (CDC): https://www.cdc.gov • American Society for Microbiology (ASM): https://asm.org

	• National Center for Biotechnology Information (NCBI): https://www.ncbi.nlm.nih.gov • PubMed: https://pubmed.ncbi.nlm.nih.gov • European Centre for Disease Prevention and Control (ECDC): https://www.ecdc.europa.eu • International Association for Dental Research (IADR): https://www.iadr.org

جامعة البيان

Course Description (1)

1. Course Title	**Pharmacology**
2. Course Code	**050305**
3. Semester/Year	**Annually**
4. Description Preparation Date	**28-7-2026**
5. Available Attendance Form	**Lecs and labs**
6. No. of Hours (Total)	**60 hours lectures + 60 hours laboratory**
7. No. of Credits (Total)	**6 units**
8. Course Administrator Name	**Ass.lec Huda abdul baqi Rasheed**
9. E-mail	**Huda.ab@albayan.edu.iq**

10. Course Objectives

Knowledge	**A1**	Enabling students to understand the subject of pharmacology
	A2	Enabling students to learn about the most commonly used medications in the field of dentistry, how to use them, the specific therapeutic doses, what their oral effects are, and how to reduce the side effects
	A3	Enabling students to acquire self-learning skills to acquire information, skills, and practices related to medicines
	A4	Enabling student to understand drug interactions and drug side effects
Skills	**B1**	Motivating the student through the style of expression and thinking and the speed of communication and response Urging the student to solve problems and possess distinctive thinking
	B2	The lecture depends on student interaction and brainstorming
	B3	Enabling students to use artificial intelligence systems to assist in supporting clinic decision – making ,reducing medication error and determining precise dosage with high accuracy
	B4	Developing students skills in employing artificial intelligence agorithms to predict drug interactions and side effects and propose customized treatment plans designed for each patients based on clinical data
Values	**C1**	Professional preparation and encouraging the student to have positive behavior in his public life
	C2	Scientific preparation and urging the student to communicate in other fields of science
	C3	Cultural preparation and refining the student's personality
	C4	Utilizing the acquired skills so that the student becomes a dentist capable of treating patients

11. Teaching and Learning Strategies			
1.	Online Authoring systems	4.	Microsoft power point for lecture presentations
2.	Internet access and E-mail	5.	Video and audio media equipment
3.	A data show projector	6.	

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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	General knowledge of pharmacology and medicine	General Pharmacology	Quiz + oral exam	Data show and white board
2	2	Knowledge of drug kinetics and dynamics to know the mechanism of action of drugs.	Pharmacokinetics and pharmacodynamics	Quiz + oral exam	Data show and white board
3	2	Enabling students to know the medications for the parasympathetic nervous system, their reasons for using them, their side effects, and ways to reduce these effects.	Cholinergic drugs (agonist and antagonist)	Quiz + oral exam	Data show and white board
4	2	Enabling students to know the medications for the sympathetic nervous system, their reasons for use, their side effects, and ways to reduce these effects.	Adrenergic drugs (agonist)	Quiz + oral exam	Data show and white board
5	2	Enabling students to know the special medications that act as antagonists to the sympathetic nervous system, the reasons for their use, their side effects, and ways to reduce these effects.	Adrenergic drugs (antagonist)	.Student discussion groups	Data show and white board
6	2	Enabling students to know the medications for the circulatory system and blood pressure medications, the reasons for	Management of hypertension	Student discussion groups.	Data show and white board

		their use, their side effects, and ways to reduce these effects.			
7	2	Enabling students to know the medications for the circulatory system, heart failure medications, and angina pectoris, their reasons for use, their side effects, ways to reduce these effects, and how to deal with emergency situations.	Management of angina and Heart failure	Oral exam	Data show and white board
8	2	Enabling students to know about medications for the heart and irregular heartbeat, the reasons for their use, their side effects, ways to reduce these effects, and how to deal with emergency situations.	Management of arrhythmias	Oral exam	Data show and white board
9	2	Enabling students to know the special medications for hyperlipidemia, the reasons for their use, their side effects, and ways to reduce these effects.	Management of hyperlipidemias	Quiz	Data show and white board
10	2	Enabling students to know the special medications to treat high blood sugar, their reasons for using them, their side effects, ways to reduce these effects, and how to deal with emergency situations.	Management of hyperglycemia	Quiz	Data show and white board
11	2	Enabling students to know the special medications for anxiety and hypnotics, their reasons for using them, their side effects,	Antianxiety and Hypnotics drugs	Student discussion groups.	Data show and white board

		ways to reduce these effects, and how to deal with these medications to reduce addiction.			
12	2	Enabling students to know the medications for psychosis, depression, and epilepsy, their reasons for using them, their side effects, ways to reduce these effects, drug interactions, and how to deal with these medications to reduce addiction.	Antipsychotic, antidepressants and antiepileptic medications	Oral exam	Data show and white board
13	2	Enabling students to know about anesthesia medications, their reasons for using them, their side effects, ways to reduce these effects, drug interactions, and how to deal with these medications to reduce addiction.	Narcotic analgesics	Quiz	Data show and white board
14	2	Enabling students to know about anesthesia medications, their reasons for using them, their side effects, ways to reduce these effects, drug interactions, and how to deal with these medications to reduce addiction.	Local and General anesthetics	Quiz	Data show and white board
15	2	Enabling students to know the special medications for non-steroidal anti-inflammatory drugs (NSAIDs) and prostoglandins, their indications for use, their side effects, ways to reduce these effects, drug interactions, and how to deal	NSAIDs and prostaglandins	Discussion groups	Data show and white board

		with these medications to reduce addiction.			
16	2	Familiarity with anti-gout medications and slow-acting anti-inflammatory drugs	Gout and slow action anti-inflammatory drugs	Oral exam	Data show and white board
17	2	Enabling students to become familiar with antimicrobial medications, how to dispense them, their reasons for use, and their side effects.	Antimicrobial drugs, penicillin's, cephalosporin, macrolides and quinolones	Discussion groups	Data show and white board
18	2	Enabling students to become familiar with antifungal and antiprotozoal medications, how to dispense them, their reasons for use, and their side effects.	Anti-mycobacterial and antiprotozoal drugs	Oral exam	Data show and white board
19	2	Enabling students to become familiar with antifungal and antiviral medications, how to dispense them, their reasons for use, and their side effects.	Antifungal and antiviral drugs	Home work	Data show and white board
20	2	Enabling students to become familiar with anti-cancer drugs, their uses and side effects, and how to control and reduce these effects on the mouth and teeth.	Anti-cancer drugs	Reports	Data show and white board
21	2	Enabling students to become familiar with anti-caries medications, their uses and side effects	Anti-caries and drugs used in dental plaque	Discussion groups	Data show and white board
22	2	Enabling students to become familiar with antihistamine medications, their indications for use, their side effects, and how	Antihistamine and serotonin	Open book exam	Data show and white board

		to control and reduce these effects.			
23	2	Enabling students to become familiar with medications for the respiratory system, their reasons for use, their side effects, and how to control and reduce these effects on the mouth and teeth.	Drugs acting on respiratory system	Home work	Data show and white board
24	2	Enabling students to become familiar with corticosteroid medications, their indications for use, their side effects, and how to control and reduce these effects on the mouth and teeth.	Corticosteroids	Discussion groups	Data show and white board
25	2	Enabling students to become familiar with antiemetic medications and digestive system medications, their reasons for use, and their side effects.	Drugs acting on GIT and vomiting management	Reports	Data show and white board
26	2	Enabling students to become familiar with diuretic drugs, their uses and side effects	Diuretics	Reports	Data show and white board
27	2	Enabling students to become familiar with thyroid medications, their indications for use, their side effects, and how to control and reduce these effects.	Thyroid hormones and anti-thyroid drugs	Home works	Data show and white board
28	2	Enabling students to become familiar with anticoagulant medications, their indications for use, their side effects, and how	Anticoagulants and anti-anemic medications	Oral exam	Data show and white board

		to control and reduce these effects on the mouth and teeth.			
29	2	Enabling students to become familiar with medications related to sex hormones and contraceptive medications, their indications for use, side effects, and drug interactions.	Sex hormones and contraceptive drugs	Quiz	Data show and white board
30	2	Enabling students to become familiar with herbal medicines and toxins, their uses and side effects, and how to control and reduce these effects on the mouth and teeth.	Herbal medicine and toxicology	Quiz	Data show and white board

13. Course Evaluation

No.	Assessment measurement	Score distribution concerning theoretical lectures	Score distribution concerning laboratories
1	First semester	10%	7.5%
2	Mid year examination (15%)	15%	
3	Second semester	10%	7.5%
4	Final examination (60%)	40%	20%
Total	100%	65%	35%

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Lippincott Pharmacology 8th Edition
Main References (sources)	1- Clinical Pharmacology, 11th Ed (2012)- Bennett, Brown. 2-Basic and clinical pharmacology by katzung 16th edition
Recommended Books & References (Scientific Journals, Reports …)	PubMed
Websites or Electronic References	Google scholar and research gate

Course Description (1)

1. Course Title	Research Method
2. Course Code	**050509**
3. Semester/Year	Fifth Year / First Semester
4. Description Preparation Date	**2026–2027 Academic Year**
5. Available Attendance Form	Full-time (In-person): Lectures, Seminars, Workshops, Group Discussions, and E-learning Activities
6. No. of Hours (Total)	30 Hours (Theory: 30 Hours; Research Project Supervision: 30 Hours)
7. No. of Credits (Total)	2 Credits (Theory)
8. Course Administrator Name	Dr. Susan Fawzi Khadhem Al-Sudani
9. E-mail	**Susan.f@albayan.edu.iq**

10. Course Objective: The **Research Method** course equips undergraduate dental students with the fundamental knowledge and practical skills required to design, conduct, analyze, and communicate scientific research. The course covers research methodology, biostatistics, medical research ethics, biosafety, research design, academic writing, citation and referencing, and research protocol development. Students develop critical appraisal skills, evidence-based decision-making, and scientific communication while utilizing modern digital technologies and Artificial Intelligence (AI) tools to support literature searching, reference management, data analysis, and responsible scientific writing.

Knowledge	**A1**	Explain the principles of scientific research, evidence-based practice, and research methodology in dentistry and healthcare.
	A2	Describe basic biostatistics, research ethics, biosafety principles, and responsible conduct of research.
	A3	Discuss research designs, sampling techniques, literature review, citation styles, and research protocol development.
	A4	Explain the applications of digital technologies and Artificial Intelligence (AI) in literature searching, data analysis, reference management, and scientific writing.
Sk	**B1**	Perform literature searches using scientific databases and evaluate

		published scientific evidence.
	B2	Apply statistical methods, academic writing skills, and citation management in scientific research.
	B3	Design a research proposal while adhering to ethical principles, biosafety regulations, and institutional guidelines.
	B4	Utilize AI-assisted and digital research tools for literature review, data interpretation, plagiarism checking, and evidence-based scientific reporting.
Values	**C1**	Demonstrate integrity, professionalism, ethical responsibility, and honesty in scientific research.
	C2	Adhere to research ethics, biosafety regulations, and ethical publication standards.
	C3	Demonstrate teamwork, effective communication, and respect for intellectual property during research activities.
	C4	Appreciate lifelong learning and continuous professional development by integrating emerging technologies and AI into scientific research and evidence-based dental practice.

11. Teaching and Learning Strategies

1.	Interactive lectures supported by multimedia presentations.	**4.**	Hands-on training in literature searching, citation management, and research protocol development.
2.	Small-group discussions, workshops, and seminars.	**5.**	Self-directed learning using scientific databases and evidence-based resources.
3.	Case-based learning and critical appraisal of published research articles.	**6.**	Integration of Artificial Intelligence (AI) and digital tools for literature review, academic writing, data analysis, and research reporting.

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	3	**Introduction to Research Methodology and Evidence-Based Dentistry**	Research concepts; importance of scientific research; principles of evidence-based dentistry; levels of evidence; research process	Interactive lecture	Quiz
2	3	**Biostatistics**	Types of data; descriptive statistics; measures of central tendency; measures of dispersion; probability; hypothesis testing; P-value; confidence intervals	Lecture, practical exercises	Assignment
3	2	**Medical Research Ethics**	Principles of research ethics; informed consent; confidentiality and privacy; participant rights; research ethics committees	Lecture, discussion	Quiz
4	2	**Biosafety in Research**	Biosafety principles; biosafety levels; handling biological specimens; personal protective equipment; risk assessment; biological waste management	Interactive lecture	Written examination
5	3	**Research Design**	Descriptive and analytical studies; cross-sectional studies; case-control studies; cohort studies; clinical trials; selection of appropriate research design	Workshop	Assignment
6	3	**Citation and Referencing in Academic Writing**	Citation styles; in-text citation; reference lists; APA and Vancouver styles; plagiarism; reference management	Practical workshop	Practical assessment
7	2	**Literature Review and Scientific**	Literature review concepts; scientific literature search; electronic databases; keywords; evaluation of scientific sources; organization of	Lecture	Quiz

		Databases	previous studies		
8	2	**Formulating Research Questions and Hypotheses**	Research problem; research objectives; research questions; hypotheses; variables; operational definitions	Seminar	Assignment
9	2	**Sampling Techniques and Data Collection**	Study population; sampling methods; sample size; inclusion and exclusion criteria; data collection tools; data quality	Lecture	Quiz
10	2	**Artificial Intelligence in Scientific Research**	Introduction to AI; AI applications in research; information retrieval; data analysis; advantages and limitations; ethical considerations	AI demonstration	Presentation
11	2	**AI Tools for Academic Writing and Literature Review**	AI-assisted academic writing; intelligent literature search; summarization; literature organization; language improvement; citation verification; responsible AI use	Workshop	Assignment
12	2	**Planning a Research Protocol**	Research protocol components; title; introduction; research problem; objectives; methodology; data collection and analysis plan; ethical considerations; timeline	Workshop	Project evaluation

13. Course Evaluation	
• Daily attendance and participation: **10%** • Quizzes: **10%** • Assignments and seminars: **15%** • Midterm examination: **15%** • Research proposal/project: **20%** • Final examination: **30%** **Total = 100 Marks**	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Research Methods in Dentistry. (2023). Wiley-Blackwell. 2. Introduction to Health Research Methods. (2023). Jones & Bartlett Learning. 3. How to Read a Paper: The Basics of Evidence-Based Medicine and Healthcare. (2023). Wiley-Blackwell.
Main References (sources)	1. Practical Statistics for Medical Research. Wiley. 2. Medical Statistics: A Textbook for the Health Sciences. Elsevier. 3. Citing Medicine: The NLM Style Guide for Authors, Editors, and Publishers. National Library of Medicine.
Recommended Books & References (Scientific Journals, Reports …)	• Journal of Dental Research • BMC Medical Research Methodology • Research Synthesis Methods • PLOS ONE • BMJ Evidence-Based Medicine • Journal of Clinical Epidemiology • Nature Medicine
Websites or Electronic References	• World Health Organization (WHO) • National Institutes of Health (NIH) • National Center for Biotechnology Information (NCBI)

	• PubMed • Cochrane Library • EQUATOR Network (Reporting Guidelines) • Committee on Publication Ethics (COPE) • International Committee of Medical Journal Editors (ICMJE) • Zotero Reference Manager • Mendeley Reference Manager

Dental Sciences Department

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Course Description

1. Course Title	**Dental anatomy**
2. Course Code	050101
3. Semester/Year	**annual**
4. Description Preparation Date	**2026-2027**
5. Available Attendance Form	**Lectures and Laboratories**
6. No. of Hours (Total)	**60 of theory and 60 hours of practical**
7. No. of Credits (Total)	**2**
8. Course Administrator Name	**Basma Kamal Ahmed**
9. E-mail	**besma.kamal@albayan.edu.iq**

10. Course Objectives

Knowledge	**A1**	Enable students to know the external anatomy of teeth
	A2	Enabling students to number teeth according to different numbering systen
	A3	Enable students to sculpt teeth on wax molds
	A4	
Skills	**B1**	Asking brainstorming questions through which the student can link the stu materials together and link them to the medical and health reality.
	B2	developing skills Sculpture and drawing related to dental anatomy
	B3	Motivating the student through the style of expression and thinking a the speed of communication and response
	B4	Urging the student to solve problems and possess distinctive thinking
Values	**C1**	Professional preparation and encouraging the student to have posit behavior in his public life
	C2	Scientific preparation and urging the student to communicate in other fie of science
	C3	Cultural preparation and refining the student's personality
	C4	Utilizing the acquired skills so that the student becomes a dentist capable treating patients

11. Teaching and Learning Strategies

1.	Lectures using the program data show and power point	**4.**	E-learning
2.	Educational films	**5.**	Blackboards
3.	Display screens	**6.**	Student discussion groups.

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
Theoretical					
1	2	Introduction About der anatomy	introduction	Display data show and blackboard	Daily exam
2	2	Introduction About der anatomy	introduction	Display data show and blackboard	Daily exam
3	2	Knowing the method of number baby and permanent teeth	Numbering systems	Display data show and blackboard	Daily exam
4	2	Knowing the method of number baby and permanent teeth	Numbering systems	Display data show and blackboard	Daily exam
5	2	Knowing the anatomical feature teeth, their names and shapes	Anatomical landmarks	Display data show and blackboard	Daily exam
6	2	Knowing the anatomical feature teeth, their names and shapes	Anatomical landmarks	Data show and blackboar display + explanatory filn	Daily exam
7	2	Identify the external appearance the tooth by studying each surf of the tooth	Permanent Maxillary Central Inciso	Data show and blackboar display + explanatory filn	Daily exam
8	2	Identify the external appearance the tooth by studying each surf of the tooth	Permanent Maxillary Central Inciso	Data show and blackboar display + explanatory filn	Daily exam
9	2	Identify the external appearance the tooth by studying each surf of the tooth	Permanent Maxillary Lateral Inciso	Data show and blackboar display + explanatory filn	Daily exam
10	2	Identify the external appearance the tooth by studying each surf of the tooth	Permanent Maxillary Lateral Inciso	Data show and blackboar display + explanatory filn	Daily exam

11	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Mandibular Incisors	**Data show and blackboar display + explanatory filn**	**Daily exam**
12	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Mandibular Incisors	**Data show and blackboar display + explanatory filn**	**Daily exam**
13	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Mandibular Incisors	**Data show and blackboar display + explanatory filn**	**Daily exam**
14	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Canines	**Data show and blackboar display + explanatory filn**	**Daily exam**
15	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Canines	**Data show and blackboar display + explanatory filn**	**Daily exam**
16	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Maxillary Premolars	**Data show and blackboar display + explanatory filn**	**Daily exam**
17	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Maxillary Premolars	**Data show and blackboar display + explanatory filn**	**Daily exam**
18	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Mandibular First Premol	**Data show and blackboar display + explanatory filn**	**Daily exam**
19	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Mandibular First Premol	**Data show and blackboar display + explanatory filn**	**Daily exam**
20	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Mandibular Sec Premolar	**Data show and blackboar display + explanatory filn**	**Daily exam**
21	**2**	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Maxillary First Molar Permanent maximum second and th molars	**Data show and blackboar display + explanatory filn**	**Daily exam**

22	2	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Maxillary First Molar Permanent maximum second and th molars	**Data show and blackboar display + explanatory filn**	**Daily exam**
23	2	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Mandibular First Molar	**Data show and blackboar display + explanatory filn**	**Daily exam**
24	2	**Identify the external appearance the tooth by studying each surf of the tooth**	Permanent Mandibular Second third molars	**Data show and blackboar display + explanatory filn**	**Daily exam**
25	2	**Identify the stages of tooth grov and the time of their eruption**	Tooth development	**Data show and blackboar display + explanatory filn**	**Daily exam**
26	2	**Identify the stages of tooth grov and the time of their eruption**	Tooth development	**Data show and blackboar display + explanatory filn**	**Daily exam**
27	2	**Learn about the parts of the to nerve and their names**	Pulp Cavities	**Data show and blackboar display + explanatory filn**	**Daily exam**
28	2	**Learn about the parts of the to nerve and their names**	Pulp Cavities	**Data show and blackboar display + explanatory filn**	**Daily exam**
29	2	**Learn about the mechanism dental occlusion and the functior teeth in the anatomy of teeth a gums**	Occlusion and physiologic form teeth and periodontium	**Data show and blackboar display + explanatory filn**	**Daily exam**
30	2	**Learn about the mechanism dental occlusion and the functior teeth in the anatomy of teeth a gums**	Occlusion and physiologic form teeth and periodontium	**Display data show and blackboard**	**Daily exam**
Practical					
1	2	**Introduction About der anatomy**	Introduction to dental anatomy sculpting tools	**Display data show and blackboard**	**Evaluation method**
2	2	**Knowing the method of number baby and permanent teeth**	Numbering systems.	**Display data show and blackboard**	**Daily exam**
3	2	**Know how to sculpt a cube**	Practical demonstration of cube sculpting (1cm*1cm*1cm)	**Data display, blackboard and practical sculpture**	**Daily exam**

4	2	**Knowledge of the anatomical pa of teeth**	-Introduction to anatomical landmarks on dental models. -Cube sculpting.	**Display data show and blackboard**	**Homework**
5	2	**Knowledge of anatomy and how draw and dissect the tooth**	Describe and sculpt the verbal asp ofP.Max. Right central incisor.	**Data display, blackboard and practical sculpture**	**Daily exam**
6	2	**Knowledge of anatomy and how draw and dissect the tooth**	Describe and sculpt the medial aspect ofP.Max. Right central incisor.	**Data show and blackboar display + explanatory filn and practical sculpture**	**Homework**
7	2	**Knowledge of anatomy and how draw and dissect the tooth**	Description, carving and finishing of the cutting side of Permanent Max. Right central incis	**Data show and blackboar display + explanatory filn and practical sculpture**	**Homework**
8	2	**Developing students' ability draw and sculpt teeth**	Hands-on carvingP.Max. Central right The incisor	**practical training**	**Homework**
9	2	**Assessing students' ability to scu and draw teeth**	Practical exam. From sculptureP. Max. Central right The incisor	**practical training**	**Homework**
10	2	**Knowledge of anatomy and how draw and dissect the tooth**	Describe and model the oral and genital aspects ofP. the above. Right dogs.	**Data show and blackboar display + explanatory filn and practical sculpture**	**An in-person practical exa**
11	2	**Knowledge of anatomy and how draw and dissect the tooth**	Description, carving and finishing of the cutting side ofP the above. Right dogs	**Data show and blackboar display + explanatory filn and practical sculpture**	**Homework**
12	2	**Developing students' ability draw and sculpt teeth**	Hands-on carvingP.Max. Right dog	**practical training**	**Homework**
13	2	**Assessing students' ability to scu and draw teeth**	Practical exam. SculptureP. Max. Ri dogs.	**practical training**	**Homework**
14	2	**Assessing students' ability to scu and draw teeth**	Mid-year practical exam for der carving.	**practical training**	**An in-person practical exa**
15	2	**Knowledge of anatomy and how draw and dissect the tooth**	Describe and sculpt the buccal and mesial aspects B Max. Right first premolar.	**Data show and blackboar display + explanatory filn and practical sculpture**	**Practical exam**

16	2	**Knowledge of anatomy and how draw and dissect the tooth**	Description, carving and finishing of the occlusal side B Max. Right first premolar	**Data show and blackboar display + explanatory filn and practical sculpture**	**Homework**
17	2	**Developing students' ability draw and sculpt teeth**	Hands-on carving P.Max. Right f premolar	**practical training**	**Homework**
18	2	**Assessing students' ability to scu and draw teeth**	Practical exam. From sculptureP. M Right first premolar	**practical training**	**Homework**
19	2	**Knowledge of anatomy and how draw and dissect the tooth**	Describe and sculpt the buccal and mesial aspects B. Mand. Right first premolar.	**Data show and blackboar display + explanatory filn and practical sculpture**	**An in-person practical exa**
20	2	**Knowledge of anatomy and how draw and dissect the tooth**	Description, carving and finishing of the occlusal side B. Mand. Right first premolar.	**Data show, blackboard a practical sculpture + explanatory films**	**Homework**
21	2	**Developing students' ability draw and sculpt teeth**	Practical training for carvingP.Mand. First right Premolars	**practical training**	**Homework**
22	2	**Assessing students' ability to scu and draw teeth**	Practical exam. SculptureP. Ma Right first premolar	**practical training**	**Homework**
23	2	**Knowledge of anatomy and how draw and dissect the tooth**	Describe and sculpt the buccal mesial aspects of the right first mola	**Data show and blackboar display + explanatory filn and practical sculpture**	**An in-person practical exa**
24	2	**Knowledge of anatomy and how draw and dissect the tooth**	Description, carving and finishing of the occlusal side From P. Max. Right first molar.	**Data show and blackboar display + explanatory filn and practical sculpture**	**Homework**
25	2	**Developing students' ability draw and sculpt teeth**	Hands-on carving P.Max. Right f molar.	**practical training**	**Homework**
26	2	**Knowledge of anatomy and how draw and dissect the tooth**	Describe and sculpt the buccal and mesial aspects B. Mand. Right first molar	**Data show and blackboar display + explanatory filn and practical sculpture**	**Practical exam**
27	2	**Knowledge of anatomy and how draw and dissect the tooth**	Description, carving and finishing of the occlusal side P. Mand first molar/hands-on sculpt p. Mand first molar.	**Data show and blackboar display + explanatory filn and practical sculpture**	**Homework**

28	**2**	**Knowledge of anatomy and how draw and dissect the tooth**	Describe and sculpt the buccal and mesial aspects B. Mand. Right first molar	**Data show and blackboar display + explanatory filn and practical sculpture**	**Daily exam**
29	**2**	**Assessing students' ability to scu and draw teeth**	Practical examination of carving Mand. First right P. Molly	**practical training**	**Homework**
30	**2**	**Assessing students' ability to scu and draw teeth**	Final oral and practical examinatior dental carving	**practical training**	**Practical exam**

13. Course Evaluation

	1.Daily exams for theoretical subjects 2. Practical exam in the laboratory 3.Oral questions 4. Mid-year exam 5. Final exam
theoretical 10% practical 15%	First semester + second semester 25%
Theoretical 15%	Half year 25%
Theoretical 35% Practical 25%	Final exam 50%
Theoretical 60% practical 40%	**100%**

14. Learning & Teaching Resources

Required textbooks (curricular if any)	**WHEELER'S DENTAL ANATOMY, PHYSIOLOGY, AND OCCLUSION,9th edition,2010**
Main References (sources)	**dental anatomy and morphology**
Recommended Books & References (Scientific Journals, Reports …)	**Make a drawing of teeth and their external anatomy and view drawings of dental anatomy in the Dental Anatomy Atlas**
Websites or Electronic References	**Google scholar, research gates**

جامعة البيان

Course Description (1)

1. Course Title	**Prosthodontics**
2. Course Code	**050501**
3. Semester/Year	**Yearly**
4. Description Preparation Date	**2026-2027**
5. Available Attendance Form	**Lectures and Clinics**
6. No. of Hours (Total)	**Theory: 30 hours Clinical : 180 hours**
7. No. of Credits (Total)	**8**
8. Course Administrator Name	**Assistant lecturer: Yaseen Hasan**
9. E-mail	**Yassen.h@albayan.edu.iq**

10. Course Objectives

Knowledge	**A1**	Gain experience and information to solve problems.
	A2	Gain skills to let the patient deal with work steps.
	A3	Gain skills to deal with materials
	A4	Gain skills to deal with clinical devices.
Skills	**B1**	Gain skills for patient diagnosis.
	B2	Gain skills to make motivational introduction to the patient.
	B3	Motivate students to solve problems.
	B4	Motivate students for positive thinking.
Values	**C1**	Social responsibility
	C2	Ethical responsibility
	C3	Teamwork
	C4	Building self-esteem

11. Teaching and Learning Strategies

1.	**Lectures using projector and power point.**
2.	**Monitors and smart boards**
3.	**E-Learning**
4.	**Practical works in clinic**

جامعة البيان

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	• **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**	**Occlusion in Complete Denture**	Lecture using power point	Monthly exams , mid and final examinations
2	1		**Occlusion in Complete Denture (Continue)**	Lecture using power point	Monthly exams , mid and final examinations

3	1	• Retention • Factors affect in the retention of CD ✓ Mechanical factors ✓ Muscular factor • Denture surface ✓ Occlusal surface ✓ Polished surface ✓ 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 supporting bone	**Retention, Stability And Support**	Lecture using power point	Monthly exams , mid and final examinations
4	1		**Retention, Stability And Support (Continue)**	Lecture using power point	Monthly exams , mid and final examinations
5	1	▪ Changes occurred required Long term recall appointments ▪ Some Clinical Problems and Solutions associated with complete denture ✓ Problems of reduced salivary flow ✓ Aetiology of reduced salivary flow ✓ Management of dry mouth ▪ Hard and soft materials for modifying impression surface of dentures ▪ Other complications ✓ Flabby ridge ✓ Denture breakages ✓ Debonding of teeth ✓ Gagging reflex (retching) ✓ Burning mouth syndrome	**Complications Of Complete Denture**	Lecture using power point	Monthly exams , mid and final examinations
6	1		**Complications Of Complete Denture (Continue)**	Lecture using power point	Monthly exams , mid and final

					examinations
7	1	**•Introduction,Definition,Indications, Contraindications, Advantages, Disadvantages** **• Types of immediate dentures** **•Explanation to the patient concerning immed dentures** **• Diagnostic steps** **• Steps of immediate denture fabrication** **1. Impression** **• Primary impression** **• Final impression** **2. Beading and boxing** **3. Record base and occlusion rim** **4. Jaw relations record** **5. Try-in** **6. Cast trimming** **7. Surgical guide** **8. Setting of anterior teeth** **9. Waxing and flasking** **10. Insertion and post-insertion visits**	**Immediate denture**	Lecture using power point	Monthly exams , mid and final examinations
8	1		**Immediate denture (Continue)**	Lecture using power point	Monthly exams , mid and final examinations
9	1	**• Development of the classification system** **• Reasons for a Classification System** **•Diagnostic Criteria** **• Bone height-mandible only** **• Residual ridge morphology-maxilla only** **• Muscle Attachments: Mandible only** **• Maxillomandibular Relationship** **• Diagnostic Classification of Complete Edentulism** **• Integration of Diagnostic Findings** **• The classes are differentiated from each other according to the following features** **• Guidelines for Use of the Complete Edentulism Classification System** **• The aim of prosthodontic treatment**	**Classification system for completely edentulous patients**	Lecture using power point	Monthly exams , mid and final examinations

		• Ridge Relationship • Types of Classification • Prosthodontic Treatment • Arrangement of artificial teeth in abnormal jaw relations: Maxillary protrusion and wider upper arch (class II jaw relation) • Arrangement of anterior teeth in maxillary protrusion. • Arrangement of posterior teeth when the upper jaw is wider as in class II jaw relation • Arrangement of artificial teeth in abnormal jaw relations: Mandibular protrusion and wider lower arch (class III jaw relation): • Arrangement of anterior teeth in mandibular protrusion. • Arrangement of posterior teeth when the lower arch is wider			
10	1		**Classification system for completely edentulous patients (Continue)**	Lecture using power point	Monthly exams , mid and final examinations
11	1	• Posterior palatal seal area • Anatomical and Physiological Considerations for Posterior Palatal Seal • Methods of location of anterior vibrating (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	**Posterior palatal seal area**	Lecture using power point	Monthly exams , mid and final examinations
12	1	• 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)	**Single CD**	Lecture using power point	Monthly exams , mid and final examinations

		✓ **Setting of teeth and occlusal concept** ✓ **fracture of Denture** ✓ **Wear of Teeth** **• Mandibular single denture** **• Steps for Single Denture construction** **• Digital construction of removable complete denture.**			
13	1		**Single CD (Continue)**	Lecture using power point	Monthly exams , mid and final examinations
14	1	**• Definitions (Geriatric dentistry, Growth, Development, Maturation, Aging)** **• Factors influencing aging** **• Aging vs pathology** **• Classification of the elderly according to age** **• Goals of geriatric dentistry** **• Objectives of geriatric dentistry** **• Geriatric dentistry vs general dentistry** **• Personality traits of a successful dentist in general and of a geriatric dentist in particular** **• Systemic diseases related to dental care** **• Age-related changes of the oral cavity** **• Effect of aging on salivary glands and saliva** **• Effect of aging on oral mucosa** **• Effect of aging on teeth** **• Effect of aging on tongue** **• Effects of aging on periodontium** **• Prosthodontic management of geriatric patients** **• Patient psychological condition** **• Psychological disorders of elderly patients generally seen by a prosthodontist** **• Prosthodontic treatment planning for elderly patients** **• Denture care**	**Geriatric dentistry**	Lecture using power point	Monthly exams , mid and final examinations

15	1		**Geriatric dentistry (Continue)**	Lecture using power point	Monthly exams , mid and final examinations
16	1	**• Definitions** **• Indications of maxillofacial prosthesis** **• Objectives of maxillofacial prosthesis** **• Maxillofacial team members** **• Classification of maxillofacial prostheses** **• Extraoral prostheses** **1. Nasal prosthesis** **2. Auricular prosthesis** **3. Eye (orbital, ocular) prosthesis** **4. Cranial prosthesis** **5. Radiation carrier** **6. Carrier stent** **• Intraoral prostheses** **1. Obturator** **- Functions of obturator** **- Aramany's classification for partially edentulous maxillectomy dental arches** **– Types of obturators** **2. Feeding prosthesis (Baby feeding appliance)** **3. Speech aid prostheses** **4. Palatal lift prosthesis** **5. Mandibular resection prosthesis** **▪ Steps of construction of an obturator** **1. Primary impression** **2. Final impression** **3. Jaw relation** **4. Try-in** **5. Delivery** **▪ Retentive aids in maxillofacial prostheses** **1. Anatomic retention** **2. Adhesives** **3. Mechanical retention**	**Maxillofacial prosthesis**	Lecture using power point	Monthly exams , mid and final examinations
17	1		**Maxillofacial prosthesis (Continue)**	Lecture using power point	Monthly exams , mid and final

					examinations
18	1	• Structural characteristics of alveolar bone • Pathology of RRR • Direction of bone resorption • Patterns of bone resorption • Consequences of RRR • Assessment of residual ridge resorption • Etiological factors of Reduction of Residual Ridges: ▪ Anatomic factors ▪ Metabolic factors ▪ Dietary factors ▪ Functional factors ▪ Prosthetic factors • Osteoporosis and residual ridge modeling • Treatment and Prevention of RRR	**Residual Ridge resorption**	Lecture using power point	Monthly exams , mid and final examinations
19	1		**Residual Ridge resorption (Continue)**	Lecture using power point	Monthly exams , mid and final examinations
20	1	• Definitions (Dental implant, Implant prosthodontics, Implant prosthesis, Implant system) • Classification of dental implants 1. Endosteal (endosseous) implants 2. Subperiosteal implants 3. Transosteal (transosseous) Implants • Classification of endosseous implants 1. According to the surgical stages - Single-stage design (none submerged) (transgingival) - Two-stage design 2. According to the time of placement - Immediate implants - Early implants - Delayed implants 3. According to the time of prosthetic loading - Immediately loaded implants - Delayed loading implant	**Dental implantology**	Lecture using power point	Monthly exams , mid and final examinations

		• Osseointegration and factors affecting osseointegration • Team approach of implant treatment • Indications of implant prosthesis • Contraindications of implant prosthesis • Implant components • Prosthetic options in implant dentistry 1. FP-1 fixed prosthesis 2. FP-2 fixed prosthesis 3. FP-3 fixed prosthesis 4. RP-4 removable prosthesis 5. RP-5 removable prosthesis • Screw-retained versus cemented fixed implant prostheses • Impression techniques 1. Implant level impression 2. Abutment level impression • Occlusion in implant-supported prostheses • Significance of IPO on osseointegrated endosteal implants • Goals of implant-protective occlusion • Considerations for implant-protective occlusion 1. No premature occlusal contacts or interferences 2. Influence of surface area 3. Crown cusp angle 4. Occlusal contact positions 5. Implant crown contour			
21	1		**Dental implantology (Continue)**	Lecture using power point	Monthly exams , mid and final examinations
22	1	**• Definition • Factors Influencing the Appearance of Dentures • Steps in achieving esthetic complete denture • Additional clinical and technical considerations in anterior tooth selection patient preferences**	**Esthetics in CD**	Lecture using power point	Monthly exams , mid and final examinations

		• **Gingival Contour** • **Denture base factors** • **Final Decision for Esthetics**			
23	1	• **Osseointegration** • **Biomaterials** • **Selection of Biomedical Materials** • **Classification of implant materials** • **Types of surface modification:** • **Surface design** • **Ceramic coating** • **Super structure** • **Guided Bone Regeneration**	**Characteristics Of Ideal Materials For Dental Implant**	Lecture using power point	Monthly exams , mid and final examinations
24	1	• **Definitions** • **Aims** • **Indications** • **Contraindications** • **Advantages** • **Disadvantages** • **Temporary duplicate dentures** • **Techniques for denture duplication** **1. The duplicating flask technique** **2. The soap container technique** **3. The silicone putty technique** **4. The agar-agar technique** • **Modifications of denture duplication** • **Problems and solutions in denture Duplication**	**Copy denture**	Lecture using power point	Monthly exams , mid and final examinations
25	1	• **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**	**Over Denture**	Lecture using power point	Monthly exams , mid and final examinations

		overdenture **• Contraindication** **• Advantages of implant supported overdenture** **• Disadvantages of implant supported overenture**			
26	1		**Over Denture (Continue)**	Lecture using power point	Monthly exams , mid and final examinations
27	1	**• Definition** **• Neutral zone concept** **• Objectives of neutral zone technique** **• Indications of neutral zone technique** **• Advantages of neutral zone technique** **• Disadvantages of neutral zone technique** **• Muscles involved in the neutral zone** **• Influence of muscles on dental arches** **• Influence of forces on denture surfaces** **• Recording neutral zone in the final impression stage** **• Recording neutral zone in the jaw relation stage** **• Recording neutral zone in the try in stage** **• Recording neutral zone in finished denture** **• Comparison between conventional mandibular denture and mandibular denture made by neutral zone technique** **• Limitations for the success of neutral zone technique**	**Neutral zone technique in complete denture**	Lecture using power point	Monthly exams , mid and final examinations
28	1		**Neutral zone technique in complete denture (Continue)**	Lecture using power point	Monthly exams , mid and final examinations
29	1	**• Function of attachment** **• Factors affecting attachment selection**	**Attachments in over denture**	Lecture using power point	Monthly exams , mid and final

		• **Retentive Mechanism** • **Classification of Attachments** • **Types of attachments** • **Overdenture care**			examinations
30	1		**Attachments in over denture (Continue)**	Lecture using power point	Monthly exams , mid and final examinations

13, Course Evaluation		
1	First + second semester 25%	Theory 10% Practical 15%
2	Midyear examination 15%	Theory 15%
3	Final examination	Theory 40% Practical 20%
Total		**100%**

14. Learning & Teaching Resources	
Required textbooks, methodology if present	Zarb, Hobkirk, Eckert, Jacob et al. Prosthodontic treatment for edentulous patients: Complete dentures and implant-supported prostheses.13th edition 2013 by Mosby, Elsevier Inc.
Main references (Resources)	Golden and Driscoll. Treating the complete denture patient. 1st edition 2020 John Wiley & Sons, Inc.
Supporting books and references recommended by scientific journals and reports	**Wulfman et al. Digital removable complete dentures.FJDM, 2020.**
Electronic References, Internet Sites	Google scholar and research gate

جامعة البيان

Course Description (1)

1. Course Title	Orthodontics
2. Course Code	050504
3. Semester/Year	yearly
4. Description Preparation Date	2026-2027
5. Available Attendance Form	Lectures and clinics
6. No. of Hours (Total)	Theory: 30 hours Practical: 120 hours
7. No. of Credits (Total)	6
8. Course Administrator Name	Assist. Lect. Sally Saad Ali
9. E-mail	G-mail: sally.saad@albayan.edu.iq

10. Course Objectives

Knowledge	**A1**	Acquire knowledge of methods of diagnosis and treatment of cases of malocclusion.
	A2	How to use the different types of removable and functional orthodontic devices
	A3	How to make a space analysis of the cases
	A4	Acquire knowledge of essential diagnostic aids that should be recorded for each patient
Skills	**B1**	Acquire skills in conducting special diagnostic methods
	B2	Knowing the types of orthodontic devices related to each case.
	B3	Motivating the student through the style of expression, thinking, speed of communication and response
	B4	Qualifying students to examine, diagnose and treat patients
Values	**C1**	Preparing a professional and urging the student to positive behavior in his public life
	C2	Preparing scientific and urging the student to communicate in other fields of science
	C3	Cultural preparation and refinement of the student's personality
	C4	Employing the acquired skills in order for the student to become a dentist capable of treating patients

11. Teaching and Learning Strategies

1.	Lectures using Data show and power point.	**4.**	Electronic education
2.	Educational films	**5.**	Smart probes
3.	Monitors	**6.**	Practical training in the clinic

جامعة البيان

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	a- Personal data b- Consent form c- Clinical examination i. General body stature	**Orthodontic diagnosis and treatment planning**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
2	1	ii. Face examination in 3 dimensions iii. Skeletal examination iv. Soft tissue examination	**Orthodontic diagnosis and treatment planning**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
3	1	v. Occlusion	**Orthodontic diagnosis and treatment planning**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
4	1	vi. Dentition vii. Temporomandibular joint	**Orthodontic diagnosis and treatment planning**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
5	1	d- Diagnostic aids i. Cephalometrics	**Orthodontic diagnosis and treatment planning**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
6	1	ii. Orthopantomograph iii. Other views	**Diagnostic aids**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
7	1	iv. Study models	**Diagnostic aids**	Theoretical lecture	Quizzes, monthly, mid-year and final examinations

				using Power Point	
8	1	v. Photography vi. 3D imaging	**Diagnostic aids**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
9	1	e- Treatment planning	**Orthodontic diagnosis and treatment planning**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
10	1	f- Treatment of Medically compromised patients	**Orthodontic diagnosis and treatment planning**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
11	1	g- Orthodontic indices	**Orthodontic diagnosis and treatment planning**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
12	1	a-Mixed Dentition Analysis b- Permanent Dentition Analysis	**Space analysis, Bolton's ratio**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
13	1	a. Selection Of Teeth To Be Extracted b. Types Of Extraction Procedures	**Teeth extraction in orthodontics**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
14	1	Procedures of serial extraction	**Serial extraction**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
15	1	a. Deep bite	**Vertical and transverse problems**	Theoretical lecture	Quizzes, monthly, mid-year and final examinations

				using Power Point	
16	1	b. Open bite	**Vertical and transverse problems**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
17	1	c. Crossbite and scissors bite	**Vertical and transverse problems**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
18	1	a. supernumerary and hypodontia b. Early loss of decideous c. Retained teeth, delayed eruption, impaction, ankylosis d. Abnormal eruptive behavior e. Large frenum iduous teeth	**Treatment of common local factors**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
19	1	f. Bad oral habits	**Treatment of common local factors**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
20	1	a. Management Of Buccal Displacement. b. Management Of Palatal Displacement	**Treatment of aberrant position of canines**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
21	1	a. Class I treatment (crowding, spacing, biprotrusion	**Treatment of general factors**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

22	1	Continue class I treatment (method of space creation)	**Treatment of general factors**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
23	1	b. Class II div. 1 treatment	**Treatment of general factors**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
24	1	c. Class II div. 2 treatment	**Treatment of general factors**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
25	1	d. Class III treatment problems	**Treatment of general factors**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
26	1	a- Periodontal problems	**Treatment of adults**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
27	1	b- Orthognathic surgery	**Treatment of adults**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
28	11	Presurgical orthopaedics	**Cleft lip and palate**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
29	1	Surgical repair of cleft lip and palate	**Continue cleft lip and palate**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

30	1	digital approach in orthodontic (diagnosis a treatment)	**Digital orthodontics**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

Course Structure (Practical)

The minimum requirements that allow the students to enter the final examination include: 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) **The student should receive at least one orthodontic case to enter the final exam**

13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

14. Learning & Teaching Resources

Required textbooks (curricular if any)	**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**
Main References (sources)	**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**
Recommended Books & References (Scientific Journals, Reports …)	**Make periodic reports and read recent research in reputable journals**
Websites or Electronic References	**PubMed, Scopus, Elsevier, Google Scholar, Research Gates**

جامعة البيان

Course Description (1)

1. Course Title	**Pediatric Dentistry**
2. Course Code	**050505**
3. Semester/Year	**Annual**
4. Description Preparation Date	**2026-2027**
5. Available Attendance Form	**Lectures & Clinics**
6. No. of Hours (Total)	**30 hours theoretical + 37.5 hours practical**
7. No. of Credits (Total)	**5**
8. Course Administrator Name	**Mafaz Mahdi Mohsin**
9. E-mail	**mafaz.mahdi@albayan.edu.iq**

10. Course Objectives

Knowledge	A1	Preparing dental students to keep children's oral and dental health.
	A2	Focus on the treatment and prevention of milk and permanent teeth decay in children.
	A3	Maintain the distance and arrangement of teeth in the jaw.
	A4	Preparing dental students to keep children's oral and dental health.
Skills	B1	Gain experience and information that help him identify the disease and find out its causes
	B2	Develop motivational interviewing skills to encourage patients to take preventive measures.
	B3	Increasing students' knowledge of dental examination methods and detecting caries and gingivitis
	B4	Learn how to assess patients' risk of dental disease based on factors such as oral hygiene, dietary habits and chronic diseases.
Values	C1	Acquire skills in conducting clinical and periodic dental examinations for the early detection of dental problems.
	C2	Develop motivational interviewing skills to encourage patients and their families to take the necessary measures to treat their children's teeth and prevent the exacerbation of existing problems.
	C3	Acquire skills in conducting clinical and periodic dental examinations for the early detection of dental problems.
	C4	Develop motivational interviewing skills to encourage patients and their families to take the necessary measures to treat their children's teeth and prevent the exacerbation of existing problems.

11. Teaching and Learning Strategies

1.	Preparing a professional and urging the student to positive behavior in his public life	4.	Employing the acquired skills in order for the student to become a dentist capable of treating patients
2.	Preparing scientific and urging the student to communicate in other fields of science	5.	Employing the acquired skills in order for the student to become a dentist capable of treating patients
3.	Cultural preparation and refinement of the student's personality	6.	Develop motivational interviewing skills to encourage patients and their families to take the necessary measures to treat their children's teeth and prevent the exacerbation of existing problems.

جامعة البيان

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	**1**	✓ The diagnostic methods. ✓ Components of oral examination and diagnosis	Diagnosis and treatment planning	Data Show and Blackboard Show	Daily exam Oral questions and discussions
2	**1**	✓ Clinical examination. ✓ Radio graphic examination	Preliminary medical and dental history	Data Show and Blackboard Show	Daily exam Oral questions and discussions
3	**1**	✓ Child development. ✓ Major area of development. ✓ Variables influencing children's dental behaviors ✓ classification of children's behavior	Art and science of behavior management	Data Show showblack board and demonstration films	Daily exam Oral questions and discussions
4	**1**	✓ Purpose. ✓ Classifying children, s cooperative behavior	Non pharmacologic management of patient behavior	,Data Show show blackboard and demonstration films	Daily exam Oral questions and discussions
5	**1**	✓ Degree of sedation ✓ Indications for pharmacological behavior management technique. ✓ Pre- treatment documentation and assessment,	Pharmacologic management of patient behavior	,Data Show show blackboard and demonstration films	Daily exam Oral questions and discussions
6	**1**	✓ Conscious sedation. ✓ Routes of drug administration, Enteral sedation,Rectal route, Intra	Sedation in pediatric dentistry	Data Show and Blackboard Show	Daily exam Oral questions and discussions

		muscular route, Intravenous route, Inhalation, ✓ Drugs and agents used for sedation, General anesthesia			
7	**1**	✓ Enabling students to treat teeth during and after an accident that leads to ,damage to children's teeth oral tissues or jaw	management of traumatic injuries to the teeth and supporting tissues of children, Trauma to the face	Data Show and Blackboard Explanatory Films	Daily exam Oral questions and discussions
8	**1**	✓ Enabling students to treat teeth during and after an accident that leads to ,damage to children's teeth oral tissues or jaw	classification of injuries to the anterior teeth of children methods of clinical examination	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
9	**1**	✓ Enabling students to treat teeth during and after an accident that leads to ,damage to children's teeth oral tissues or jaw	Traumatic injuries of the primary teeth and its effect on permanent teeth	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
10		✓ Treatment of injury of permanent teeth, emergency treatment. ✓ temporary restoration of fractured teeth	Treatment of injury of permanent teeth		
11	**1**	✓ Advances in diagnostic aids. ✓ Advances in cavity preparation methods	Advances in Pediatric Dentistry	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
12	**1**	✓ Advances in endodontics. ✓ Advances in local anesthesia	Advances in Pediatric Dentistry(2)	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions

13	**1**	✓ Advances in restorative materials. ✓ Advances in surgical procedures, miscellaneous	Advances in Pediatric Dentistry(3)	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
14	**1**	✓ Acquired disturbances of oral structures	Acquired disturbances of oral structures	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
15	**1**	✓ Developmental disturbances of oral structures	Developmental disturbances of oral structures	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
16	**1**	✓ Introduction simple gingivitis. ✓ Eruption gingivitis, acute gingival disease ✓ Herpes simplex viral infection. ✓ Enable students to know the diagnosis and treatment of gum infections in children and their relationship to public health	Gingivitis and periodontal disease in children.	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
17	**1**	✓ Acute candidacies (thrush). ✓ Acute bacterial infection. ✓ Chronic nonspecific gingivitis ✓ Gingival diseases modified by systemic factors.	Gingivitis and periodontal disease in children (2)	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
18	**1**	✓ Gingival lesions of genetic origin. ✓ Ascorbic acid deficiency gingivitis.	Gingivitis and periodontal disease in children (3)	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions

19	**1**	✓ Periodontal diseases in children, early onset periodontitis. ✓ Prepubertal periodontitis ✓ Localized juvenile periodontitis.	Gingivitis and periodontal disease in children (3)	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
20	**1**	✓ Papillon – Lefevere syndrome. ✓ Gingival recession. ✓ Extrinsic stains and deposits on teeth	Gingivitis and periodontal disease in children (4)	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
21	**1**	✓ Enable students to know the planning for space maintenance. ✓ Loss of primary incisor. appropriate ways to maintain the distance of permanent teeth and prevent the accumulation and crowding of permanent teeth	Management of space problems.	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
22	**1**	✓ Enable students to know the appropriate ways to maintain the distance of permanent teeth and prevent the accumulation an crowding of permanent teeth	Space Maintenance for the First and Second Primary Molar and the Primary Canine Area, premature loss of second primary molar	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
23	**1**	✓ Enable students to know the appropriate ways to maintain the distance of permanent teeth and prevent the accumulation	Loss of the Second Primary Molar Before Eruption of the First Permanent Molar, Areas of Multiple Primary Molar Loss	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions

		and crowding of permanent teeth			
24	**1**	✓ Enable students to know the appropriate ways to maintain the permanent tooth distance and prevent the accumulation and crowding of teeth. ✓ Empowering students how permanent teeth emerge in the right places	Development of dental arch and occlusion; deciduous phase, mixed dentition phase.	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
25	**1**	✓ Nance analysis. ✓ Moyers mixed dentition analysis. ✓ Tanaka and Johnston analysis. ✓ Bolton analysis	Arch length analysis;	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
26	**1**	✓ First dental visit ✓ Radiographic examination. ✓ Preventive dentistry, Management of a child with special care needs during dental treatment. ✓ immobilization,	Dental problems of the disabled child.	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
27	**1**	✓ Mental disability. ✓ Down syndrome. ✓ Intellectual disability. ✓ Learning disability	The appropriate methods of treating patients with special needs	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
28	**1**	✓ Fragile X syndrome. ✓ cerebral palsy. ✓ autism,	The appropriate methods of treating patients with special needs (2)	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions

29	**1**	✓ Respiratory diseases ✓ hearing loss. ✓ visual impairment. ✓ epilepsy	The appropriate methods of treating patients with special needs (3)	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions
30	**1**	✓ Heart disease. ✓ Hemophilia. ✓ Sickle cell anemia. ✓ viral hepatitis. ✓ AIDS. ✓ children with systemic diseases	The appropriate methods of treating patients with special needs (4)	Data Show and + Blackboard Explanatory Films	Daily exam Oral questions and discussions

13. Course Evaluation
Distribution of the score out of 100 according to: • Daily and quarterly exams for theoretical subject • Treatment of pediatric patients • Mid-Year Exam • Final exam

14. Learning & Teaching Resources	
Required textbooks (curricular if any)	✓ McDONALD AND AVERY'S DENTISTRY for CHILD and ADOLESCENT 2022 by Pediatric Dentistry ✓ Damile 3rd ed. 2009 ✓ Text book of pediatric dentistry Nikhil Marwa 2nd ed. 2009 New Delh ✓ Hand book of pediatric dentistry (Cameron) mosby/third edition/2008 ✓ Principles and practice of pedodontics /Arathi Rao Jaypee/second edition2008 ✓ Paediatric Dentistry/ Richard Welbury/ Fourth edition Oxford University Press, 2012
Main References (sources)	✓ McDONALD AND AVERY'S DENTISTRY for CHILD and ADOLESCENT 2022 ✓ ElsevierText book of pediatric dentistry ✓ Nikhil Marwa 2nd ed. 2019 New Delh
Recommended Books & References (Scientific Journals, Reports …)	Read recent research in global journals
Websites or Electronic References	Google scholar, Research gates, ORCID

جامعة البيان

Course Description

1. Course Title	Preventive Dentistry
2. Course Code	050506
3. Semester/Year	year
4. Description Preparation Date	15/8/2026
5. Available Attendance Form	Lectures and Clinics
6. No. of Hours (Total)	30 hours lectures Clinical:90 hours
7. No. of Credits (Total)	5
8. Course Administrator Name	Prof. Dr. Athraa Mustafa Salih
9. E-mail	Athraa.mu@albayan.edu.iq

10. Course Objectives

Knowledge	**A1**	Gaining experience and information that will help him identify the disea and know its causes
	A2	Develop motivational interviewing skills to encourage patients to ta preventive measures.
	A3	Increasing students' knowledge of methods for examining teeth a detecting caries and gingivitis
	A4	Learn how to assess patients' risks of dental disease based on factors su as oral hygiene, dietary habits, tobacco use, and chronic diseases.

Skills	B1	Acquire skills in conducting clinical dental examinations for early detecti of tooth decay.
	B2	Develop motivational interviewing skills to encourage patients to ta preventive measures.
	B3	Identify the indications and techniques for applying fluoride treatments strengthen tooth enamel and prevent tooth decay thinking skills
	B4	Qualifying students to examine, diagnose and treat patients, includi children and the elderly
Values	C1	Motivating the student through the style of expression and thinking and t speed of communication and response
	C2	Urging the student to solve problems and possess distinctive thinking
	C3	The lecture depends on student interaction and brainstorming
	C4	The student will be able to create a preventive program for patients

11. Teaching and Learning Strategies

1.	Lectures using Data show and power point.	**4.**	Electronic education
2.	Educational films	**5.**	Smart probes
3.	Monitors	**6.**	Practical application in the clinic

12. The Structure of the Course					
Week	**Hours**	**Topic/Subject Name**	**RLOs**	**Learning Method**	**Evaluation Method**
1	**1**	Preventive dentistry (introductio	Introduction to preventive Dentistry and level of prevention	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
2	**1**	Dental Caries development	Caries initiation , Appearance in dental tissues Enamel caries Dental caries	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
3	**1**	Fluoride in Dentistry	Fluoride in environment, fluoride metabolism, Fluoride Excretion	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
4	**1**	Systemic fluoridation (history)	Types of systemic fluoride , Fluoride tablet Milk Fluoridation Salt fluoridation	Theoretical lectures using power point	Quizzes ,Monthly exam ,r and final exam

5	**1**	Communal water fluoridation	Natural Water fluoridation Artificial water fluoridation Fluorosis index	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
6	**1**	Fluoride supplements	Fluoride tablets Indications	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
7	**1**	Topical fluoridation	Mechanisms of topical fluoridation application	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
8	**1**	Self applied fluoride	Requisites for self-applied fluoride agent Types of self – applied fluorides Fluoride dentifrices. Fluoride mouth rinse. Fluoride gel	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
9	**1**	Professionally applied fluoride	Types of topical fluoridation, Indications Sodium Fluoride Stannous Fluoride AcidulatedPhosphateFluoride Fluoride Varnish Intra oral appliances	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam

10	1	Toxicity of fluoride	Chronic toxicity, Acute toxicity Lethal dose Managements of acute toxicity	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
11	1	Microbiology of caries	Oral bacteriology plaque formation Biofilms: development, structu composition and properties Pellicle formation Dental calculus	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
12	1	Cariogenic potential of bacteria	Dental plaque Theories Streptococcus mutans lactobacilli	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
13	1	Fissure sealants	History of fissure sealants, Indication and contraindication Types and application Fellow up	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
14	1	New approach in restorat dentistry	Minimal invasive Dentistry, Remineralizing agents Icon	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam

15	**1**	Diet and dental caries	Definition of diet and nutrition Carbohydrate types and effect on der caries, Stephan curve Factors affecting food cariogenicity	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
16	**1**	Non- sugar sweeteners	Bulk sweeteners and types of sweetener The sweetness of sugars Bulk sweeteners Intense sweeteners Protective factors in food Fruit and dental caries	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
17	**1**	Dietary counseling in der practice	Types and objectives Assessment of dietary intake Objectives of dietary assessment Evaluation of dietary assessment	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
18	**1**	Nutrition and oral health	Effect of vitamins , proteins and nutrition on te development and eruption	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
19	**1**	Nutrition, diet & periodor disease	Vit C and vit D effect on gingivitis a periodontitis	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam

20	**1**	Saliva and dental caries	Salivary function , Buffering Capacity , Flow rate and pH	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
21	**1**	Oral immune system	Passive immunity , Cellular immunity Vaccination	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
22	**1**	Oral hygie measures(Mechanical)	Brushing techniques , Dental flossing and other dental care auxiliary	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
23	**1**	Oral hygiene measu (Chemical)	Therapeutic toothpaste, Mouth wash indication , CHX, Triclosan	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
24	**1**	Diagnosis of caries	Methods of diagnosis, Visual tactile , Radiography DiagnoDent	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
25	**1**	Identification of high risk group	Objectives, Age groups , Socioeconomic risk factors	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam

26	**1**	Dental health of disabled and medically compromis patients	Types of physical disable, Systemic diseases, Preventive programs	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
27	**1**	Geriatric dentistry	Definition , Effect of aging on dental hard and s tissues , Preventive programs	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
28	**1**	Health education and motivatio	Objectives Dental health education programs	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
29	**1**	Uses of LASER in dentistry	Mechanism of Laser , Types of laser, Effect on dental hard and soft tissues	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam
30	**1**	Prevention of peri-implantitis	Types of implants , Preventive methods	Theoretical lectures usir power point	Quizzes ,Monthly exam ,r and final exam

13. Course Evaluation

Distribution of the score out of 100 according to the tasks assigned to the student, such as daily preparation, daily exams, oral, monthly, written and records.

Theoretical 10 clinical 15%	First Semester + Second Semester 25%
Theoretical 15%	Half Year 15%
Theoretical 40% Clinical 20%	Final Exam 60%
Theoretical 65% Clinical 35%	**100%**

14. Learning & Teaching Resources

Required textbooks	Primary Preventive Dentistry by Harris NO Garcia-GodoyF-NatheCN 8th Ed 2014 .
Main References (sources)	-Comprehensive preventive dentistry (2012) Edited by Hardy Limeback -Caries Management—Science and Clinical Practic Hendrik Meyer-Lueckel,Sebastian Paris,Kim R. Ekstrand, 2013 Georg Thieme Verlag KG Stuttgart,Germany
Recommended Books & References (Scientific Journals, Reports …)	-Textbook of geriatric dentistry, Third editionEdite byPoul Holm-Pedersen, Angus W. G. Walls, Jonath A. Ship, 2015 by JohnWiley & Sons Ltd. -Make periodic reports and read recent research in reputable journals
Websites or Electronic References	PubMed, Scopus, Elsevier, Google Scholar, Research Gates

AL-BAYAN UNIVERSITY

Course Description - Fifth Stage

1. Course Name	Fixed Prosthodontics and Clinical Endodontics
2. Course Code	050508
3. Semester / Year	Annual
4. Date of Preparation of this Description	11-8-2026
5. Available Forms of Attendance	Lectures and Clinics
6. Total Study Hours	30 theoretical hours and 180 practical hours
7. Total Credits	8
8. Course Coordinator Name	Dr. Nabeel Ayad Saleem
Email	nabeel.ayad@albayan.edu.iq

9. Course Objectives

Knowledge - A1	Train students in examination and diagnosis of pathological conditions.
Knowledge - A2	Provide essential information and treatment steps.
Knowledge - A3	Provide guidance and follow-up of endodontic treatment procedures.
Knowledge - A4	Provide guidance and follow-up of crown and bridge procedures.
Skills - B1	Describe the instruments used for root canal preparation in endodontic treatment.
Skills - B2	Describe the instruments and steps used for tooth preparation for crowns and bridges.
Skills - B3	Teach students how to use them and supervise students during clinical work.
Skills - B4	Use artificial intelligence applications as assistive tools in diagnosis, interpretation of digital images, and treatment planning, while maintaining the clinician's final clinical decision.
Values - C1	Encourage students to solve problems and develop distinctive critical thinking.
Values - C2	Develop leadership ability and application of work rules and requirements.
Values - C3	Motivate students through expression, thinking, rapid communication, and response.

10. Teaching and Learning Strategies

Presentation cameras	Educational movies	LCD
Lecture	Data show	Google Classroom

11. Course Structure

Week	Hours	Required Learning Outcomes	Unit / Topic	Learning Method	Assessment Method
1	1	• Introduction to diagnosis of dental pulp diseases • Patient history • Clinical examination • Diagnostic tests • Differential diagnosis • Final diagnosis • Treatment planning • Follow-up and reassessment • Recent addition: Artificial intelligence applications as an assistive tool to support endodontic diagnosis and clinical decision-making.	Endodontic Diagnosis	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
2	1	• Introduction to pain control in dentistry • Types of pain in dental procedures • Preoperative pain management • Local anesthesia	Pain Control	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
3	1	• Introduction to dental radiography • Importance of radiographic imaging in dentistry • Types of radiographic techniques • Recent addition: Use of artificial intelligence for assisted analysis of radiographic images and CBCT to detect periapical lesions, root fractures, resorption, and root canal anatomy.	Dental Radiography	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
4	1	• Introduction to the importance of determining root canal length • Definition of working length and its importance in successful endodontic treatment • Methods of determining canal length, factors affecting accuracy, and common errors • Recent addition: Role of artificial intelligence in assisted estimation of working length, while emphasizing that the electronic apex locator, radiograph, and clinical assessment remain essential verification methods.	Working Length Determination	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
5	1	• Introduction to microbiology in dentistry • Role of microorganisms in dental diseases: pulpal infections and periapical infections • Types of microorganisms:	Microbiology	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations

		bacteria, anaerobic bacteria, aerobic bacteria, viruses, and fungi			
6	1	• Pathogenic mechanisms: virulence factors, biofilm formation, and host response to infection • Diagnostic techniques: culture methods, molecular techniques (e.g., PCR), and microscopy • Treatment implications: antibiotic use, pulp disinfection protocols, and the role of irrigating solutions	Microbiology	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations

11. Course Structure (continued)

Week	Hours	Required Learning Outcomes	Unit / Topic	Learning Method	Assessment Method
7	1	• Introduction to intracanal instruments • Types of intracanal instruments • Recent addition: Use of artificial intelligence techniques to analyze root canal system anatomy and estimate case difficulty before using intracanal instruments.	Intracanal Instruments (1)	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
8	1	• Introduction to rotary dentistry • Advantages of rotary endodontic treatment • Types of rotary instruments • Rotary instrumentation techniques • Recent addition: Artificial intelligence applications in digital planning of canal preparation and support for selecting an appropriate rotary instrumentation strategy according to canal anatomy.	Intracanal Instruments (2)	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
9	1	• Introduction to obturation • Definition and purpose of obturation and its importance in endodontic success • Objectives of obturation: sealing the canal system, preventing reinfection, and preserving tooth structure • Materials used for obturation	Root Canal Obturation Techniques (1)	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
10	1	• Canal obturation techniques	Root Canal Obturation Techniques (2)	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
11	1	• Introduction to dental emergencies • Definition, importance, and common types of dental emergencies • Types of dental emergencies • Pain management	Emergency Treatment in Dental Emergencies	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
12	1	• Introduction to pulp-periodontal relationships • Anatomy and physiology • Pathological interactions • Diagnosis of pulpal-periodontal problems • Treatment considerations	Endodontic-Periodontal Relationships	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations

11. Course Structure (continued)

Week	Hours	Required Learning Outcomes	Unit / Topic	Learning Method	Assessment Method
13	1	• Introduction to restoration of endodontically treated teeth • Importance of restoration • Types of restorative options • Factors affecting restoration selection • Preparation for restoration	Restoration of Endodontically Treated Teeth	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
14	1	• Introduction to tooth discoloration • Causes of tooth discoloration	Tooth Discoloration and Bleaching	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
15	1	• Types of tooth discoloration • Assessment of tooth discoloration • Methods of tooth bleaching • Failure of endodontic treatment and principles of retreatment	Tooth Discoloration and Bleaching	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
16	1	• Definition of fixed partial denture • Effects of tooth loss • Comparison with fixed partial denture terminology	Terminology	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
17	1	• Introduction to fixed bridges and their types • Classification of fixed bridges according to design • Bridge design and influencing factors	Types of Fixed Bridges, Including Basic Bridge Design	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
18	1	• Retainers	Components of the Fixed Bridge	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations

11. Course Structure (continued)

Week	Hours	Required Learning Outcomes	Unit / Topic	Learning Method	Assessment Method
19	1	• Connectors	Components of the Fixed Bridge	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
20	1	• Abutment tooth assessment and selection • Crown-to-root ratio • Splinting of teeth • Patient occlusal condition • General factors	Clinical Considerations for Bridge Construction	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
21	1	• Tilted abutments after placement • Span length • Pier abutment • Arch curvature	Clinical Conditions Affecting Bridge Design	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
22	1	• Digital workflow in fixed prosthodontics • Recent addition: Integration of artificial intelligence into the digital workflow and CAD/CAM, including automated restoration design, finish-line detection, and occlusal analysis.	Resin-Bonded Bridge	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
23	1	• Intraoral examination • Radiographic examination • Diagnostic cast examination • Recent addition: Use of artificial intelligence-based decision-support systems as an assistive tool in diagnosis and treatment planning in fixed prosthodontics.	Diagnosis and Treatment Planning	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
24	1	• Gingival retraction and impression techniques; impression disinfection	Gingival Retraction and Impression	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations

11. Course Structure (continued)

Week	Hours	Required Learning Outcomes	Unit / Topic	Learning Method	Assessment Method
25	1	• Provisional restoration, occlusion and esthetics: principles of occlusion, occlusal plane, anterior guidance, bite registration, and phonetics	Provisional Restoration, Occlusion and Esthetics	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
26	1	• Provisional restoration, occlusion and esthetics: principles of occlusion, occlusal plane, anterior guidance, bite registration, and phonetics	Provisional Restoration, Occlusion and Esthetics	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
28	1	• Final cementation of fixed prostheses	Techniques	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
29	1	• Failure in fixed prosthodontics	Failure in Fixed Prosthodontics	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations
30	1	• Recent addition: Artificial intelligence applications in shade selection and digital design of ceramic crowns, improving consistency within the digital workflow.	Porcelain in Fixed Prosthodontics (Current Ceramics)	Theoretical lecture using PowerPoint	Quizzes, semester, mid-year and final examinations

12. Course Assessment

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written examinations, reports, etc.

13. Learning and Teaching Resources

Required Textbooks (Curriculum textbooks, if any)	• Cohen's Pathways of the Pulp • Contemporary Fixed Prosthodontics • Rosenstiel, Land, Fujimoto
Main References (Sources)	• Ahmed ZH, Almuharib AM, Abdulkarim AA, et al. Artificial Intelligence and Its Application in Endodontics: A Review. J Contemp Dent Pract. 2023;24(11):912-917. doi:10.5005/jp-journals-10024-3593 • Ourang SAH, Sohrabniya F, Mohammad-Rahimi H, et al. Artificial intelligence in endodontics: Fundamental principles, workflow, and tasks. Int Endod J. 2024;57(11):1546-1565. doi:10.1111/iej.14127 • Revilla-León M, Gómez-Polo M, Vyas S, et al. Artificial intelligence models for tooth-supported fixed and removable prosthodontics: A systematic review. J Prosthet Dent. 2023;129(2):276-292. doi:10.1016/j.prosdent.2021.06.001
Recommended Supporting Books and References (Scientific journals, reports, etc.)	Prepare periodic reports and read recent research published in reputable journals.
Electronic References / Websites	Google Scholar, ResearchGate, PubMed, Scopus.

Clinical Requirements

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

جامعة البيان

Course Description (1)

1. **Course Title**	Prosthodontics
2. **Course Code**	050401
3. **Semester/Year**	Annual
4. **Description Preparation Date**	2026-2027
5. **Available Attendance Form**	weekly
6. **No. of Hours (Total)**	Theoretical 30 hours + clinical 90 h (120 hours)
7. **No. of Credits (Total)**	5
8. **Course Administrator Name**	Dhuha Ali Shakir
9. **E-mail**	dhuha.ali@albayan.edu.iq

10.Course Objectives

Knowledge	**A1**	Training the student on how to examine and diagnose medical conditions.
	A2	Giving important information and treatment steps
	A3	Giving instructions and following up on the process of making partial dentures
	A4	
Skills	**B1**	Describe the tools used to treat patients in need of partial dentures
	B2	Practical training on the steps followed to treat patients who need a partial denture
	B3	Follow up the student while working with oral questions for each step to encourage the student to make connections between theoretical lectures and the practical aspect
	B4	
Values	**C1**	Solving problems
	C2	Creating a spirit of scientific competition among students by asking questions related to various new cases

	C3	Encouraging the student to develop themselves through continuous reading and training
	C4	

11. **Teaching and Learning Strategies**			
1.	Lectures using data show and power point	**4.**	E-learning
2.	Educational films	**5.**	Smart boards
3.	Display screens	**6.**	Practical application in the laboratory

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	Osteology importance • Factors that influence the form and 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	**Anatomy and physiology as related to dental prosthesis (Osteology)**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations

2	1	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 i. Physiologic factors affect salivation ii. Function of saliva	**Anatomy and physiology as related to dental prosthesis (Myology)**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations
3	1	•Patient interview • The objectives of prosthodontic treatment • Oral examination • Sequences of oral examination	**Diagnosis and treatment plan for RPD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations

4	1	•Interpretation of Examination Data • Root morphology • Periodontal considerations • Needs for extraction • Indication of RPD • The Recommended Infection Control Practices for Dental Treatment	**To be continued Diagnosis and treatment**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations
5	1	•Interpretation of Examination Data • Root morphology • Periodontal considerations • Needs for extraction • Indication of RPD • The Recommended Infection Control Practices for Dental Treatment	**Preparation of the mouth to receive an RPD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations

6	1	• 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	**Preparation of the mouth to receive an RPD (Continued).**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations

7	1	•Impression material Differences between reversible and irreversible hydrocolloid Important Precautions to Be Observed in the Handling of hydrocolloid Impressions. • Steps in impression making • The step-by-step procedure and important points to observe in the making of hydrocolloid impression	**Classification of impression** **Technique**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations

8	1	•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	**Classification of impression technique (To be continue)**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations

9	1	•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	**Designing Support**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations
10	1	• Initial inspection • Methods and procedures for fitting the framework • Laboratory inspection • Clinical procedures • Occlusal evaluation • Clinical procedures after fitting the framework	**Fitting the removable partial denture framework**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations

11	1	• The establishment of satisfactory occlusion for RPD • Desirable occlusal contact relationships for various RPD • Occlusion in RPD's (Requirements)	**Occlusal Relationship for Removable Partial Denture**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations
12	1	•Methods for establishing occlusal relationship • Interocclusal records • Excellent occlusal recording materials	**Jaw relation in RPD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations

13	1	• 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	**Trial RPD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examinations

14	1	•Final inspection of the prosthesis before insertion • Verifying the removable partial denture (RPD) framework fit • Assessment of acrylic resin denture 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.	**Initial placement and adjustment of RPD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination

15	1	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	**Pre- prosthetic surgery**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination

16	1	Soft Tissue Procedures ü• Maxillary Soft Tissue Tuberosity Reduction, Maxillary Labial Frenectomy • ü Excision of Redundant/ Hyper mobile Tissue Overlying the Tuberosities • ü Excision of inflammatory Fibrous Hyperplasia (Epulis Fissuratum) • ü Inflammatory Papillary Hyperplasia of the Palate.	**Pre-prosthetic Surgical Considerations (Continued).**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination

17	1	• Mental Attitude (Psychological factor) • ü House classification • ü Social information. • ü Systemic (medical) status Week 18: To be continued diagnosis and treatment	**Diagnosis and treatment plan CD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination

18	1	Past dental history • ü Local factors • ü Intraoral examination (mucosa, ridge, hard palate, soft palate, tongue and post mylohyoid space) • ü Radiographic examination • Diagnostic cast-advantages • Treatment planning • Prognosis Patient education	**To be continued diagnosis and treatment plan for CD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination

19	1	• 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 -ü Materials used for final impression ü- Steps for making final impression -ü Correction of special tray -ü Making the final impression -ü Making final impression utilizing digital intraoral scanner	**Impression in CD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination

20	1	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	**TMJ and Mandibular Movement**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination

21	1	•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	**Digital RPD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination

22	1	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 ü- Mechanical methods ü- Physiological methods	**Vertical jaw relation**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and inal examination

23	1	Centric relation ü- Methods must be used to position the jaw in centric relation	Horizontal jaw relation (Centric occlusion)	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination
24	1	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	**Try in stage in CD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and inal examination

25	1	• Complete denture insertion procedure • Denture base adjustment • Adjustment of denture border • Dentist evaluation • Patient evaluation • Friend's evaluation	**Insertion of CD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination
26	1	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	**Adjustments of CD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and inal examination

27	1	Freeway space problem • Pain in the sulcus • Pain on crest of the alveolar ridge • Looseness of one or both dentures • Speech problems • Chewing problems.	**Post insertion complications in CD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination
28	1	Factors influencing the decision to reline an existing denture • Impression Technique for relining and rebasing	**Relining and rebasing of CD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and
29	1	Repair of fractured denture teeth • Complex fracture repairs	**Repair of fractured RPD**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination
30	1	• Denture base material • Clasp material • Types of clasps	**Esthetic denture materials**	Theoretical lecture using Power Point	Quizzes, monthly, mid year and final examination

13. **Course Evaluation**	
Distribution of the score out of 100 according to the tasks assigned to the student, such as daily preparation, daily exams, oral, monthly, written and records.	
14.**Learning & Teaching Resources**	
Required textbooks (curricular if any)	A. Zarb, Hobkirk, Eckert, Jacob et al. Prosthodontic treatment for edentulous patients B. Complete dentures and implant-supported Mosby, prostheses.13th edition 2013 Elsevier Inc. C. McCracken's removable partial prosthodontics, 13th edition 2016 by Elsevier, Inc
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports …)	
Websites or Electronic References	

جامعة البيان

Course Description (1)

1. Course Title	Orthodontics
2. Course Code	050405
3. Semester/Year	Yearly
4. Description Preparation Date	2026-2027
5. Available Attendance Form	Lectures and laboratory
6. No. of Hours (Total)	150 Theory: 30 hours Practical: 130 hours
7. No. of Credits (Total)	6
8. Course Administrator Name	Dr.Ghassan Bahir Abdulkareem
9. E-mail	Ghassan.bahir@albayan.edu.iq

10. Course Objectives

Knowledge	**A1**	Preparing students to a high level of scientific knowledge in orthodontics.
	A2	Acquiring knowledge about the types of malocclusion cases and their underlying caus (etiology).
	A3	Acquiring knowledge on the methods of diagnosing and treating malocclusion cases.
	A4	Identifying the different types of orthodontic appliances.
Skills	**B1**	Practical preparation of students in the design mechanism of removable orthodon appliances.
	B2	Learning how to fabricate removable orthodontic appliances with their various componen
	B3	Learning how to insert and activate the various components of removable orthodon appliances.
	B4	Managing and solving malocclusion problems using removable orthodontic appliances.
Values	**C1**	Encouraging and preparing students to maintain professional and positive conduct in th general lives.
	C2	Encouraging students to engage with other scientific fields to expand their knowledge.
	C3	Fostering cultural awareness and refining the student's overall personality.
	C4	Stimulating critical thinking on designing and fabricating removable appliances.

11. Teaching and Learning Strategies			
1.	Acquiring the knowledge and expertise needed to identify malocclusion and understand its etiology.	4.	Stimulating students' thinking to identify the appropriate types of removable orthodontic appliances for managing malocclusion problems.
2.	Stimulating students through self-expression, critical thinking, and rapid communication and response.	5.	Encouraging analytical thinking on how to design removable orthodontic appliances to resolve malocclusion issues.
3.	Encouraging students to develop problem-solving skills and distinctive critical thinking.	6.	Conducting lectures based on student interaction and brainstorming.

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	• Define orthodontics and its scope in dentistry Define occlusion, normal occlusion, ideal occlusion, and malocclusion. Describe Andrews' six keys of normal occlusion. State the aims and objectives o orthodontic treatment	Introduction • Definition of orthodontics Definition of occlusion, normal occlusion, ideal occlusion and malocclusion Six keys of normal occlusion	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
2		• Define and explain orthodon terms: overjet, overbite, crossbite, spacing, crowding midline deviation, rotation, displacement, proclination, retroclination, protrusion, retrusion, imbrication, overla impaction. • Classify each term into its relevant type (vertical, transverse, sagittal discrepancies).	Aims of orthodontic treatment Orthodontic definitions (overjet, overbite, crossbite, spacing, crowding, midline deviation, rotation, displacement, proclination, retroclination, protrusion, retrusion, imbrication overlap, impaction) – including types	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
3		• Describe Angle's classificati (Class I, II, III; divisions and subdivisions).	Classification of malocclusion Angle's classification including division and subdivisions	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
4		• Identify molar, canine, and incisor classification of malocclusion.	• Molar, canine, and incisor classifications	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation

		• Explain classification in deciduous and mixed dentiti	Classification of deciduous and mixed dentitions		
5		• Define growth, development and maturity. • Describe stages of human developme from ovum to birth. • Explain theories of bone growth • (cartilaginous, sutural, endosteal-periosteal, matrix	Definitions of growth, developme and maturity • Stages of development (ovun till birth) • Theories of bone growth (cartiligeneous, sutural, endosteal-periosteal, matrix theories)	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
6		• Define growth site, growth center, displacement, and d	• Definitions of growth site, growth center, displacement, and drift • Growth curve and maximum growth spurt	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
7		• Describe growth of hard tissues: cranial base, crania vault, nasomaxillary comple mandible (prenatal and postnatal). • Describe growth of soft tissues: lips, nose, cheek, a tongue (prenatal and postnatal). Recognize	• Growth and development of hard tissues (cranial base, cranial vault, nasomaxillary complex, mandible) including prenatal and postnatal • Growth and development of s tissues (lip, nose, cheek and tongue) including prenatal an postnatal	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
8		• Developmental anomalies affecting craniofacial growth • Explain jaw rotation and adaptive changes.	• Developmental anomalies • Jaw rotation and adaptation	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation

9		• Differentiate between deciduous and permanent dentition. • Describe stages of tooth development: formation, calcification, root completion	<u>Deciduous and permanent dentition</u> • Stages of tooth developme Formation, calcification and r completion	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
10		• Explain stages and theories tooth eruption. • Identify sequences and timir of eruption of deciduous and permanent teeth.	• Tooth eruption (stages and theories) • Sequences and timing of eruption	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
11		• Describe occlusal developm in: Newborn oral cavity (g pad relationships, neonatal j relation, natal/neonatal teeth	<u>Development of occlusion</u> • new born oral cavity (relationship of gum pads, neonatal jaw relationships, na and neonatal teeth) • Deciduous dentition stage - Dental changes till 6 years of age (jaw relationship, attrition primary spaces	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
12		• Early mixed dentition (erupti of molars and incisors, early mesial shift, ugly duckling stage, secondary spaces). • Late mixed dentition (eruptic of canines/premolars, Leewa space, late mesial shift). • Permanent dentition (eruptic of 2nd and 3rd molars, mesi migration).	• Early mixed dentition stage - eruption of first molars and incisors (occlusal relationship of primary and permanent molars, early mesial shift, ugl duckling stage, secondary spaces) • Late mixed dentition stage - eruption of canines and premolars (Leeway space an late mesial shift)	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation

			• Permanent dentition - eruptio second and third molars (mes migration)		
13		• Distinguish between genetic and environmental causes c malocclusion. • Classify etiological factors: • General factors •Skeletal factors (jaw size, position, cranial base).	Etiology of malocclusion: Geneti factors and inherited factors • Classification of etiologica factors a. General factors i.Skeletal (dental base and cranial base, variation of position and size of the jaws	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
14		• Soft tissue factors (muscles lips, tongue, mastication). • Tooth size–arch length discrepancies (crowding, spacing).	ii.Soft tissue (muscles of face ar mastication, muscles of lip and tongue, relation to skeletal facto abnormalities of oro-facial musculature, interference with s tissue function) iii.Tooth size and arch len relationship (Crowding a spacing) including types	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
15		• Extra teeth (supernumera missing teeth (hypodontia).	b. Local factor i. Extra-teeth (supernumerary) and missing teeth (hypodonti ii. Anomalies of tooth size and shape	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
16		Early loss or retention deciduous teeth	iii. Early loss of deciduous teeth iv. Retained deciduous teeth, delayed eruption of permaner teeth, impacted teeth, ankylo	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
17		• Abnormal eruptive patterns (displacement, transposition • Large frenum, periodontal disease, oral habits.	v. Abnormal eruptive behavior (displacement, transposition) vi. Large frenum (labial and lingual), periodontal diseases	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation

18			vii. Oral habit Dental caries, improper der restoration	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
19		• Describe histology of the periodontium related to orthodontic movement. • Explain theories of tooth movement (pressure-tensior blood flow, piezoelectric).	<u>Tooth movement</u> a. Tissue changes associated w tooth movement: i. Histology of periodontium ii. Theories of tooth movement (pressure tension theory, blooc flow theory, and piezoelectric theory)	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
20		• Define biomechanics of to movement: force applicati type, magnitude, durati direction.	b. Biomechanics i. Force (application, type, magnitude, duration and direction) ii. Center of resistance and rotation, moment of force and moment of couple.	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
21		• Types of tooth movement Rate of tooth movement a factors affecting it.	iii. Types of tooth movement iv. Rate of tooth movement and factors affecting it	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
22		• Differentiate between pass appliances (habit breake retainers, space maintaine and active applianc (removable, fixed, orthoped myofunctional, combination).	<u>Orthodontic appliances</u> a. Overview: i. passive orthodontic appliances (habit breaker, retainer and space maintainer) active orthodontic applianc (removable, fixed, orthopedic a myofunctional, and combination)	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
23		• Identify properties of stainles steel wire and acrylic. Describe components:	<u>b. Removable Orthodontic Appliance:</u>	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation

		• Active (springs, screv elastics).	i. Properties of various components (SS wire, acrylic) ii. Components: 1. active components (sprin screws and elastics		
24		• Retentive (clasps). • Acrylic base plate, bite plane • Anchorage principles.	2. retentive components (clasp 3. (acrylic base plate and bite planes 4. anchorage	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
25		• Outline steps in designing a constructing remova appliances.	iii. Design of a removable orthodontic appliance iv. Construction of a removable orthodontic appliance	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
26		• Describe soldering and weld techniques. List post-insert instructions.	v. Soldering and welding Post-insertion instructions a guidelines	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
27		• Describe types, components advantages, limitations. • Compare banding vs bondin • Explain biomechanics of fixe appliances.	<u>c. Fixed orthodontic appliance:</u> • Types, components, advantages, limitation, biomechanics, banding vs. bonding	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
28		• Recognize role of extra-c anchorage, TADs, and ling appliances.	<u>Anchorage</u> • Use of extra-oral anchora temporary anchorage devic (TADs), and lingual fix appliance	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation
29		• Classify appliances and describe components, advantages, limitations, and modes of action.	d. <u>Orthopedic and Myofunction appliance:</u> • Types, components, advantages, limitation, mode of action	Quizzes, semester, mid-ye and final year exams	Theoretical lecture using power point presentation

		• Recognize uses of combination appliances and Invisalign.	• Other active combination appliances: Invisalign		
30		• Define retention and explain its importance and duration. • Classify retainers (Hawley, clear overlay, positioners, permanent fixation, precisio	f. <u>Retention and retainers</u> • Retention (definition, reason time) • Retainers (Hawley, clear overlay, positioners, permanent fixation, precisio	Quizzes, semester, mid-y and final year exams	Theoretical lecture using pov point presentation

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بنية المقرر العملية					
الاسبوع	الساعات	المحتويات النظرية	اسم الوحدة / المساق أو الموضوع	طريقة التعليم	طريقة التقديم
1	4	Seminar 1 (Introduction to orthodontics, Orthodontic Pliers)	Orthodontics	Practical evaluation, Quizzes	Practical demonstration
2	4	Seminar 2 (Types of orthodontic appliances) (Introduction to removable appliance)	Orthodontics	Practical evaluation, Quizzes	Practical demonstration
3	4	Seminar 4 (Stainless steel alloy properties)	Orthodontics	Practical evaluation, Quizzes	Practical demonstration
4	4	Seminar 5 (Principles of wire bending)	Orthodontics	Practical evaluation, Quizzes	Practical demonstration
5	4	Wire bending training	Orthodontics	Practical evaluation, Quizzes	Practical demonstration
6	4	*Continue* wire bending training	Orthodontics	Practical evaluation, Quizzes	Practical demonstration
7	4	Z-Spring	Orthodontics	Practical evaluation, Quizzes	Practical demonstration
8	4	Recurved Z-Spring	Orthodontics	Practical evaluation, Quizzes	Practical demonstration
9	4	Review	Orthodontics	Practical evaluation, Quizzes	Practical demonstration
10	4	Simple Finger Spring	Orthodontics	Practical evaluation, Quizzes	Practical demonstration

Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Modified Finger Spring	4	11
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Review	4	12
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Buccal Canine Retractor	4	13
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Modified Buccal Canine Retractor	4	14
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Review	4	15
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Quarterly Exam	4	16
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Adams' Clasps on Upper Right 1st Molar	4	17
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Adams' Clasps on Upper Left 1st Molar	4	18
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Adams' Clasps on Upper Right 1st Premolar	4	19
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Double Adams' Clasps on Upper Right 2nd premolar &1st molar	4	20
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Review	4	21
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Fitted Labial Arch	4	22
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Hawley Arch	4	23
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Review	4	24

Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Robert's Retractor	4	25
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Acrylic baseplate	4	26
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Soldering and Welding	4	27
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Review	4	28
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Quarterly Exam	4	29
Practical demonstration	Practical evaluation, Quizzes	Orthodontics	Final Exam	4	30

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13. Course Evaluation
توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير....الخ. • 15 % نصف السنة • 25 % سعي سنوي(يشمل التدريب الصيفي والامتحانات اليومية والشهرية والمتطلبات العملية) • 20 % الامتحان العملي النهائي • 40% الامتحان النظري النهائي

14. Learning & Teaching Resources	
Required textbooks (curricular if any)	• Orthodontics; current principles and technique • Introduction to orthodontic • Contemporary Orthodontics,William Proffit Sixth edition • Textbook of Orthodontics Singh 2007
Main References (sources)	• McDONALD AND AVERY'S DENTISTRY for CHILD and ADOLESCENT 2016 by Elsevier
Recommended Books & References (Scientific Journals, Reports …)	• Additional requirements such as Community-based facilities (include f example, guest Lectures , internship , field studies) • Trying to spread awareness among school students through field visits ar lecturing educational • Summer training
Websites or Electronic References	• www.ajodo.org, • PubMed

جامعة البيان

Course Description (1)

1. Course Title	**Pediatric Dentistry**
2. Course Code	**050409**
3. Semester/Year	**Annual**
4. Description Preparation Date	**2026-2027**
5. Available Attendance Form	**Lectures**
6. No. of Hours (Total)	**Theory: 30 hours + Seminars**
7. No. of Credits (Total)	**4**
8. Course Administrator Name	**Lecturer Dr. Serar Nassir Mahmood**
9. E-mail	**Serar.n@albayan.edu.iq**

10. Course Objectives

Knowledge	**A1**	**Understand the theoretical principles of diagnosing and treating infections affecting children's teeth.**
	A2	**Apply practical methods for managing and treating various cases of dental infection in children.**
	A3	**Learn scientific, evidence-based methods for diagnosing dental conditions and selecting appropriate treatment approaches.**
	A4	**Identify and differentiate between primary and permanent teeth and understand the common problems and conditions associated with each.**
Skills	**B1**	**Enabling students to acquire and understand the subject of pharmacology.**
	B2	**Enabling students to dispense medications in the correct scientific manner for various diseases and conditions after they are diagnosed.**
	B3	**Enabling students to possess self-learning skills to acquire information, skills, and practices related to medicines.**
	B4	**Enabling students to know drug interactions and side effects of drugs.**

Values	C1	Professional preparation and encouragement of students to adopt positive behaviors in their personal and professional lives.
	C2	Scientific preparation and encouragement of students to communicate and collaborate with other scientific disciplines.
	C3	Cultural development and enhancement of the student's personality.
	C4	Apply the acquired skills to become a competent dentist capable of providing appropriate treatment to patients.

11. Teaching and Learning Strategies

1.	Acquire the knowledge and experience necessary to identify diseases and understand their causes.	4.	Encourage students to solve problems and develop distinctive and effective thinking skills.
2.	Motivate students through expression, critical thinking, effective communication, and rapid response.	5.	Increase students' knowledge of dental examination methods and the detection of dental caries and gingivitis.
3.	Develop skills in conducting motivational interviews to encourage patients to adopt appropriate preventive measures.	6.	Deliver lectures through active student participation and brainstorming.

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1. The Structure of the Course					
Week	**Hours**	**Topic/Subject Name**	**RLOs**	**Learning Method**	**Evaluation Method**
1	1	Eruption of teeth, normal eruption process	Eruption of teeth. Pattern of tooth movement theories of tooth eruption. Development of teeth. Life cycle of tooth. Influence of premature loss of primary molar on eruption time of their successors.	Data show White board	Daily exam
2	1	Teething & difficult eruption	Tooth numbering system. Sequence of eruptions. Variations in sequence of eruptions. Lingual eruption of mandibular permanent incisors. Teething and difficult eruption, Interval of Rest	Data show White board	Daily exam
3	1	Eruption haematoma, sequestrum, ectopic eruption	Eruption haematoma, sequestrum, ectopic eruption	Data show White board	Oral exam + discussion sessions
4	1	Epstein pearls, bohn nodules, dental lamina cysts, shedding of the primary teeth, mechanism of resorption, and shedding factors cause differences in time of eruption	Early eruption (natal and neonatal teeth) Epstein pearls, bohn nodules, dental lamina cysts, shedding of the primary teeth, pattern of shedding Resorption of anterior teeth resorption of posterior teeth. Remnants of deciduous teeth retained deciduous teeth	Data show White board	Daily oral exam

			factors cause differences in time of eruption		
5	1	Systemic (disease) factors that cause late eruption deciduous dentition period, ugly duckling stage	Systemic (disease) factors which cause late eruptions. TRISOMY 21 SYNDROME (DOWN SYNDROME). CLEIDOCRANIAL DYSPLASIA. HYPOTHYROIDISM. HYPOPITUITARISM. Deciduous Dentition Period. Ugly duckling stage	Data show White board	oral test
6	1	Morphology of individual primary anterior teeth	Maxillary central incisor. Maxillary lateral incisor. Maxillary canine. Mandibular central and lateral incisor. Mandibular canine.	Data show White board	oral test
7	1	morphology of individual primary posterior teeth	Maxillary first molar maxillary second molar Mandibular first molar. Mandibular second molar	Data show White board	oral test
8	1	Morphological differences between primary and permanent teeth	MORPHOLOGY OF INDIVIDUAL PRIMARY TEETH. Features of a Deciduous Crown. Features of a Deciduous Root. Features of a Deciduous Pulp. GENERAL DIFFERENCES. SIZE AND MORPHOLOGY OF THE PRIMARY TOOTH PULP CHAMBER. PRIMARY ROOT CANAL ANATOMY. Root Formation. ROOT COMPLETION OF PRIMARY TEETH. Root canal	Data show White board	Discussion panels

			anatomy of primary anterior teeth. Root canal anatomy of primary molars		
9	1	Functions of primary teeth	Functions of primary teeth. The major functions of primary teeth. TYPES AND FUNCTION OF INDIVIDUAL PRIMARY TEETH INCISORS, CANINES and MOLARS	Data show White board	Daily exam
10	1	Dental caries; Definition and Classification	Definition of tooth decay. THE CARIES DIAGNOSIS. Classification. THE CARIES ETIOLOGY	Data show White board	Daily exam
11	1	Rampant dental caries, early childhood caries	Etiology. Clinical features. Early childhood caries. Some of the key biological correlates of ECC Seen in primary and permanent dentition. Implication. Aims of treatment. Factors affecting management	Data show White board	Daily exam
12	1	Restorative dentistry for children isolation & maintenance of dry field and application of the rubber dam	Restorative dentistry for children. Maintenance of a clean field. Armamentarium for rubber dam placement. Rubber dam application selection of a clamp. Recent modifications	Data show White board	Daily exam
13	1	Morphological consideration, cavity preparation, and instrumentation	Morphological considerations in cavity preparation of primary teeth. Basic principles in cavity preparation in primary teeth. Cavity preparation in primary teeth. Deep-seated class I cavity. Class II cavity. Small lesions. Lesions with greater dentin involvement. Class	Data show White board	Daily exam

			III cavity. Modified class III cavity preparation. Class IV cavity preparation		
14	1	Restorative materials used on pediatric dentistry	Status of common restorative materials. Composite restorative material. Types of composites. Silver amalgam. Bonded amalgams Glass ionomer cements recent developments and modifications of GIC. Calcium hydroxide. Composite restorative material. Factors affecting composite polymerization	Data show White board	Daily exam
15	1	Matrices & retainers	Rationale for Using a Matrix. Functions. Ideal Requirements of a Matrix. Recent Modifications in Matrices Classification of Matrices. Recent Modifications in Matrices	Data show White board	Daily exam
16	1	Chrome steel crowns, ART	STAINLESS STEEL CROWN (SSC), Indications, advantages, disadvantages Operative technique. Stainless steel crown modifications. ATRAUMATIC RESTORATIVE TREATMENT (ART). Essential Instruments and Materials for ART Procedure. Advantages and disadvantage of ART. Other Applications of ART. PATIENT PREPARATION AND ARMAMENTARIUM FOR ART	Data show White board	a report
17	1	Treatment of deep caries	Diagnostic aids in the selection of teeth for vital pulp therapy. Evaluation of	Data show	Homework

			treatment prognosis before pulp therapy. New approaches in caries removal.	White board	
18	1	Indirect pulp treatment	Treatment of the deep carious lesion. Indirect pulp treatment (gross caries removal or indirect pulp therapy).	Data show White board	Daily exam
19	1	Vital pulp therapy pulpotomy	Vital pulp exposure Direct pulp capping. Pulpotomy. Pulpotomy for primary teeth. Pulpotomy for permanent teeth. Pulpotec. Apexogenesis	Data show Whiteboard	Daily exam
20	1	Non-vital pulp therapy technique	Nonvital pulp treatment with Irreversible pulpitis or necrotic Pulp. Pulpectomy. Partial pulpectomy. Complete pulpectomy. Apexification	Data show White board	oral test
21	1	Reaction of pulp to various capping materials	Reaction of the pulp to various Capping materials. Zinc oxide–eugenol. Preparations containing formalin. Ferric sulfate. Glutaraldehyde. Mineral trioxide aggregate. Mechanism of action. Clinical applications of MTA	Data show White board	Discussion groups
22	1	Local anesthesia and pain control for children	Local anesthesia and pain control in children. Ideal requirements of acceptable local anesthetic. Differences between a child and adult patient. Structure of local anesthetics. Mode of action of local anesthetics. Composition of local anesthetic solution. Topical anesthetics. Topical anesthetic agents.	Data show White board	Daily exam

			Application. Controlled-release devices. Jet injectors physical pain control		
23	1	Techniques of local anesthesia	Maxillary injection techniques. Posterior superior alveolar nerve block. Middle superior alveolar nerve block. Anterior superior alveolar nerve block. Infraorbital nerve block. Nasopalatine nerve block. Greater palatine nerve block. Infiltration anesthesia. Mandibular injection techniques. Inferior alveolar and lingual nerve blocks. Mental nerve block. Long buccal. Lower infiltration anesthesia	Data show White board	oral test
24	1	Complications after a local anesthetic	Complications after local anesthesia. Complications that are attributed to solution or insertion of needle. Generalized complications. Early localized complications. Failure of local anesthesia. Late localized complications	Data show White board	oral test
25	1	Supplemental injection techniques	Intra-ligamentary anesthesia. Intrapulpal anesthesia. Intraseptal injection. Intraosseous injection. Trends in pain control. Safety syringes. Computer controlled local anesthetic delivery system. Comfort control syringe	Data show White board	Discussion panels
26	1	Oral surgery for children, indication and contraindications for extraction of primary teeth	Oral surgery for children Indications for extraction of primary teeth. Contraindications for extraction of primary teeth. Indications for extraction	Data show White board	Homework

			of 1st permanent molars. radiographic survey		
27	1	Technique for extraction of primary teeth	Extraction technique for complications of primary tooth extraction. Upper anterior teeth Upper molars Lower anterior teeth After Extraction: Post-extraction care Some post-extraction instructions	Data show White board	Homework
28	1	Extraction complications	Complications of tooth extraction. Local complications: occur during extraction (fracture of the crown or root, fracture of alveolar bone, fracture of maxillary tuberosity, fracture of adjacent or opposing tooth, fracture of the mandible, dislocation of the T.M.J. injury to the temporomandibular joint (T.M.J.), displacement of root or tooth into the maxillary sinus, damage to the soft tissue).	Data show White board	a report
29	1	Postoperative extraction complications, radiographic survey Of teeth extracted	Post-extraction complication (Bleeding, Trismus, Hematoma, Edema, Oro-Antral fistula, Dry Socket (Alveolar osteitis))	Data show White board	oral test
30	1	Infections manifestation and management	Lesions of the oral soft tissues. viral infections. herpetic infections. mumps. rubella. measles. herpangina. hand, foot, and mouth disease. infectious mononucleosis.	Data show White board	Oral exam + discussion groups

			corona viral infection. bacterial infections. staphylococcal infections. streptococcal infection. acute necrotizing ulcerative gingivitis (vincent infection) or ANUG. congenital syphilis. diphtheria. actinomycosis. fungal infection. protozoal infection. odontogenic infection. swelling in the submandibular region. infection involving the angle between the eye and the nose. Principles of the treatment of acute infection are:		

Assessment: Clinical requirement
A collection of titles for seminars that are distributed to students and presented by them, discussing the details of the topics and their future outlook.

Hours	Week	Titles
1	2	Hypodontia among children
2	2	Anodontia among children
3	2	Rampant caries among children
4	2	Staining among children
5	2	Types of Caries removal techniques
6	2	Restoration of primary and young permanent teeth with variety types of restorative materials
7	2	Rubber dam

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

1. Course Evaluation

- **Class Attendance: 2%**
- **Quizzes: 5%**
- **Semester Exams: 18%**
- **Midterm Examination: 15%**
- **Final Examination: 60% (40% written + 20% practical).**

2. Learning & Teaching Resources

Required textbooks (curricular if any)	**McDonald AND AVERY'S DENTISTRY for CHILD and ADOLESCENT 2022 by Elsevier**
Main References (sources)	**Handbook of pediatric dentistry (Cameron) Mosby**
Recommended Books & References (Scientific Journals, Reports …)	**View recent research**
Websites or Electronic References	**Google Scholar, research gate, Scopus**

Course Description (1)

1. Course Name	**Operative and Esthetic Dentistry and Endodontics**
2. Course Code	050402
3. Semester / Year	Annual
4. Date of Preparing this Description	11-08-2026
5. Available Attendance Modes	Annual
6. Total Study Hours	30 theoretical hours, 150 practical hours
7. Total Credits / Units	8
8. Course Coordinator	Dr. Noor Hassan Abd
Email	Noor.hasan@albayan.edu.iq

Course Objectives		
Knowledge	**A1**	Scientifically and practically prepare dental students and qualify them to perform tooth preparation and simple and moderate restorations under local anesthesia; train them in medical diagnosis and taking the patient's medical history accurately to protect both students and patients; and train them to manage emergency cases within operative dentistry and endodontics.
Skills	**B1**	Thinking Skills: 1. Motivate students through expression, thinking, rapid communication, and response. 2. Encourage students to solve problems and develop distinctive thinking. 3. Base the lecture on student interaction and brainstorming. 4. Qualify students to examine, diagnose, and treat patients. Other skills related to employability and personal development (general and transferable skills).
Values	**C1**	Professional preparation and encouraging the student to adopt positive behavior in public life.

Values	**C2**	Teamwork
Values	**C3**	Planning and organization
Values	**C4**	Skill in identifying dental prosthetic appliances.

9. Teaching and Learning Strategies

1	Document cameras	**4**	Lecture
2	Educational movies	**5**	Data show
3	LCD	**6**	Google Classroom

1. Course Structure

Week	Hours	Required Learning Outcomes	Unit / Topic	Learning Method	Assessment Method
1	1	Biological considerations of enamel structure and its clinical significance in operative dentistry.	Biological considerations	Data show Whiteboard	Daily examinations and assessment of patient treatment
2	1	Biological considerations of enamel structure and its clinical significance in operative dentistry.	Biological considerations	Data show Whiteboard	Daily examinations and assessment of patient treatment
3	1	Biological considerations of dentin structure and its clinical significance in operative dentistry.	Biological considerations	Data show Whiteboard	Daily examinations and assessment of patient treatment
4	1	Biological considerations of dentin structure and its clinical significance in operative dentistry.	Biological considerations	Data show Whiteboard	Daily examinations and assessment of patient treatment
5	1	Patient assessment, diagnosis, and treatment planning.	Patient assessment	Data show Whiteboard	Daily examinations and assessment of patient treatment
6	1	Caries management (diagnostic and treatment strategies). Minimally invasive dentistry and selective caries removal.	Caries management	Data show Whiteboard	Daily examinations and assessment of patient treatment
7	1	Cervical lesions (carious and non-carious lesions).	Cervical lesions	Data show Whiteboard	Daily examinations and assessment of patient treatment

Week	Hours	Required Learning Outcomes	Unit / Topic	Learning Method	Assessment Method
8	1	Restorative dentistry and pulp health.	Restorative dentistry	Data show Whiteboard	Daily examinations and assessment of patient treatment
9	1	Deep caries management - vital pulp therapy - preservation of pulp vitality.	Deep caries management	Data show Whiteboard	Daily examinations and assessment of patient treatment
10	1	Inflammatory conditions of the pulp.	Inflammatory conditions of the pulp	Data show Whiteboard	Daily examinations and assessment of patient treatment
11	1	Treatment of deep caries.	Treatment of deep caries	Data show Whiteboard	Daily examinations and assessment of patient treatment
12	1	Simplified anatomical contouring.	Simplified anatomical contouring	Data show Whiteboard	Daily examinations and assessment of patient treatment
13	1	Fluoride-releasing materials.	Fluoride-releasing materials	Data show Whiteboard	Daily examinations and assessment of patient treatment
14	1	Indirect esthetic adhesive restorations: inlays and onlays (materials and techniques); CAD/CAM technology; universal adhesive materials and modern bonding strategies; digital dentistry and modern CAD/CAM workflow.	Indirect esthetic adhesive restorations	Data show Whiteboard	Daily examinations and assessment of patient treatment

Week	Hours	Required Learning Outcomes	Unit / Topic	Learning Method	Assessment Method
15	1	Direct tooth-colored restorations (composite).	Tooth-colored restorations	Data show Whiteboard	Daily examinations and assessment of patient treatment
16	1	Dental lasers.	Dental lasers	Data show Whiteboard	Daily examinations and assessment of patient treatment
17	1	Application of lasers in conservative dentistry.	Laser application	Data show Whiteboard	Daily examinations and assessment of patient treatment
18	1	Application of lasers in conservative dentistry.	Laser application	Data show Whiteboard	Daily examinations and assessment of patient treatment
19	1	Indirect tooth-colored restorations.	Tooth-colored restorations	Data show Whiteboard	Daily examinations and assessment of patient treatment
20	1	Restorative system techniques: posterior composite inlays/onlays and laboratory-processed composite inlays/onlays.	Restorative system techniques	Data show Whiteboard	Daily examinations and assessment of patient treatment
21	1	Ceramic veneers, inlays/onlays, and clinical procedures.	Ceramic veneers	Data show Whiteboard	Daily examinations and assessment of patient treatment
22	1	Ceramic veneers, inlays/onlays, and clinical procedures.	Ceramic veneers	Data show Whiteboard	Daily examinations and assessment of patient treatment
Endodontics					

Week	Hours	Required Learning Outcomes	Unit / Topic	Learning Method	Assessment Method
23	1	Topics that have been covered.	Topics that have been covered	Data show Whiteboard	Daily examinations and assessment of patient treatment
24	1	1- Aim of endodontic treatment.	1- Aim of endodontic treatment	Data show Whiteboard	Daily examinations and assessment of patient treatment
25	1	2- Basic stages of treatment.	2- Basic stages of treatment	Data show Whiteboard	Daily examinations and assessment of patient treatment
26	1	3- Pulp diseases. Modern terminology for the diagnosis of pulpal and periapical diseases.	3- Pulp diseases	Data show Whiteboard	Daily examinations and assessment of patient treatment
27	1	Classification of periapical diseases.	Classification of periapical diseases	Data show Whiteboard	Daily examinations and assessment of patient treatment
28	1	Access cavity preparation. Conservative access cavity design.	Access cavity preparation	Data show Whiteboard	Daily examinations and assessment of patient treatment
29	1	Endodontic instruments. Nickel-titanium rotary instruments in canal preparation.	Endodontic instruments	Data show Whiteboard	Daily examinations and assessment of patient treatment
30	1	Radiography in endodontic treatment and root canal preparation. Electronic apex locators and working length determination.	Radiography in endodontics	Data show Whiteboard	Daily examinations and assessment of patient treatment

2. Course Assessment

The grade of 100 is distributed according to the tasks assigned to the student, such as daily preparation, daily and oral examinations, monthly and written examinations, reports, etc.

Number	Assessment Measurement	Score Distribution Operative	Score Distribution Preclinical Endodontics
1	Clinical Requirements (25%)	19%	6%
2	Mid-year examination (25%)	15%	10%
3	Final examination (50%) 25% clinical 25% theory	30%	20%
Total	**100%**	**64%**	**36%**

3. Teaching and Learning Resources

Data show / Whiteboard	**Art and Science of Operative Dentistry**
Main References (Sources)	**Pathways of the Pulp**
Recommended supporting books and references (scientific journals, reports, etc.)	**Reviewing recent research**
Electronic references / Internet sites	**Google Scholar, ResearchGate**

جامعة البيان

Course Description (1)

1. Course Title	Prosthodontics
2. Course Code	050201
3. Semester/Year	Yearly
4. Description Preparation Date	2026-2027
5. Available Attendance Form	Lectures and Laboratory
6. No. of Hours (Total)	Theory: 30 hours Practical: 120 hours
7. No. of Credits (Total)	6
8. Course Administrator Name	Lect. Dr. Zainab Sabah Abdulhasan
9. E-mail	zainab.s@albayan.edu.iq

10. Course Objectives

Knowledge	**A1**	1. The student must have seen with his own eyes and become familiar with dental devices tools
	A2	2. The student gets to know different types of laboratory materials and how to use them
	A3	3. The student must have learned to use laboratory equipment
	A4	4. Learn how to evaluate the mistakes that dental technicians may make
Skills	**B1**	1. Teaching the student methods of laboratory and environmental cleanliness
	B2	2. Teach the student to wear lab coat, masks, and gloves while working
	B3	3. Description of tools, devices, and materials related to the subject of manufactur removable denture
	B4	
Values	**C1**	Professional preparation and encouraging the student to have positive behavior in his public life
	C2	Teamwork
	C3	Planning and organization
	C4	Skill in identifying dental prosthetic devices

11. Teaching and Learning Strategies

1.	Lectures using data show and power point	**4.**	Educational films

2.	Display screens	**5.**	Smart boards
3.	E-learning	**6.**	Practical application in the laboratory

جامعة البيان

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	• Complete denture • Objective of complete denture • General consideration in complete denture construction • Complete denture component parts	**Introduction**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
2	1	• Anatomical landmarks • Maxillary arch anatomical landmarks • Supporting structures • Limiting structures • Relief areas	**Anatomical landmarks**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
3	1	• Anatomical landmarks • Mandibular arch anatomical landmark • Supporting structures • Limiting structures • Relief areas	**Anatomical landmarks**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
4	1	• Impression tray - Definition • Parts of the impression tray • Types of trays	**Complete Denture Impression**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

		• Stock tray - Definition • Types of stock trays • Factors effect in selection of stock tray			
5	1	• Special tray • Advantages of special tray • Materials used for construction of special tray • Types of special tray • Techniques or methods for construction of special tray Criteria for special tray constructi	**Complete Denture Impression**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
6	1	• 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	**Complete Denture Impression**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

		• Technique used for making final impression • Common fault in impression making • Digital impression			
7	1	• Record base - Definition • Requirements of record base • Types of materials used in construction of record base • Digital Record Bases • Milling & 3D Printing	**Record Base**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
8	1	• Occlusion rims - Definition • Requirements of occlusion rim • Materials used in construction of occlusion rim • Measurements of maxillary occlusion rim • Measurements of mandibular occlusion rim • Uses of occlusion rim • Occlusal plane	**Occlusion Rims**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
9	1	• Temporomandibular joint (TMJ) – Definition • Ligaments • Muscles	**Anatomy And Physiology of Temporomandibular Joint**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

10	1	• Mandibular axes and mandibular movements • Knowledge of mandibular movements Mandibular movements	**Anatomy And Physiology of Temporomandibular Joint**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
11	1	• Types of jaw relation • Vertical jaw relation • Rest position • Inter – occlusal distance • Importance of vertical dimension • Increased vertical dimension • Decreased vertical dimension	**Maxillomandibular relation**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
12	1	• Method of recording rest vertical dimension • Method of recording occlusal vertical dimension • Pre – extraction records • Methods without pre – extraction record	**Methods of Recording Vertical Relatio**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
13	1	• Centric jaw relation • Importance of centric jaw relation • Methods of recording jaw relation • Factors that complicate centric jaw relation • Methods of recording eccentric jaw relation	**Horizontal Jaw Relation**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

14	1	• Dental articulator • Definition • Functions of articulator • Requirements of articulator • Types of articulators	**Dental Articulators**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
15	1	• Face -bow • Definition • Parts of face -bow • Types of face -bow • Important of the face -bow	**Face – Bow**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
16	1	• 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	**Mounting**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
17	1	• 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	**Selection of Artificial Teeth**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
18	1	• Shade • Occluso -gingival height	**Selection of Posterior Teeth**	Theoretical lecture using	Quizzes, monthly, mid-year and final examinations

		• Occlusal form • Advantages of casp form teeth • Advantages of non - cusp form teeth		Power Point	
19	1	• Guideline of artificial teeth arrangement • Arrangement of anterior teeth • Arrangement of upper anterior teeth	**Arrangement of Artificial Teeth**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
20	1	• Curve of Spee • Compensatory curves • Arrangement of lower posterior teeth • Arrangement of upper posterior teeth • Common errors in arrangement of teeth • Digital teeth arrangement	**Arrangement of Posterior Teeth**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
21	1	• Waxing • Definition • Requirements of waxing the polish surfaces • Establishing the posterior palatal seal area • Procedure for carving of posterior palatal seal area • Advantages of posterior palatal seal • Esthetic consideration in complete denture	**Waxing And Carving**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

22	1	• Occlusion • Occlusion of complete denture • Centric occlusion • Centric relation	**Complete Denture Occlusion**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and fi examinations
23	1	• Eccentric occlusion • Concepts of complete denture occlusion • Try -in appointment	**Complete Denture Occlusion**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and fi examinations
24	1	• Flasking of the denture • Flasking techniques	**Processing of the Denture (Flasking)**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and fi examinations
25	1	• Causes of errors in occlusion • Selective grinding • Correction of occlusal errors • Disadvantages of intra – oral correction • Advantages of extra – oral correction • Rules for selective grinding	**Finishing and Polishing of Complete Denture**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and fi examinations
26	1	• Procedure of finishing • Grinding and cutting instruments • Polishing of complete denture • Principles of polishing • Procedures of polishing	**Occlusal Correction**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and fi examinations

27	1	• Types of material used in repair • Causes of denture fracture • Types of repairs Laboratory procedure for repairin fractured denture base	**Repair of Complete Denture**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and fi examinations
28	1	• Replacement of broken or missing tooth • Replacement of missing or lost part • Requirement of repair	**Repair of Complete Denture**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and fi examinations
29	1	• Indication for relining or rebasing • Relining • Contraindications of relining and rebasing • The impression techniques for relining and rebasing	**Relining and Rebasing**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and fi examinations
30	1	• Laboratory procedures for relining • Rebasing • The chair – side reline technique	**Relining and Rebasing**	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

جامعة البيان

13. Course Evaluation		
1	First + second semester 25%	Theory 10% Practical 15%
2	Midyear examination 15%	Theory 15%
3	Final examination	Theory 40% Practical 20%
Total		**100%**

14. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Dental laboratory technology for removable prosthodontics 2. Textbook of complete denture
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports …)	1) Techapiroontong, Siraphob et al. "Workflows and Laboratory Cost for Removable Digital Complete Denture: Two Case Reports with and without Existing Denture." Case reports in dentistry vol. 2024 2) Unkovskiy, A., Wahl, E., Zander, A.T. et al. Intraoral scanning to fabricate complete dentures with functional borders: a proof-of-concept case report. BMC Oral Health 19, 46 (2019) 3) CAD-CAM complete digital dentures: an improved clinical and laboratory workflow. J Prosthet Dent, 2024.
Websites or Electronic References	PubMed, Scopus, Elsevier, Google Scholar, Research Gates

جامعة البيان

Course Description (1)

1. Course Title	Dental Material	
2. Course Code	050202	
3. Semester/Year	Second Year\ Annual	
4. Description Preparation Date	2027-2026	
5. Available Attendance Form	In person (Lectures + Laboratories)	
6. No. of Hours (Total)	Laboratory 2h/wk.	Theory:1h/wk
7. No. of Credits (Total)	4	
8. Course Administrator Name	Assit.lec.Areej Talal Ayyash	
9. E-mail	Areej.t@albayan.edu.iq	

10. Course Objectives

Knowledge	A1	Understand the physical, mechanical, chemical, and biological properties of dental materials used in restorative and preventive dentistry
	A2	Identify the classification, composition, and clinical applications of various dental biomaterials, impression materials, and cements
	A3	Comprehend the principles of biocompatibility, corrosion, and tissue response to long-term dental restorations
	A4	Recognize modern developments and digital technologies in dental material science, including CAD/CAM materials and dental resins.
Skills	B1	Demonstrate proper laboratory and clinical manipulation techniques for mixing, handling, and applying various dental materials
	B2	Select appropriate dental materials based on specific clinical scenarios, material properties, and biological safety
	B3	Analyze and diagnose material failures, defects, or handling errors in clinical and laboratory procedures
	B4	Apply critical thinking to evaluate and compare the efficiency and performance of new commercial dental products
Values	C1	Adhere to safety standards, infection control protocols, and proper disposal of biohazardous and chemical dental waste
	C2	Commit to professional ethics and patient safety regarding potentially allergenic or toxic components (e.g., monomer resins and amalgams)

	C3	Demonstrate effective collaboration, teamwork, and communication during practical and laboratory sessions.
	C4	Engage in continuous professional learning to remain updated with advancements and evidence-based practices in dental biomaterials

11. Teaching and Learning Strategies

1.	Interactive lectures.	4.	Self-directed learning and independent reading.
2.	Laboratory demonstrations and practical sessions.	5.	Case-Based Learning (CBL)
3.	Student presentations and seminars.	6.	Problem-Based Learning (PBL).

جامعة البيان

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	• Introduction to dental materials • Physical, chemical and biological properties of dental material	Introduction and physical properties of dental material	• Lectures • Power point presentation	• Quizzes • Final Exam
2	1	Mechanical properties	Mechanical properties	• Lectures • Power point presentation	• Quizzes • Final Exam
3	1	• Definition, Applications, Properties • Types of gypsum products • Manufacture of gypsum products	Gypsum materials	• Lectures • Power point presentation	• Quizzes • Final Exam
4	1	• Setting Expansion of gypsum products • Factors affecting the setting expansion • Tests for setting time	Gypsum materials(2)	• Lectures • Power point presentation	• Quizzes • Final Exam
5	1	• Definition • Ideal properties of impression materials • Classification of impression materials	Impression materials	• Lectures • Power point presentation	• Quizzes • Final Exam

6	1	• **Non elastic impression materials** ➢ **Impression plaster** ➢ **Impression compound** ➢ **Zinc oxide – eugenol** ➢ **Impression waxes**	**Impression materials** (2)	• Lectures • Power point presentation	• Quizzes • Final Exam
7	1	• **Elastomeric impression material** ✓ **Hydrocolloid Impression Materials (Aqueous Impression Material)** ➢ **Agar-Agar** ➢ **Alginate**	**Impression materials** (3)	• Lectures • Power point presentation	• Quizzes • Final Exam
8	1	✓ **Elastomers(Nonaqueous elastomeric impression materials)** ➢ **Polysulfides Impression** ➢ **Polysilicones Impression** ➢ **Polyether Impression**	**Impression materials** (4)	• Lectures • Power point presentation	• Quizzes • Final Exam
9	1	✓ **Digital impression techniques** ➢ **Definition** ➢ **Dental CAD/CAM** ➢ **Artificial Intelligence in Digital Impression Analysis**	**Impression materials** (5)	• Lectures • Power point presentation	• Quizzes • Final Exam
10	1	• **Definition** • **Requirements** • **classification of wax according to origin & melting point**	**Waxes**	• Lectures • Power point presentation	• Quizzes • Final Exam

11	1	• **Classification of wax according to uses, properties of dental waxes.** • **Digital wax-up dentistry**	**Waxes**	• Lectures • Power point presentation	• Quizzes • Final Exam
12	1	• **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**	**Polymers**	• Lectures • Power point presentation	• Quizzes • Final Exam
13		• **Light activated resin** • **Composition** • **Properties** • **Chemically activated resin compared to heat activated resins** • **Polymers used in dentistry** • **Processing errors** • **3D printing of denture base resins**	**Polymers**	• Lectures • Power point presentation	• Quizzes • Final Exam
14	1	• **Definition** • **Ideal properties required for an investment** • **General composition of investment materials** • **Classification Of Investments** • **Soldering investment**	**Investment materials**	• Lectures • Power point presentation	• Quizzes • Final Exam

		• All ceramic crown investment			
15	1	• Definition • Requirements • Classification of dental cements • Bioactive dental cements	Cement materials	• Lectures • Power point presentation	• Quizzes • Final Exam
16	1	• Definition • indication • Types • Requirements	Temporary filling	• Lectures • Power point presentation	• Quizzes • Final Exam
17	1	• 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	Metal and metal alloy	• Lectures • Power point presentation	• Quizzes • Final Exam
18	1	➢ gold foil (advantage, disadvantages) ➢ gold alloys ➢ Composition • Properties • Additive manufacturing (3D printing) of dental alloys	Metal and metal alloy (2)	• Lectures • Power point presentation	• Quizzes • Final Exam
19	1	• Alternative of gold alloys • Metal ceramic alloys ➢ Requirement ➢ Types • Removable denture base alloys ➢ Requirements	Metal and metal alloy (3)	• Lectures • Power point presentation	• Quizzes • Final Exam

		➢ Types • Co-Cr alloy ➢ Application ➢ Composition ➢ properties, ➢ Advantages ➢ Disadvantages			
20	1	• Titanium and Titanium alloys ➢ Applications ➢ Properties • Ni/Cr alloys ➢ Composition ➢ Indications • Wrought stainless steel alloy	Metal and metal alloy (4)	• Lectures • Power point presentation	• Quizzes • Final Exam
21	1	• Definition ➢ Direct filling material ➢ Indirect filling materials • Requirement of an ideal Filling material • Classification of filling materials	Filling materials	• Lectures • Power point presentation	• Quizzes • Final Exam
22	1	• Composite materials ➢ Definition ➢ Properties of the composite ➢ Types of composites ➢ Manipulation of the composite	Filling materials (2)	• Lectures • Power point presentation	• Quizzes • Final Exam
23	1	• Glass ionomer cements ➢ Uses of Glass Ionomers ➢ Properties of Glass Ionomers • Compomers • Bioactive restorative materials	Filling materials (3)	• Lectures • Power point presentation	• Quizzes • Final Exam
24	1	• Dental amalgam	Filling materials (4)	• Lectures	• Quizzes

		• **Advantages of dental Amalgam** • **Disadvantages of dental amalgam** • **Composition** ➢ **Function of each constituent** • **Classification of Amalgam alloys** • **Properties of set amalgam** • **Manipulation of Amalgam** • **Mercury toxicity**		• Power point presentation	• Final Exam
25	1	• **Root canal filling materials (obturating materials)**	**Root canal filling materials (obturating materials)**	• Lectures • Power point presentation	• Quizzes • Final Exam
26	1	• **Preventive materials**	**Preventive materials**	• Lectures • Power point presentation	• Quizzes • Final Exam
27	1	• **Definition** • **Types** • **Requirements** • **Indication** • **Soft liners** ➢ **Requirements** ➢ **Types**	**Relining material**	• Lectures • Power point presentation	• Quizzes • Final Exam
28	1	• **Finishing and polishing Material**	**Finishing and polishing material**	• Lectures • Power point presentation	• Quizzes • Final Exam

29	1	• **Definition** • **Classification** • **Properties of an implant biomateria** • **Metallic implants** • **Ceramic implant** • **Polymers**	**Implant materials**	• Lectures • Power point presentation	• Quizzes • Final Exam
30	1	• **Definition** • **Ideal Requisites for Maxillo-facial Materials** • **Properties** • **Materials** • **Advances in Digital Fabrication Technologies**	**Maxillofacial materials**	• Lectures • Power point presentation	• Quizzes • Final Exam

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13. Course Evaluation

- First and second semesters 25 degrees (15 practical + 10 theoretical).
- Mid-year 15 degrees.
- Final examination 60 degrees (40 theoretical + 20 practical).
- Total:100 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	• **Anusavice KJ, Shen C, Rawls HR. Phillips' Science of Dental Materials. 14th ed. Elsevier; 2024.** • **Powers JM, Sakaguchi RL. Craig's Restorative Dental Materials. 15th ed. Elsevier; 2025.**
Main References (sources)	• **McCabe JF, Walls AWG. *Applied Dental Materials.* Wiley-Blackwell.** • **Sakaguchi RL, Ferracane JL, Powers JM. *Craig's Restorative Dental Materials.* Elsevier.** • **Van Noort R. *Introduction to Dental Materials.* Elsevier.**
Recommended Books & References (Scientific Journals, Reports …)	• **Dental Materials** • **Journal of Dentistry** • **Journal of Prosthetic Dentistry** • **Clinical Oral Investigations**
Websites or Electronic References	• https://www.sciencedirect.com/journal/dental-materials • https://pubmed.ncbi.nlm.nih.gov/ • https://www.academydentalmaterials.org/

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Course Description (1)

1. Course Title	Embryology and oral histology
2. Course Code	050203
3. Semester/Year	Annual for second grade
4. Description Preparation Date	2027-2026
5. Available Attendance Form	Weekly
6. No. of Hours (Total)	60 hours theory and 60 hours practical
7. No. of Credits (Total)	Theory 2 and laboratory 4
8. Course Administrator Name	Sallama Hasoon alkhafaji
9. E-mail	Sallama.h@albayan.edu.iq

10. Course Objectives

Knowledge	A1	**Conveying a general idea about the process of fertilization and embryo formation.**
	A2	**Students' understanding of the stages of tooth formation and methods of dental tissue development.**
	A3	**Increasing students' knowledge of the histological anatomy of the tooth.**
	A4	**Students will understand the differences in composition between the differ tissues of the tooth.**
Skills	B1	**Identify the stages of embryonic formation.**
	B2	**Acquiring skills in classifying the different tissues of the tooth.**
	B3	**Identify the fetal causes of dental disease.**
	B4	
Values	C1	**Preparing the student and urging him to use various references to understand the curriculum decisions.**
	C2	**Scientific preparation and urging the student to use modern technologies to understand the curriculum decisions.**
	C3	**Scientific and practical preparation to understand the genetic causes of dental diseases.**
	C4	**Utilizing the acquired skills so that the student can work in groups and use scientific terminology within the limits of the course.**

11. Teaching and Learning Strategies			
1.	stages of Recognize the embryonic development.	4.	Recognize the changes that affect tissues with aging.
2.	Acquire skills in classifying the different tissues of the tooth.	5.	
3.	Identify the embryonic causes responsible for dental diseases.	6.	

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	2	• Ovulation: Hormonal control, ovarian cycle • Fertilization: Process, capacitation, acrosomal reaction • Implantation: Blastocyst formation, attachment to uterine wall	Embryogenesis: first week, ovulation, fertilization and implantation	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
2	2	• Formation of Bilaminar Disc: Epiblast and hypoblast • Amniotic Cavity and Yolk Sac • Extraembryonic Mesoderm	2nd week, Bilaminar germ layer	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
3	2	• Gastrulation: Formation of three germ layers (ectoderm, mesoderm, endoderm) • Neurulation: Formation of the neural tube • Notochord and Neural Crest	3rd week trilaminar germ layer: gastrulation and neurulation	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs

4	2	• Pharyngeal Arches: Structure and function • Pharyngeal Pouches and Clefts: Derivatives • Developmental Anomalies	Development of head and neck (pharyngeal arch, pouch & cleft)	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs evaluation
5	2	• Facial Processes: Maxillary and mandibular prominence • Facial Anomalies: Cleft lip, cleft palate	Development of face and anomalies	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs evaluation
6	2	• Tongue Formation: Pharyngeal arches involvement • Innervation of Tongue • Tongue Anomalies: Ankyloglossia, bifid tongue	Development of tongue and anomalies	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
7	2	• Primary and Secondary Palate • Fusion of Palatal Shelves • Palatal Anomalies	Development of palate and anomalies	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
8	2	• Histological Techniques • Staining Methods • Tissue Sectioning	Slide preparation	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs

9	2	• Stages of Tooth Development: Bud, cap, bell stages • Developmental Disturbances: Hypodontia, supernumerary teeth	Tooth development and developmental disturbances of teeth	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
10	2	• Formation of Dentin • Odontoblast Role • Dentin Types: Primary, secondary, tertiary dentin	Dentinogenesis and dentin structure	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
11	2	• Formation of Enamel • Enamel Organ and Ameloblasts • Enamel Defects: Amelogenesis imperfecta	Amelogenesis, Enamel structures	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
12	2	• Dentin Sensitivity • Enamel Erosion and Hypoplasia	Clinical consideration for dentin and enamel	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
13	2	• Pulp Anatomy • Cellular Composition • Pulp histology	Dental Pulp	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
14	2	• Types of Cementum • Cementogenesis • Cementum Anomalies	Cementum and clinical consideration	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs

15	2	• Hertwig's Epithelial Root Sheath • Root Morphology and Development	Root formation& Cementogenesis	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
16	2	• PDL Structure and Function • PDL Fibers Types • PDL Remodeling	Periodontal ligaments	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
17	2	• Sharpey's Fibers • Gingival Fiber Groups	Principles of fiber of pdl and gingival fibers	Theoretical lecture Theoretical lecture with Data show, figures and/ or vide presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
18	2	• Alveolar Process Development • Alveolar Bone histology • Alveolar Bone Remodeling	Alveolar bone	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
19	2	• Osteoblast and Osteoclast Role • Bone Turnover	Bone formation and resorption	Theoretical lecture	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
20	2	• Bone Proteins: Collagen, osteocalcin • Dentin Proteins: Dentin phosphoprotein	Proteins involve in mineralization of bone and dentin	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
21	2	• Keratinized and Non-Keratinized Mucosa • Histological Differences	Oral mucosa and their types	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs

22	2	• Gingival Structure • Dentogingival Attachment	Gingiva and dentogingival junction	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
23	2	• Stages of Tooth Eruption • Factors Influencing Eruption	Eruption of teeth	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
24	2	• Process of Deciduous Tooth Shedding • Timing of Exfoliation	Shedding of teeth	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
25	2	• Major and Minor Glands • Saliva Secretion and Composition	Salivary gland	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
26	2	• Types of Salivary Proteins: Amylase, mucins • Role in Oral Health	Salivary proteins	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
27	2	• Anatomy of TMJ • TMJ Movements • TMJ histology	TMJ	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
28	2	• Development of Maxillary Sinus • Sinus mucosa histology	Maxillary sinus	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs
29	2	• Tissue Staining Methods • Enzyme Histochemistry	Histochemistry	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs

30	2	• Aging of Oral Tissues • Clinical Considerations in Older Adults	Age changes of soft and hard tissues	Theoretical lecture with Data show, figures and/ or video presentations	Theory Written Exams, MCQs, essays. Slide identification and oral questioning in labs

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13. Course Evaluation
توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ **For first and second semester 25 degrees (10 theoretical +15 practical)** **For mid-year (15 degree theoretical)** **For final exam 60 (40 degree theoretical +20 practical)** **Total 100%**

14. Learning & Teaching Resources	
Required textbooks (curricular if any)	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.
Main References (sources)	1- Junqueira's Basic Histology: Text & Atlas (Anthony L. Mescher) 2- Illustrated Dental Histology, Embryology and Anatomy (Margaret J. Fehrenbach and Tracy Popowics)
Recommended Books & References (Scientific Journals, Reports …)	1. Journal of Dental Research 2. Journal of Anatomy 3. Archives of Oral Biology 4. Journal of Oral Science
Websites or Electronic References	For supplementary electronic resources, students may use reputable scientific databases and journals (such as PubMed, ScienceDirect, or Elsevier's online platforms)

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Course Description (1)

1. Course Title	Dental Ethics/third year
2. Course Code	0503011
3. Semester/Year	Annual
4. Description Preparation Date	2026-2027
5. Available Attendance Form	Lectures
6. No. of Hours (Total)	30 hours theoretical
7. No. of Credits (Total)	2
8. Course Administrator Name	Sallama Hasoon Alkhafaji
9. E-mail	Sallama.h@albayan.edu.iq

10.Course Objectives

Knowledge	A1	Understand the Fundamental Principles of Dental Ethics
	A2	identify Professional Obligations and Legal Responsibilities
	A3	Apply Ethical Decision-Making Models to Clinical Scenarios
	A4	Maintain Patient Confidentiality and Informed Consent
Skills	B1	Use the core principles of dental ethics (autonomy, non-maleficence, beneficence, justice, veracity) to analyze and resolve real-world clinical situation
	B2	Clearly communicate treatment options, risks, and alternatives to patients, ensuring understanding and voluntary consent
	B3	Protect patient information in all forms (verbal, written, digital) and maintain appropriate professional relationships
	B4	Identify ethical issues (such as conflicts of interest, competence, or patient capacity) and use structured decision-making models to address them
Values	C1	The highest priority in dental ethics is to protect and promote the patient's life and overall health.
	C2	Maintaining and improving the patient's oral health is a core value.
	C3	Respecting the patient's right to make informed decisions about their own care is fundamental
	C4	Ensuring fair and equitable treatment for all patients, regardless of background, status, or ability to pay. This value emphasizes non-discrimination and equal access to dental care.

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11. Teaching and Learning Strategies			
1.	Lectures and Theoretical Sessions, using data show or smart screen with PowerPoint	4.	Problem-Solving and Ethical Decision-Making Models
2.	Review of Codes of Ethics and Guidelines	5.	Integration with Clinical Practice
3.	Interactive and Reflective Activities	6.	Case-Based Discussion

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Course Description (1)

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	Why are ethics important? Evolution and philosophy of ethics The terms moral and ethical, obligation and principle	Professional Ethics Review	classroom-based lectures, Using data show or smart screen	oral questioning during or after lectures
2	1	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	Professional Ethics Review	classroom-based lectures, Using data show or smart screen discussion and critical thinking about real-world scenarios Review of Codes and Principles	written exams that may include multiple-choice questions, and short answers

3	1	What is meant by the “best interests” of our patient What is “paternalism?” Is good risk management good ethics? What about compromising quality?	Professional Ethics Review	classroom-based lectures, Using data shows or smart screens discussion and critical thinking about real-world scenarios Interactive Q&A	oral questioning during or after lectures
4	1	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?	Professional Ethics Review	classroom-based lectures, Using data shows or smart screens Review of Codes and Principles	oral questioning during or after lectures
5	1	What’s special about Dentistry? What’s special about dental ethics? Who decides what is ethical? Does dental ethics change? Does dental ethics differ from one country to another?	Principal Features of Dental Ethics	classroom-based lectures, Using data show or smart screen Interactive Q&A	oral questioning during or after lectures
6	1	The role of the FDI How does the FDI decide what is ethical? How do individuals decide What is ethical?	Principal Features of Dental Ethics	Classroom-based lectures, Using data show or smart screen Case discussions	class discussions, engagement with case studies, and possibly short assignments or quizzes

7&8	2	History and basic ethical theory History of medical ethics Hammurabi's code of law Hippocratic oath Basic grounding of ethics Humanities (universal standards) Religious & non-religious: 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	Ethical Law and ethical theories	Interactive Q&A classroom-based lectures, Using data show or smart screen	class discussions, engagement with case studies, and possibly short assignments or quizzes
9&10	2	1- Patient autonomy 2- Non-maleficence 3- Beneficence 4- Justice 5- Veracity	Fundamental Principles of dental ethics	Clas screens room-based lectures, Using data show or smart screen Interactive Q&	class discussions, engagement with case studies, and possibly short assignments or quizzes
11&12	2	Duties and obligation of dentists In general,	Duties and obligations of dentists	discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes

13&14	2	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	Duties and obligation of dentists	classroom-based lectures, using data show or smart screen Interactive Q&A	class discussions, engagement with cases studies, and possibly Short assignments or quizzes
15	1	Duties and obligation of dentists Toward the public and the paramedical profession The Relationship between Dentistry and the Larger Community	Duties and obligations of dentists	classroom-based lectures, using data show or smart screen Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes
16	1	Duties of dental surgeons and specialists in consultations	Duties and obligations of dentists	discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes
17	1	Responsibilities of dental surgeons to one another Ideal Relationships between Co-professionals	Duties and obligation of dentists	discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes

18&19	2	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	Ethical issues and challenges in dental practice	classroom-based lectures, Using data show or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes
20	1	8- Competence and judgment 9- Confidentiality 10- Dating patients 11- Delegation of duties 12- Digital communication and social media 13- Harassment 14- Consent	Ethical issues and challenges in dental practice	classroom-based lectures, Using data shows or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes

21	1	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 Compromised Capacity	Ethical issues and challenges in dental practice	classroom-based lectures, Using data shows or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes
22	1	- Conflict of interest - Personal interest versus patient interest - Public versus patient interest - Third-party interests - Professional versus business ethics	The impact of business on dentistry	classroom-based lectures, Using data shows or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes
23&24	2	- Importance of Dental Research - Research in Dental Practice - Ethical Requirements - Ethics Review Committee Approval	Ethics and dental research	classroom-based lectures, Using data shows or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes

25&26	2	- Scientific Merit - Social Value - Risks and Benefits - Informed Consent - Confidentiality - Conflict of Roles - Honest Reporting of Results:	Ethics and dental research	classroom-based lectures, Using data shows or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with case studies, and possibly short assignments or quizzes
27	1	-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.	The standard of care	classroom-based lectures, Using data shows or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	class discussions, engagement with cases studies, and possibly Short assignments or quizzes
28	1	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	Ethical Decision Making and Conflicting Obligations	classroom-based lectures, Using data shows or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	Continuous assessment

29	1	The Central Values of Dental Practice The Patient's Life and General Health The Patient's Oral Health The Patient's Autonomy The Dentist's Preferred Patterns of Practice Aesthetic Values Efficiency in the Use of Resources Ranking Dentistry's Central Values Thinking about the Case	Studying a Profession's Central Values	classroom-based lectures, Using data shows or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	Continuous assessment
30	1	-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?	The duty to treat	classroom-based lectures, Using data shows or smart screen discussion and critical thinking about real-world scenarios Interactive Q&A	oral questioning during or after lectures

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	-Terminating the relationship with a patient of record			

13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

1st and 2nd semester	Theoretical 15 %
Mid-year exam	Theoretical 15%
Final exam	Theoretical 70%
Total	Theoretical 100%

14. Learning & Teaching Resources

Required textbooks (curricular if any)	1) "Dental Ethics at Chairside: Professional Principles and Practical Applications" by David T. Ozar and David J. Sokol 2) "A Textbook of Dental Ethics" by Peter L. Jacobsen and Phyllis L. Beemsterboer
Main References (sources)	1) "Ethics and Law in Dental Hygiene" by Phyllis L. Beemsterboer 2) "Ethics and Jurisprudence for Dentists" by Edmund N. Santurri
Recommended Books & References (Scientific Journals, Reports …)	1) "Principles and Practice of Professional Ethics" by American Dental Association (ADA) 2) FDI World Dental Federation – Dental Ethics Manual 3) British Dental Association (BDA) – Ethics Guidance
Websites or Electronic References	1) American Dental Association DA) – Principles of Ethics and Code of Professional Conduct https://www.ada.org/about/governance/current-policies/code-of-ethics 2) FDI World Dental Federation – Dental Ethics Manual https://www.fdiworlddental.org/resources/dental-ethics-manual 3) British Dental Association (BDA) – Ethics Guidance https://bda.org/advice/ethics 4) International Dental Ethics and Law Society (IDEALS) https://www.ideals.ac 5) National Center for Ethics in Health Care (U.S. Department of Veterans Affairs) https://www.ethics.va.gov/

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Course Description (1)

1. Course Title	Prosthodontics
2. Course Code	050301
3. Semester/Year	2026-2027
4. Description Preparation Date	20/7/2026
5. Available Attendance Form	Weekly attendance
6. No. of Hours (Total)	30 theory + 60 lab.
7. No. of Credits (Total)	4
8. Course Administrator Name	Lec.Dr.Mustafa Sameer Mahmood
9. E-mail	Mustafa.sa@albayan.edu.iq

10. Course Objectives

Knowledge	A1	Understand the fundamentals of removable prosthodontics
	A2	Classify partially edentulous arches
	A3	Recognize the components of removable partial dentures (RPDs)
	A4	Understand 2D and 3D design principles
Skills	B1	Perform laboratory procedures
	B2	Draw designs and prepare casts
	B3	Utilize advanced tools and technologies
	B4	Master block-out and relief techniques
Values	C1	Commitment to precision and quality
	C2	Social and ethical responsibility
	C3	Commitment to lifelong learning and professional development
	C4	Teamwork and problem-solving

11. Teaching and Learning Strategies

1.	Cooperative learning strategy	4.	Explanation and clarification

2.	Discussion method	5.	Utilizing external resources and illustrative aids such as film/video materials
3.	Assigning students homework that requires self-explanations using causal/reasoning approaches	6.	Delivering lectures that promote affective values, and holding seminars, courses, and workshops for students

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1theoretical + 2 Lab	• 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 refinishing	Introduction to Removable Partial Dentures	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
2	1theoretical + 2 Lab	Need for classification. • Requirements of an acceptable method of classification • Removable partial dentures may be classified according to the type of support • Removable partial dentures	Classification of partially edentulous arch	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

		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	1theoretical + 2 Lab	• 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)	Surveying	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

4	1theoretical + 2 Lab	• Principles of surveying • Types of undercuts established by surveying • Factors that determine and affect the path of placement (insertion) and removal of the RPD • Rules of surveying	Surveying (continue)	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
5	1theoretical + 2 Lab	• Main components of RPD • Major connectors • Requirements of major connectors • Guidelines for design and location of major connectors • Characteristics of major connectors denture	Component Parts of a Removable Partial Denture	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
6	1theoretical + 2 Lab	• 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	Maxillary Major connector	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

		posterior palatal strap–type connector • Palatal plate-type connector • U-shaped palatal connector			
7	1theoretical + 2 Lab	• 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 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	Mandibular Major connector	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

8	1theoretical + 2 Lab	• Definition • Functions • Form & location • Basic types of minor connectors • Tissue stops • Finishing lines • Reaction of Tissue to Metallic Coverage	Minor connector	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
9	1theoretical + 2 Lab	• The purposes of the rest in general • Occlusal Rest • Extended Occlusal Rest • InterproximalOcclusal 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	Rest and rest seat	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
10	1theoretical + 2 Lab	• Direct retainers • Indirect retainers • The extra coronal retainer	Retention and Removable Partial Denture Retainers	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

		• Component parts, Function, and position of clasp assembly parts • Factors affecting the magnitude of retention • The basic principles of clasp design			
11	1theoretical + 2 Lab	• 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	Extra Coronal Direct Retainers (Types of clasp assemblies)	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

		• RPA clasp; Akers clasp • Infra-bulge clasp Combination clasp			
12	1theoretical + 2 Lab	• Internal attachments • Precision Attachments • Some indications for precision attachments • Some of the contraindications for precision attachments • The main types of precision attachments • Selection of an Attachment for a Removable Partial Denture	Intracoronal Direct Retainers (Internal Attachments, Precision Attachment	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
13	1theoretical + 2 Lab	• Stress breakers • Types of stress breakers	Stress-Breakers (Stress Equalizers)	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
14	1theoretical + 2 Lab	• The main factors influencing the effectiveness of an indirect retainer • The auxiliary functions of indirect retainers • Forms of Indirect Retainers	Indirect Retainers	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
15	1theoretical + 2 Lab	• Auxiliary occlusal rest • Lingual rest • Incisal rest • Canine extensions from	Indirect Retainers (continue)	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

		occlusal rests • Cingulum bars (continuous bars) and linguo-plates • Modification areas • Rugae support			
16	1theoretical + 2 Lab	• 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	Laboratory procedures in RPD construction: Blockout and Relief	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
17	1theoretical + 2 Lab	• Duplicating a stone cast • Duplicating material and flask • Impression • Refractory cast	Laboratory procedures in RPD construction: Duplication and refractory Cast Construction	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
18	1theoretical + 2 Lab	• Waxing the framework • Spruing • General rules for spruing • Investing the sprued pattern • Purpose of investment	Laboratory procedures in RPD construction: Wax Patt	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

		• Burnout			
19	1theoretical + 2 Lab	• Casting • Casting recovery • Finishing the framework • Sprue removal	Laboratory procedures in RPD construction: Casting and Finishing	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
20	1theoretical + 2 Lab	• 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	Denture Base in RPD	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
21	1theoretical + 2 Lab	• Record bases • Types of record bases according to materials constructed from it • Occlusion rims • Occlusion rims for static jaw relation records	Record Bases, Occlusion Rims, Mounting and Arrangement of Teeth	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

		• Occlusion rims for recording functional or dynamic jaw relationship record • Mounting casts on the articulator • 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	1theoretical + 2 Lab	• Biomechanical considerations • Possible movements of partial dentures • Tooth-tissue–supported prosthesis	Biomechanics of Removable Partial Dentures	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
23	1theoretical + 2 Lab	• Tooth-supported partial denture • Occlusal Rest Seat Preparation and Denture Movement • Impact of Implants on Movements of Partial Dentures	Biomechanics of Removable Partial Dentures (continue)	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

24	1theoretical + 2 Lab	• Difference in Prosthesis Support and Influence on Design • Differentiation Between Two Main Types of Removable Partial Dentures	Principles of Removable Partial Denture Design	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
25	1theoretical + 2 Lab	• Components of Partial Denture Design • Implant Considerations in Design	Principles of Removable Partial Denture Design (continue)	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
26	1theoretical + 2 Lab	• 1st Phase: Education of patient 2nd Phase: Diagnosis, Treatment Planning, Design, Treatment Sequencing, and Mouth 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	Clinical Phases of Removable Partial Denture Construction.	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
27	1theoretical + 2 Lab	• Acrylic removable partial	Acrylic Removable Partial Dentures	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

		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			
28	1theoretical + 2 Lab	• Flexible removable partial dentures • Type of material used for the flexible denture • Support and Retention	Flexible Removable Partial Dentures	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams
29	1theoretical + 2 Lab	• 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 artificial tooth to a RPD • Repair by soldering	Repairs and Additions to Removable Partial Dentures	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

30	1theoretical + 2 Lab	• Components of CAD/CAM system • Types of Digital Scanner • Digital RPD Framework Design (step by step) • Digital Fabrication Process	Digitally Designed & Fabrication Process of RPD Framework Using CAD/CAM System	Lecture (power-point) & lab training.	Daily, monthly, mid-year, and final exams

13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

- Midterm Written Exam: 15 marks
- Annual Coursework: 25 marks
- Final Practical Exam: 20 marks
- Final Written Exam: 40 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	*McCracken's Removable Partial Prosthodontics13th Edition - November 3, 2015*
Main References (sources)	*Manual of Removable partial denture*
Recommended Books & References (Scientific Journals, Reports …)	*Journal of prosthetic dentistry.*
Websites or Electronic References	

جامعة البيان

Course Description (1)

1. Course Title	**Preclinical fixed prosthodontics**
2. Course Code	050304
3. Semester/Year	Annual
4. Description Preparation Date	2026/2027
5. Available Attendance Form	Lectures + laboratories
6. No. of Hours (Total)	30 hours (theoretical) + 60 hours (practical)
7. No. of Credits (Total)	4
8. Course Administrator Name	Shatha saadallah alani
9. E-mail	Shatha.s@albayan.edu.iq

10. Course Objectives: Developing the manual skills of primary studies students in the third stage for the period before they enter clinical work in clinics on solid scientific foundations, acquiring more skills, knowledge and learning, and making them capable of dealing with complex clinical cases of crown and bridge and treating them with the latest scientific methods

Knowledge	A1	Gaining experience and information that will help him identify the disea and know its causes
	A2	Developing motivational interviewing skills to encourage patients to ta preventive measures.
	A3	Increasing students' knowledge of methods for examining teeth a detecting caries and gingivitis
	A4	Learn how to assess patients' risks of dental disease based on facto such as oral hygiene, dietary habits, tobacco use, and chronic diseases.
Skills	B1	Acquire skills in conducting clinical dental examinations for crown a bridge.
	B2	Developing motivational interviewing skills to encourage patients to ta preventive measures .

	B3	
	B4	
Values	C1	Professional preparation and encouraging the student to have posit behavior in his public life
	C2	Scientific preparation and urging the student to communicate in other fie of science
	C3	Cultural preparation and refining the student's personality
	C4	Utilizing the acquired skills so that the student becomes a dentist capa of treating patients

11. Teaching and Learning Strategies

1.	Lectures using data show and power point	4.	E-learning
2.	Educational films	5.	Smart boards
3.	Display screens	6.	

جامعة البيان

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	-Introduction to Fixed Prosthodontics.	**Crown and Bridge Definitions:**	A theoretical lecture using Power Point	Short, semester, mid-yea and final exams
2	1	Types of crowns Purposes of crown construction.	**Crown and Bridge Definitions: (continued)**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
3	1	-Steps in crown construction. -Components of bridge.	**Crown and Bridge Definitions: (continued)**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
4	1	*Preservation of sound tooth *Retention and *resistance form	**Biomechanical principles of tooth preparation:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
5	1	. *Marginal integrity.	**Biomechanical principles of tooth preparation:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
6	1	*Structural durability	**Biomechanical principles of tooth preparation:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
7	1	Indications, contra - indications, advantages, disadvantages,	**Full metal crown:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams

8	1	steps of preparation	**Full metal crown:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
9	1	Indications, contra - indications, advantages, disadvantages,	**Porcelain fused to metal crown:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
10	1	steps of preparation	**Porcelain fused to metal crown:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
11	1	Indications, contra - indications, advantages, disadvantages,	**Complete ceramic crown (Porcelain Jacket Crown:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
12	1	steps of preparation	**Complete ceramic crown (Porcelain Jacket Crown:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
13	1	Indications, contra - indications, advantages, disadvantages,	**Partial veneer crown (thr -quarter crown):**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
14	1	steps of preparation	**Partial veneer crown (thr -quarter crown):**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
15	1	Indications, contra - indications	**Post crown:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
16	1	factors to be considered in the assessment of tooth for post	**Post crown:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
17	1	Definition Requirements of an acceptable impression Requirements of an impression material-	**Impression for crown and bridge work:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams

		Classification of impression material Non-elastic impression materials Elastic impression materials			
18	1	Final impression Advantages of the study cast Advantages of the special tray	**Impression for crown and bridge work:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
19	1	Gingival retraction	**Impression for crown and bridge work:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
20	1	Definition, objectives, types(prefabricated, custom -made, and laboratory -made	**Provisional restoration:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
21	1	Definition Requirements of good working cast Inter-occlusal Record (Bite Registration)	**Working cast and dies:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
22	1	Die Definition - Requirements of the die	**Working cast and dies:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
23	1	Waxing and Spruing Requirements of good inlay casting wax Steps in waxing procedure Sprue -Dimensions and location of the sprue Crucible Former	**Waxing.**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
24	1	Investment Definition Investment materials	**Investing.**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
25	1	Burnout & Casting	**Casting.**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
26	1	Cleaning of the cast restoration Sandblast Sandblast Advantage Clinical Try in Types of Marginal Defects	**Finishing of the casting Clinical try -in.**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams

		- polishing			
27	1	Types of cements used for cementation of crown restoration	**Cementation:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
28	1	Techniques of cementation	**Cementation:**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
29	1	- Introduction	**CAD /CAM Technology for crown construction**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams
30	1	- Technique	**CAD /CAM Technology fo crown construction**	A theoretical lecture using Power Point	Short, semester, mid-y and final exams

جامعة البيان

13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

Grade distribution	Evaluation methods
theoretical 3% Clinical 22%	First semester + second semester 25%
Theoretical 15%	half year 15%
%40 Theoretical Clinical 20%	Final exam 60%
Theoretical %50 Clinical 50%	**100%**

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Fundamentals of fixed prosthodontic, 2012.
Main References (sources)	Contemporary fixed prosthodontic, 2016.
Recommended Books & References (Scientific Journals, Reports …)	Working on ghost laboratory heads
Websites or Electronic References	**Google scholar**

جامعة البيان

Course Description (1)

1. Course Title	Community Dentistry
2. Course Code	050306
3. Semester/Year	Annual
4. Description Preparation Date	16/8/2026
5. Available Attendance Form	Weekly
6. No. of Hours (Total)	30 hours theory and 60 hours practical
7. No. of Credits (Total)	Theory: 2 Credits + Clinical: 2 Credits = Total 4 Credits
8. Course Administrator Name	Husam Fawzi Mnajid
9. E-mail	husam.fawzi@albayan.edu.iq

10. Course Objectives

Knowledge	A1	Define the principles of dental public health and community dentistry
	A2	Describe the epidemiology and prevention of common oral and dental diseases
	A3	Explain the principles of epidemiology, biostatistics, dental indices, and community h health programs
	A4	Recognize modern applications of digital health and artificial intelligence in commu dentistry
Skills	B1	Perform basic clinical oral examinations for early detection of common oral diseases
	B2	Apply dental indices used for assessment of dental caries, periodontal disease, and de fluorosis
	B3	Collect, organize, analyze, and present community oral health data
	B4	Use appropriate digital tools to support community oral health assessment and educati
Values	C1	Demonstrate responsibility toward community oral health
	C2	Communicate effectively with patients, colleagues, and community groups
	C3	Apply ethical principles in dental public health practice and the use of digital technolo
	C4	Promote evidence-based preventive and community dental care

11. Teaching and Learning Strategies

1.	Gaining experience and information that will help students identify dental caries and periodontal disease and understand their causes.	4.	Use of digital educational resources and AI-assisted learning tools in selected community dentistry topics.

2.	Increase students' awareness and sense of responsibility towards community oral health and dental public health principles and activities.	**5.**	Student group discussions and interactive learning to relate theoretical concepts to community oral health problems.
3.	Applications of epidemiology and biostatistics in dental public health.	**6.**	Clinical training in patient examination and application of oral health indices.

جامعة البيان

12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	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. Modern topic: Applications of Artificial Intelligence and Digital Health in Dental Public Health: - AI-assisted analysis of community oral health data. - Digital tools for planning and monitoring oral health programs. - Digital health applications in community dentistry.	Dental public health	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
2	1	- 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 public care	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams

		dental practice and public health dentistry.			
3	1	- 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. Modern topic: Artificial Intelligence and Digital Technologies in Epidemiology: - Digital data collection in epidemiological studies. - AI-assisted disease surveillance.	Epidemiology	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
4	1	Types of epidemiological studies: 1- Observational studies: descriptive studies, analytical studies, case-control studies, cohort studies, ecological studies.	Epidemiological studies	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
5	1	- Intervention. - Types of experimental studies.	Experimental studies	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
6	1	- Definition of dental caries. - Epidemiology. - Etiological factors of dental caries. - Types of dental caries according to their anatomical (location) site. - Factors affecting epidemiology	Epidemiology of dental caries	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams

		of dental caries. Modern topic: Artificial Intelligence in Dental Caries Detection and Risk Assessment: - AI-assisted detection of dental caries. - AI-based caries risk assessment.			
7	1	- Periodontal diseases definition. - Structure of the periodontal tissues. - Epidemiology. - Etiology of periodontal disease.	Epidemiology of Periodontal Disease	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
8	1	- Types of cancers. - Etiology of oral cancer. - Constituents of tobacco smoke. - Potentially malignant lesions. - Levels of prevention for oral cancer. - Rehabilitation after oral cancer.	Epidemiology of Oral Cancer	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
9	1	- Index. - Uses of dental index. - Classification of indices.	Dental indices	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
10	1	- DMF index. - Principles in recording DMF index. - Calculation of DMFT/DMFS. - Dental caries severity index. - dmf index. Modern topic: Digital and AI-Assisted Assessment of Dental Caries Indices: - Digital recording of DMFT/DMFS. - AI-assisted analysis of caries data.	Indices used for assessment of de caries	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams

11	1	- Oral Hygiene Indices. - Gingival inflammation indices. - Periodontal indices.	Indices used for assessment of periodo disease	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
12	1	- Indices for assessment of dental fluorosis.	Dental fluorosis	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
13	1	- Data. - Types of data. - Methods of data collection. - Sampling technique. - Types of sample design. Modern topic: Artificial Intelligence and Machine Learning in Biostatistics: - AI-assisted health data analysis. - Basic applications of machine learning in prediction and classification.	Biostatistics	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
14	1	- Methods of data presentation. - The tabulation of data. - The graphical representation of data.	Data presentation	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
15	1	- Measures of central tendency. - Measures of dispersion.	Measures of central tendency & dispers	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
16	1	- History. - Sources of fluoride. - Water fluoridation. - Types of fluoride.	Fluoridation as a public health measure	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
17	1	- Mechanism of action. - Anti-caries effects of fluoride. - Metabolism of fluoride. - Dental fluorosis. - Side effects of fluoride.	Fluoridation Mechanism and Effects	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
18	1	- Major occupational hazards. - Biological health hazards. - Physical hazards. - Chemical hazards.	Occupational hazards in dentistry	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams

		- Musculoskeletal disorders and diseases of the peripheral nervous system. - Hearing loss. - Radiation exposure. - Stress. - Legal hazards. - Other risks.			
19	1	- Environment. - Physical environment. - Biological environment. - Psychological environment. - Environmental indicators.	Environment and health	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
20	1	- Prevention and control of air pollution. - Effects of radiation. - Noise pollution.	Effects of air pollution on health	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
21	1	- Purpose of School Health Program. - Guidelines for an ideal school dental program. - School dental survey. - Phases in school oral health program. Modern topic: Digital Technologies in School Oral Health Programs: - Digital oral health screening. - AI-assisted identification of high-risk schoolchildren. - Digital monitoring of school oral health programs.	School Dental Health Program	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
22	1	- Need. - Categories of need. - Demand.	Treatment need and demand	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams

		- Factors affecting dental demands.			
23	1	- Manpower definition. - Dental health manpower planning. - Steps in dental health manpower planning.	Dental manpower	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
24	1	- Definition of ethics. - Dentistry as a profession. - Ethical principles. Modern topic: Ethical Considerations in Artificial Intelligence and Digital Dentistry: - Patient privacy and data protection. - Bias and fairness in AI systems. - Professional responsibility and human oversight.	Ethics in dentistry	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
25	1	- Elderly people. - The main oral effects of aging. - Pregnant women. - Special Care Dentistry. - Patients with special health care needs.	Oral health care for special populations	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
26	1	- Introduction. - Application of forensic dentistry. - Bite marks. - Person identification. - Dental identification.	Forensic dentistry	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
27	1	- Introduction. - Dental auxiliary classification: non-operatory auxiliary and operatory auxiliary. - Four-handed relationship.	Dental auxiliary personnel	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams

28	1	- Introduction. - Elements (components) of Primary Health Care. - Principles of Primary Health Care. - Primary dental health care. - Community dental health services.	Primary health care	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
29	1	- Introduction. - Concept of disease transmission. - The acquisition means of pathogens. - Transmission of infectious diseases. - Control of infectious diseases. - Personal barrier techniques. - Instrument processing (sterilization).	Infection control	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams
30	1	- Introduction. - Aims of health education. - Objective of health education. - Objective of dental health education. - Principle of health education. - Planning a health education program. Modern topic: Artificial Intelligence and Digital Technologies in Oral Health Education: - AI-assisted personalized oral health education. - Digital platforms for oral health promotion. - Responsible use of AI-generated educational content.	Dental health education	Theoretical lecture using PowerPoint presentation	Quizzes, semester, mid-year and final year exams

13. Course Evaluation	
1- Distribution of the score out of 100 according to the tasks assigned to the student, such as daily preparation, daily exams, oral, monthly, written examinations and records. 2- First and second semesters: 25 marks (15 clinical + 10 theoretical); mid-year examination: 15 marks; final examination: 60 marks (40 theoretical + 20 clinical).	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	1- Dentistry, Dental Practice, and the Community - E-Book (2005) by Brian A. Burt and Steven A. Eklund. 2- Comprehensive Preventive Dentistry (2012), edited by Hardy Limeback.
Main References (sources)	1- Preventive and Community Dentistry / Public Health Dentistry, Third Edition. 2- C. M. Marya, A Textbook of Public Health Dentistry, Jaypee Brothers Medical Publishers, 2011.
Recommended Books & References (Scientific Journals, Reports …)	Make periodic reports and read recent research in reputable journals.
Websites or Electronic References	PubMed, Scopus, Elsevier, Google Scholar, Research Gates.

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Course Description (1)

1. Course Title	Pre-clinical Operative Dentistry
2. Course Code	050303
3. Semester/Year	Annual
4. Description Preparation Date	2026/2027
5. Available Attendance Form	Lectures + laboratories
6. No. of Hours (Total)	30 hours (theoretical) + 60 hours (practical)
7. No. of Credits (Total)	4
8. Course Administrator Name	zainab tariq abdulkadhim
9. E-mail	zainab.tariq@albayan.edu.iq

10. Course Objectives: Developing the manual skills of primary studies students in the third stage for the period before they enter clinical work in clinics on solid scientific foundations, acquiring more skills, knowledge and learning, and making them capable of dealing with complex clinical cases of dental fillings and treating them with the latest scientific methods

Knowledge	A1	Gaining experience and information that will help him identify the disease and know its causes.
	A2	Developing motivational interviewing skills to encourage patients to take preventive measures.
	A3	Increasing students' knowledge of methods for examining teeth and detecting caries and gingivitis.
	A4	Learn how to assess patients' risks of dental disease based on factors such as oral hygiene, dietary habits, tobacco use, and chronic diseases.
Skills	B1	Acquire skills in conducting clinical dental examinations for early detection of tooth decay.
	B2	Developing motivational interviewing skills to encourage patients to

		take preventive measures .
	B3	Identify the indications and techniques for applying fluoride treatments strengthen tooth enamel and prevent caries.
Values	C1	Professional preparation and encouraging the student to have positive behavior in his public life.
	C2	Scientific preparation and urging the student to communicate in other fields of science.
	C3	Cultural preparation and refining the student's personality.
	C4	Utilizing the acquired skills so that the student becomes a dentist capable of treating patients.

11. Teaching and Learning Strategies

1.	Lectures using data show and power point	4.	E-learning
2.	Educational films	5.	Smart boards
3.	Display screens		

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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	Introduction to operative dentistry	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
2	1	Dental caries, types and classifications - Selective caries removal	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
3	1	Instruments and general instrumentation for cavity preparation	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
4	1	Principles of cavity preparation+Classifications of cavities - Artificial intelligence application in restorative dentistry	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
5	1	Factors that affect cavity preparation	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
6	1	Cavity preparation for CL I	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
7	1	Cavity preparation for CL II	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
8	1	Cavity preparation for CL III & CL IV	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
9	1	Cavity preparation for CL V	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
10	1	Tooth colored restorations (Classification and types)	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
11	1	Dental composite resins	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
12	1	Adhesive systems - Immediate dentin sealing (IDS)	Pre-clinucal Operative dentistry	A theoretical lecture using Power Point	Short, semester, mid-year and final exams

13	1	**Rubber Dam types and application process**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
14	1	**Direct composite resin restoration of CL I, III, IV and V cavities**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
15	1	**Direct composite resin restoration of CL II Cavity - Deep marginal elevation**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
16	1	**Complex composite restoration (principles of preparation) - Biomimetic principles**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
17	1	**Complex composite restoration (restorative procedures)**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
18	1	**Direct composite veneers (indications and principles) - Minimally invasive esthetic dentistry**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
19	1	**Direct composite veneers (restorative procedures)**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
20	1	**Color Matching and Composite Shade Selection**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
21	1	**Light Curing of Restorative Materials**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
22	1	**Glass ionomer restorations**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
23	1	**Failures in composite restoration (repair and replacement)**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
24	1	**Remineralization and resin infiltration technique**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
25	1	**Amalgam Restorations: Clinical Relevance, Longevity, and Failure Patterns"**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
26	1	**Removal of amalgam restorations and mercury hazards**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
27	1	**Pulp protection - Vital pulp therapy (VPT)**	**Pre-clinucal Operative**	A theoretical lecture	Short, semester, mid-year

			dentistry	using Power Point	and final exams
28	1	**Liners and base materials**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
29	1	**Sterilization of operative instruments Part I**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams
30	1	**Sterilization of operative instruments, part II**	**Pre-clinucal Operative dentistry**	A theoretical lecture using Power Point	Short, semester, mid-year and final exams

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13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

Grade distribution	Evaluation methods
theoretical 3% Clinical 22%	First semester + second semester 25%
Theoretical 15%	half year 15%
%40 Theoretical Clinical 20%	Final exam 60%
Theoretical %50 Clinical 50%	**100%**

14. Learning & Teaching Resources

Required textbooks (curricular if any)	**Walmsleyetal , fundamental in operative dentistry**
Main References (sources)	1. Summitt's fundamentals of operative dentistry: A contemporary approach. 4th edition . 2.Art and science of operative dentistry 7th edition
Recommended Books & References (Scientific Journals, Reports …)	Working on ghost laboratory heads
Websites or Electronic References	**Google scholar**

جامعة البيان

Course Description (1)

1. Course Title	**Dental radiology**
2. Course Code	**050310**
3. Semester/Year	annual
4. Description Preparation Dat	2027-2026
5. Available Attendance Form	Lectures and Laboratory
6. No. of Hours (Total)	Theory: 30 hours Practical: 60 hours
7. No. of Credits (Total)	4
8. Course Administrator Name	lecturer hamsa jamal mahdi
9. E-mail	Hamsa.jamal@albayan.edu.iq

10. Course Objectives

Knowledge		Gaining experience and information related to X-rays, radiographs, and all types of radiography equipment Developing the student's skills in the field of dealing with radiographic films, digital sensors, and means of displaying them Increasing students' knowledge of techniques for taking radiographs using films and digital sensors and Learn how to evaluate the type of photos taken, possible errors, and ways to avoid them
Skills		• Enabling the student to use x-ray machines correctly • Explain the importance of radiation protection and its risks • Enabling the student to read and diagnose radiographs of various types • Providing sufficient information about the latest types of devices and diagnostic methods in the field of oral and maxillofacial radiology • Reading radiographs • Use of devices • Possibility of protection from radiation risks • Acquiring skills in taking radiographs with their various techniques while taking preventive measures for the doctor, workers, and patients

		• Developing the skills of reading and interpreting apparent cases to reach the correct diagnosis

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11. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required educational outcomes**	**hours**	**the week**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Physics of radiation	introduction and definitions of nature of radiation, type of radiation	**1**	**1**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Production of radiation	x-ray machine, interaction of x-ray with matter composition of matter	**1**	**2**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Film imaging	types of x-ray films, processing cycle, dark room, intensifying screen	**1**	**3**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Factors controlling x-ray beam	dosimetry and invers square low	**1**	**4**
Daily examinations	**Data show**	Projection geometry	(sharpness, distortion, image	**1**	**5**

and evaluations on treatment of patients	**White board**		characterstic and artifacts)		
Daily examinations and evaluations on treatment of patients	**Data show White board**	Biological effects of radiation	direct & indirect effects, determistic and stochastic effect	**1**	**6**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Safety and Protection	source of exposure , dose limits , exposure and risk and reducing dental exposure	**1**	**7**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Intraoral projection	periapical, bitewing, and occlusal radiography	**1**	**8**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Digital radiography	strength , limitations , comparing with conventional radiography and indications	**1**	**9**
Daily examinations and evaluations	**Data show White board**	Patient's management	management of pt. Child, contrast media & localization technique	**1**	**10**

on treatment of patients					
Daily examinations and evaluations on treatment of patients	**Data show White board**	Cephalometric imaging	technique, indications, evaluation of the image	**1**	**11**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Panoramic radiography	principels, technique, positin and interpretation	**1**	**12**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Craniofacial imaging	types, indication and interpretation	**1**	**13**
Daily examinations and evaluations on treatment of patients	**Data show White board**	CBCT	principles, components, strength and limitations	**1**	**14**
Daily examinations and evaluations on treatment of patients	**Data show White board**	CBCT	clinical applications in maxillofacial region, anatomy and interpretations	**1**	**15**

Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiographic anatomy part1	teeth, supporting dentoalveolar structures, maxilla and mid facial bones	**1**	**16**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiographic anatomy part 2	teeth, supporting dentoalv structures, maxilla and mid facial bones	**1**	**17**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Advanced imaging modalities	CT, MRI AND ULTRASOUND	**1**	**18**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiography &Implantology	modalities, indications	**1**	**19**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Infection control	infection control in radiography clinic, protection of pt., protection of workers	**1**	**20**
Daily examinations and	**Data show White board**	Prescribing diagnostic imaging	radiologic examination and	**1**	**21**

evaluations on treatment of patients			guide lines for ordering imaging		
Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiographical interpretations of common diseases	interpretation of dental caries, and periodontal disease	**1**	**22**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Cysts of the jaw	odontogenic and non-odontogenic cysts, AI in automated detection of jaw lesions	**1**	**23**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Dental anomalies	acquired and developmental	**1**	**24**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Inflammatory conditions of the jaws	periapical inf disease, osteomyelitis, pericoronitis	**1**	**25**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Trauma	dento alveolar trauma , dental fractures and bone fractures	**1**	**26**

Daily examinations and evaluations on treatment of patients	**Data show White board**	TMJ abnormalities	anatomy of TMJ, application, AI integration in TMJ diagnostic imaging	**1**	**27**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Salivary gland disease	imaging modalities, interpretation, AI integration in salivary gland diagnostic imaging	**1**	**28**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Craniofacial anomalies	Cleft lip and palate	**1**	**29**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Computed tomography	indications, strength, limitations, Automated Segmentation and Computer-Aided Diagnosis	**1**	**30**
12. Course evaluation					
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.					

Number	Assessment measurement	
1	1st and 2nd semester 25%	theory 10% clinical 15%
2	Mid-year examination 15%	Theory 15%
3	Final examination (60%)	40% theory 20% clinical
Total		**100%**

13. Learning and teaching resources	
Required textbooks, methodology if present	**White and Pharoah's Oral radiology principles and interpretation. Sanjay Mallya and Ernest Lam. 8 th edition. 2019, Elsevier**
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities	(include for example, guest Lectures , internship , field studies)
Electronic References, Internet Sites	PubMed, Scopus, Elsevier, Google Scholar, Research Gates

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14. Course Evaluation		
1	First + second semester 25%	Theory 10% Practical 15%
2	Midyear examination 15%	Theory 15%
3	Final examination	Theory 40% Practical 20%
Total		**100%**

15. Learning & Teaching Resources	
Required textbooks, methodology if present	**White and Pharoah's Oral radiology principles and interpretation. Sanjay Mallya and Ernest Lam. 8 th edition. 2019, Elsevier**
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities	(include for example, guest Lectures , internship , field studies)
Electronic References, Internet Sites	PubMed, Scopus, Elsevier, Google Scholar, Research Gates

جامعة البيان

Course Description (1)

1. Course Title	General Pathology
2. Course Code	**050308**
3. Semester/Year	Third Year / First and Second Semesters
4. Description Preparation Date	Academic Year 2026–2027
5. Available Attendance Form	**Full-time (In-person): Lectures, Practical Laboratory Sessions, Case-Based Learning, Seminars, and E-learning Activities**
6. No. of Hours (Total)	**120 Hours (Theory: 60 Hours; Practical: 60 Hours)**
7. No. of Credits (Total)	**6 Credits (Theory: 4 Credits; Practical: 2 Credits)**
8. Course Administrator Name	**Mays Maher Mustafa**
9. E-mail	**Mays.m@albayan.edu.iq**

Course Objective: The **General Pathology** course provides undergraduate dental students with a comprehensive understanding of the fundamental mechanisms of disease and their relevance to oral and systemic health. The course covers cellular adaptation, cell injury and death, inflammation, tissue repair, hemodynamic disorders, immunopathology, neoplasia, genetic and environmental diseases, infectious diseases, and organ system pathology. Students gain practical experience in histopathology, tissue processing, microscopic examination, immunohistochemistry, molecular pathology, and digital pathology. The course also introduces **Artificial Intelligence (AI)** applications in pathology, including AI-assisted histopathological diagnosis, digital pathology, biomarker analysis, image interpretation, and precision medicine, preparing students for evidence-based clinical practice and modern diagnostic technologies.

Knowledge	**A1**	Explain the fundamental mechanisms of disease, including cellular adaptation, cell injury, inflammation, tissue repair, hemodynamic disorders, and neoplasia.
	A2	Describe the pathology of major organ systems and explain the pathological basis of common oral and systemic diseases.
	A3	Discuss immunopathology, infectious diseases, molecular pathology, and clinicopathological correlations relevant to dentistry.
	A4	Explain the principles and applications of histopathology,

		immunohistochemistry, molecular pathology, digital pathology, and Artificial Intelligence (AI) in disease diagnosis.
Skills	**B1**	Perform basic histopathological laboratory procedures safely, including tissue handling, fixation, processing, staining, and microscopic examination.
	B2	Interpret histopathological findings and correlate microscopic changes with clinical manifestations of oral and systemic diseases.
	B3	Apply laboratory safety, quality assurance, ethical standards, and infection prevention measures during pathology laboratory practice.
	B4	Utilize digital pathology systems and AI-assisted diagnostic technologies for histopathological interpretation and evidence-based clinical decision-making.
Values	**C1**	Demonstrate professionalism, ethical responsibility, teamwork, lifelong learning, and commitment to evidence-based pathology practice.
	C2	Adhere to laboratory biosafety regulations, infection prevention guidelines, and ethical standards while handling biological specimens.
	C3	Demonstrate effective communication, collaboration, and respect for colleagues and patients during laboratory and clinical activities.
	C4	Appreciate the importance of continuous professional development by integrating emerging technologies, including Artificial Intelligence (AI), into pathology and dental practic

10. Teaching and Learning Strategies

1.	Interactive lectures supported by multimedia presentations to explain the fundamental concepts of general pathology and oral pathology.	**4.**	Small-group discussions, seminars, and student present teamwork, and critical thinking.
2.	Practical laboratory sessions focusing on tissue processing, histopathological techniques, staining methods, microscopic examination, and clinicopathological correlation.	**5.**	Self-directed learning through scientific literature, pathology atlases, digital resources, and evidence-based learning materials.
3.	Case-based learning (CBL) and problem-based learning (PBL) to develop diagnostic reasoning and clinical decision-making skills.	**6.**	Integration of digital pathology, virtual microscopy, whole-slide imaging, and Artificial Intelligence (AI) applications for histopathological diagnosis and simulation-based learning.

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11. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	2	A1, B1	Introduction to General Pathology: Concepts of Disease, Etiology, Pathogenesis and Homeostasis	Interactive lecture, multimedia presentation	Quiz, class participation
2	2	A1, B1	Cellular Adaptations, Cell Injury and Cell Death	Interactive lecture, discussion	Quiz
3	2	A1, B1	Intracellular Accumulations, Pigments and Pathological Calcification	Lecture, microscopic demonstration	Written examination
4	2	A1, B2	Acute Inflammation: Vascular and Cellular Events	Interactive lecture	Quiz
5	2	A1, B2	Chemical Mediators and Outcomes of Acute Inflammation	Lecture, case discussion	Midterm examination
6	2	A1, B2	Chronic Inflammation and Granulomatous Diseases	Lecture, discussion	Quiz
7	2	A1, B2	Tissue Repair, Wound Healing and Regeneration	Lecture	Written examination
8	2	A1, B2	Hemodynamic Disorders: Edema, Hyperemia, Congestion and Hemorrhage	Lecture	Quiz
9	2	A1, B2	Thrombosis, Embolism, Infarction and Shock	Lecture, case discussion	Written examination
10	2	A1, B2	Disorders of Growth: Atrophy, Hypertrophy, Hyperplasia and Metaplasia	Interactive lecture	Quiz
11	2	A2, B2	Neoplasia: Terminology, Classification and Characteristics of Tumors	Lecture	Quiz

12	2	A2, B2	Molecular Basis of Cancer and Carcinogenesis	Lecture	Written examination
13	2	A2, B2	Tumor Biology, Metastasis and Tumor Markers	Lecture	Quiz
14	2	A2, B2	Genetic Disorders and Developmental Abnormalities	Lecture	Assignment
15	2	A2, B2	Environmental and Nutritional Diseases	Lecture	Practical assessment
16	2	A2, B2	Diseases of the Immune System and Autoimmunity	Interactive lecture	Quiz
17	2	A2, B2	Infectious Diseases and Host–Pathogen Interaction	Lecture, case-based learning	Quiz
18	2	A2, B2	Hematologic Disorders and Anemia	Lecture	Written examination
19	2	A2, B2	Cardiovascular Pathology	Lecture	Quiz
20	2	A2, B2	Respiratory System Pathology	Lecture	Assignment
21	2	A2, B2	Gastrointestinal and Liver Pathology	Lecture	Quiz
22	2	A2, B2	Renal and Urinary System Pathology	Lecture	Quiz
23	2	A2, B2	Endocrine System Pathology	Lecture	Written examination
24	2	A2, B2	Oral Manifestations of Systemic Diseases	Lecture	Quiz
25	2	A3, B2	Oral Pathology: Developmental and Inflammatory Lesions	Lecture, discussion	Assignment
26	2	A3, B2	Oral Potentially Malignant Disorders and Oral Cancer	Lecture, case-based learning	Written examination
27	2	A4, B2	Diagnostic Pathology and Histopathological Techniques	Lecture, laboratory demonstration	Quiz
28	2	A4, B4	Artificial Intelligence in General Pathology	Interactive lecture, AI demonstration	Presentation, assignment
29	2	A4, B4	Artificial Intelligence in Diagnostic and Molecular Pathology	Interactive lecture, digital pathology	Presentation, assignment

				demonstration	
30	2	A1–A4, B1–B4, C1–C4	Review, Case Discussions and Recent Advances in General Pathology	Interactive review, seminar	Final revision, seminar evaluation

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12. Course Evaluation	
توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ	
13. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Robbins & Cotran Pathologic Basis of Disease. (2024). *Robbins & Cotran Pathologic Basis of Disease* (11th ed.). Elsevier. 2. Robbins Basic Pathology. (2024). *Robbins Basic Pathology* (11th ed.). Elsevier. 3. Oral Pathology: Clinical Pathologic Correlations. (2024). *Oral Pathology: Clinical Pathologic Correlations* (8th ed.). Elsevier.
Main References (sources)	1. Robbins & Cotran Atlas of Pathology. (2024). Elsevier. 2. Rosai and Ackerman's Surgical Pathology. (2023). Elsevier. 3. Sternberg's Diagnostic Surgical Pathology. (2023). Wolters Kluwer. 4. Color Atlas of Oral Diseases. (2023). Thieme. **5.** Burket's Oral Medicine. (2024). Wiley-Blackwell.
Recommended Books & References (Scientific Journals, Reports …)	• Modern Pathology • The American Journal of Surgical Pathology • Journal of Pathology • Oral Diseases • Journal of Oral Pathology & Medicine • Oral Oncology • Modern Pathology • Nature Reviews Cancer • CA: A Cancer Journal for Clinicians
	• World Health Organization (WHO)

Websites or Electronic References	• International Agency for Research on Cancer (IARC) • National Cancer Institute (NCI) • College of American Pathologists (CAP) • American Society for Clinical Pathology (ASCP) • National Center for Biotechnology Information (NCBI) • PubMed • Pathology Outlines • World Federation for Medical Education (WFME)

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Course Description (1)

1. Course Title	**Oral Surgery**
2. Course Code	**٠٥٠٣٠3**
3. Semester/Year	Third Year / First and Second Semesters
4. Description Preparation Date	**2026–2027 Academic Year**
5. Available Attendance Form	**Full-time (In-person): Lectures, Laboratory Sessions, Seminars, and E-learning Activities**
6. No. of Hours (Total)	**90 Hours (Theory: 30 Hours; Practical/Clinical: 60 Hours)**
7. No. of Credits (Total)	4 Credits (Theory: 2 Credits; Practical/Clinical: 2 Credits)
8. Course Administrator Name	**Assist. Prof. Dr. Mudher M. B. Al-Sunubli**
9. E-mail	**mudher.m@albayan.edu.iq**

10. Course Objective: The **Oral Surgery** course provides undergraduate dental students with comprehensive knowledge and clinical skills in the diagnosis and management of oral surgical conditions. The course covers principles of exodontia, surgical anatomy, local anesthesia, patient assessment, infection control, surgical instruments, surgical techniques, management of medically compromised patients, postoperative care, and complications of oral surgery. Students develop practical competencies through laboratory and clinical training in tooth extraction, local anesthesia techniques, surgical instrumentation, and patient management. The course also introduces modern digital technologies and **Artificial Intelligence (AI)** applications in oral and maxillofacial surgery, including digital imaging, CBCT interpretation, surgical planning, risk assessment, and AI-assisted clinical decision-making, preparing students for safe, evidence-based dental practice.

Knowledge	**A1**	Explain the principles of oral surgery, surgical anatomy, diagnosis, treatment planning, and patient assessment for common oral surgical conditions.	
	A2	Describe surgical instruments, tooth extraction techniques, wound healing, infection control, and the prevention and management of surgical complications.	**A 2**
	A3	Explain the principles of local anesthesia, pharmacology of anesthetic agents, anesthesia techniques, medical emergencies, and postoperative patient care.	**A 3**

	A4	Explain the applications of digital dentistry, Cone-Beam Computed Tomography (CBCT), and Artificial Intelligence (AI) in oral and maxillofacial surgery.
Skills	**B1**	Perform basic oral surgical procedures safely, including patient assessment, surgical instrument handling, tooth extraction techniques, and local anesthesia administration.
	B2	Interpret clinical and radiographic findings and formulate appropriate diagnosis and treatment plans for oral surgical patients.
	B3	Apply infection prevention and control measures, sterilization protocols, biosafety principles, and emergency management in oral surgery practice.
	B4	Utilize digital technologies, CBCT imaging, and AI-assisted tools for diagnosis, surgical planning, risk assessment, and evidence-based clinical decision-making.
Values	**C1**	Demonstrate professionalism, ethical responsibility, teamwork, patient safety, lifelong learning, and commitment to evidence-based oral surgery practice.
	C2	Adhere to infection prevention guidelines, biosafety regulations, ethical principles, and patient confidentiality during oral surgical procedures.
	C3	Demonstrate effective communication with patients and healthcare professionals while obtaining informed consent and delivering patient-centered care.
	C4	Appreciate the importance of continuous professional development through integrating modern technologies, including Artificial Intelligence (AI), and evidence-based advances into oral surgery practice.

11. Teaching and Learning Strategies

1.	Interactive lectures supported by multimedia presentations to explain the fundamental concepts of oral surgery, local anesthesia, surgical anatomy, and patient management.	**4.**	Small-group discussions, seminars, and student communication skills, teamwork, professionalism, and lifelong learning.
2.	Practical laboratory and clinical training focusing on surgical instruments, tooth extraction techniques, local anesthesia administration, infection control, and emergency management.	**5.**	Self-directed learning through textbooks, scientific journals, clinical guidelines, online databases, and evidence-based learning resources.

3.	Case-based learning (CBL) and problem-based learning (PBL) to develop critical thinking, diagnosis, treatment planning, and clinical decision-making skills in oral surgery.	**6.**	Integration of digital technologies and Artificial Intelligence (AI) applications, including CBCT interpretation, digital surgical planning, virtual simulation, and AI-assisted clinical decision-making in oral surgery.

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	➢ History taking • Demographic data • Chief complaint • History of present complaint • Past dental and medical history • Social and family history	**Diagnosis in oral surgery**	Interactive lecture	Quiz, class participation
2	1	➢ Examination • Extra-oral examination • Intra-oral examination ➢ Differential diagnosis ➢ Diagnosis of pain, lump, and ulcer ➢ Consent	**Diagnosis in oral surgery**	Lecture, discussion	Quiz
3	1	➢ Communicable pathogenic organisms ➢ Aseptic techniques • Terminology & concepts • AI Assist in sterilization cycles • Techniques of Instrument Sterilization; Sterilization with Heat; Sterilization with Gas • Techniques of Instrument Disinfection	**Infection Control in Surgical Practice**	Interactive lecture	Written examination
4	1	• Maintenance of Sterility • Surgical Field Maintenance • Operatory Disinfection • Surgical Staff Preparation • Postsurgical Asepsis	**Infection Control in Surgical Practice**	Lecture, case-based learning	Assignment

5	1	• Extraction of teeth (exodontia). • Definition. • Methods of extraction. • Indications of teeth extraction.	**Extraction of teeth and Contra indications of extraction**	Interactive lecture	Midterm examination
6	1	• 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	**Extraction of teeth and Contra indications of extraction**	Lecture, laboratory demonstration	Quiz
7	1	• 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.	**General arrangement for extraction and Dental forceps (types)**	Practical laboratory	Practical assessment
8	1	• 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	**General arrangement for extraction and Dental forceps (types)**	Practical demonstration	Quiz
9	1	• Soft tissue retraction. • Handling of the forceps.	**Techniques of forceps extraction and post-**	Clinical demonstration	Practical assessment

		• 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.	**operative instructions**		
10	1	• 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.	**Elevators**	Lecture, clinical demonstration	Written examination
11	1	• 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.	**Elevators**	Lecture	Quiz
12	1	• Failure to secure anesthesia. • Failure to remove the tooth with either forceps or elevator.	**Complications of dental extraction**	Lecture, case discussion	Quiz

		• 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.			
13	1	• Excessive bleeding after extraction. • Damage to the surrounding soft tissues. • Post -operative pain. • Post-operative swelling. • Creation of an oro-anrtal communication. • Trismus.	**Complications of dental extraction**	Lecture	Written examination
14	1	• 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	**Basic surgical instruments**	Case-based learning	Assignment

		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			
15	1	• Neurophysiology • Mode and site of action of local anesthetic • Active forms of local anesthetics	**Introduction to local anesthesia**	Interactive lecture	Practical assessment
16	1	• Pharmacokinetics of local anesthetics • Metabolism • Systemic actions of local anesthetics	**Pharmacology of local anesthesia**	Interactive lecture	Quiz
17	1	• Vasoconstrictors • Mode of action • Dilutions of vasoconstrictors • Specific agents	**Pharmacology of local anesthesia**	Lecture	Quiz
18	1	• Trigeminal nerve: ✓ Ophthalmic branch ✓ Maxillary branch ✓ Mandibular branch	**Surgical anatomy in local anesthesia**	Lecture	Written examination
19	1	• The Syringe • The Needle • The Cartridge	**Instruments of local anesthesia**	Practical demonstration	Quiz

		• Additional Armamentarium • Preparation of the Armamentarium			
20	1	• Osteology of the maxilla • Osteology of the mandible •AI assistance in anatomical land marks	**Surgical anatomy in local anesthesia**	Clinical demonstration	Practical assessment
21	1	• 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	**Techniques of local anesthesia**	Clinical training	Quiz
22	2	• 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	**Techniques of local anesthesia**	Practical laboratory	Practical assessment
23	1	• Supplemental injection techniques ✓ Intraosseous injection ✓ Periodontal ligament injection ✓ Intraseptal injection	**Techniques of local anesthesia**	Lecture, case discussion	Written examination

		✓ Intrapulpal injection			
24	1	• Local Complications ✓ Needle breakage ✓ Prolonged anesthesia (paresthesia) ✓ Facial nerve paralysis ✓ Ocular complications ✓ Trismus ✓ Soft tissue injury ✓ Hematoma	**Complications of local anesthesia**	Lecture, simulation	Quiz
25	1	✓ Pain on injection ✓ Burning on injection ✓ Infection ✓ Edema ✓ Sloughing of tissues ✓ Postanesthetic intraoral lesions	**Complications of local anesthesia**	Interactive lecture	Assignment
26	1	• Systemic complications ✓ Overdose ✓ Allergy	**Complications of local anesthesia**	Interactive lecture	Quiz
27	1	• Computer controlled local anesthetic delivery • Articaine hydrochloride • Local anesthesia reversal • Buffering of local anesthetic solution • Nasal local anesthetic mist for maxillary nonmolar teeth	**Advances in local anesthesia**	AI demonstration	Presentation
28	1	• Sedation techniques: Oral, sublingual, transdermal, intranasal, intramuscular, intravenous and inhalational • Nitrous oxide • Complications and medicolegal considerations	**Conscious sedation**	AI-based case study	Assignment
29	1	• Types of general anesthesia used in	**Fundamentals of general**	Seminar	Seminar evaluation

		dentistry • Advantages • Disadvantages • Indications • Contraindications	**anesthesia**		
30	1	• Overview of medical emergencies • Basic measures, equipment and drugs • AI diagnostic evolution • Common emergencies ✓ Collapse ✓ Anaphylaxis ✓ Cardiac arrest ✓ Diabetic collapse due to hypoglycemia ✓ Fits and convulsions ✓ Adrenal crisis ✓ Acute severe asthma ✓ Chest pain	**Medical emergencies during dental treatment**	Interactive lecture, seminar, AI-based case discussion	Comprehensive assessment, seminar evaluation

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13. Course Evaluation	
توزيع الدرجة من ١٠٠ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Marsh, P. D., & Martin, M. V. (2023). *Oral Microbiology* (7th ed.). Elsevier. 2. Murray, P. R., Rosenthal, K. S., & Pfaller, M. A. (2024). *Medical Microbiology* (10th ed.). Elsevier. 3. Jawetz, Melnick & Adelberg's *Medical Microbiology* (29th ed., 2024). McGraw-Hill Education.
Main References (sources)	1. Hupp, J. R., Ellis, E., & Tucker, M. R. (2024). *Contemporary Oral and Maxillofacial Surgery* (8th ed.). Elsevier. 2. Malamed, S. F. (2024). *Handbook of Local Anesthesia* (8th ed.). Elsevier. 3. Miloro, M., Ghali, G. E., Larsen, P. E., & Waite, P. D. (2023). *Peterson's Principles of Oral and Maxillofacial Surgery* (4th ed.). Springer.
Recommended Books & References (Scientific Journals, Reports …)	1- Fragiskos, F. D. (2021). *Oral Surgery*. Springer. 2- Fonseca, R. J. (2023). *Oral and Maxillofacial Surgery* (4th ed.). Elsevier. 3- Neville, B. W., Damm, D. D., Allen, C. M., & Chi, A. C. (2024). *Oral and Maxillofacial Pathology* (5th ed.). Elsevier.
Websites or Electronic References	• *Journal of Oral and Maxillofacial Surgery (JOMS)*. • *International Journal of Oral and Maxillofacial Surgery*. • *British Journal of Oral and Maxillofacial Surgery*.

	• *Journal of Cranio-Maxillofacial Surgery*. • *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. • *Journal of Dental Research*. *Clinical Oral Investigations*.
	➢ American Association of Oral and Maxillofacial Surgeons (AAOMS) ➢ World Health Organization (WHO) ➢ PubMed ➢ National Center for Biotechnology Information (NCBI) ➢ American Dental Association (ADA) ➢ National Institute for Health and Care Excellence (NICE) ➢ International Association for Dental Research (IADR) ➢ Cochrane Library 1. European Association for Cranio-Maxillo-Facial Surgery (EACMFS

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Course Description (1)

1. Course Title	**Dental radiology**
2. Course Code	**050310**
3. Semester/Year	annual
4. Description Preparation Dat	2027-2026
5. Available Attendance Form	Lectures and Laboratory
6. No. of Hours (Total)	Theory: 30 hours Practical: 60 hours
7. No. of Credits (Total)	4
8. Course Administrator Name	lecturer hamsa jamal mahdi
9. E-mail	Hamsa.jamal@albayan.edu.iq

10. Course Objectives

Knowledge		Gaining experience and information related to X-rays, radiographs, and all types of radiography equipment Developing the student's skills in the field of dealing with radiographic films, digital sensors, and means of displaying them Increasing students' knowledge of techniques for taking radiographs using films and digital sensors and Learn how to evaluate the type of photos taken, possible errors, and ways to avoid them
Skills		• Enabling the student to use x-ray machines correctly • Explain the importance of radiation protection and its risks • Enabling the student to read and diagnose radiographs of various types • Providing sufficient information about the latest types of devices and diagnostic methods in the field of oral and maxillofacial radiology • Reading radiographs • Use of devices • Possibility of protection from radiation risks • Acquiring skills in taking radiographs with their various techniques while taking preventive measures for the doctor, workers, and patients

		• Developing the skills of reading and interpreting apparent cases to reach the correct diagnosis

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11. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required educational outcomes**	**hours**	**the week**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Physics of radiation	introduction and definitions of nature of radiation, type of radiation	**1**	**1**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Production of radiation	x-ray machine, interaction of x-ray with matter composition of matter	**1**	**2**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Film imaging	types of x-ray films, processing cycle, dark room, intensifying screen	**1**	**3**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Factors controlling x-ray beam	dosimetry and invers square low	**1**	**4**
Daily examinations	**Data show**	Projection geometry	(sharpness, distortion, image	**1**	**5**

and evaluations on treatment of patients	**White board**		characterstic and artifacts)		
Daily examinations and evaluations on treatment of patients	**Data show White board**	Biological effects of radiation	direct & indirect effects, determistic and stochastic effect	**1**	**6**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Safety and Protection	source of exposure , dose limits , exposure and risk and reducing dental exposure	**1**	**7**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Intraoral projection	periapical, bitewing, and occlusal radiography	**1**	**8**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Digital radiography	strength , limitations , comparing with conventional radiography and indications	**1**	**9**
Daily examinations and evaluations	**Data show White board**	Patient's management	management of pt. Child, contrast media & localization technique	**1**	**10**

on treatment of patients					
Daily examinations and evaluations on treatment of patients	**Data show White board**	Cephalometric imaging	technique, indications, evaluation of the image	**1**	**11**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Panoramic radiography	principels, technique, positin and interpretation	**1**	**12**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Craniofacial imaging	types, indication and interpretation	**1**	**13**
Daily examinations and evaluations on treatment of patients	**Data show White board**	CBCT	principles, components, strength and limitations	**1**	**14**
Daily examinations and evaluations on treatment of patients	**Data show White board**	CBCT	clinical applications in maxillofacial region, anatomy and interpretations	**1**	**15**

Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiographic anatomy part1	teeth, supporting dentoalveolar structures, maxilla and mid facial bones	**1**	**16**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiographic anatomy part 2	teeth, supporting dentoalv structures, maxilla and mid facial bones	**1**	**17**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Advanced imaging modalities	CT, MRI AND ULTRASOUND	**1**	**18**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiography &Implantology	modalities, indications	**1**	**19**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Infection control	infection control in radiography clinic, protection of pt., protection of workers	**1**	**20**
Daily examinations and	**Data show White board**	Prescribing diagnostic imaging	radiologic examination and	**1**	**21**

evaluations on treatment of patients			guide lines for ordering imaging		
Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiographical interpretations of common diseases	interpretation of dental caries, and periodontal disease	**1**	**22**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Cysts of the jaw	odontogenic and non-odontogenic cysts, AI in automated detection of jaw lesions	**1**	**23**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Dental anomalies	acquired and developmental	**1**	**24**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Inflammatory conditions of the jaws	periapical inf disease, osteomyelitis, pericoronitis	**1**	**25**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Trauma	dento alveolar trauma , dental fractures and bone fractures	**1**	**26**

Daily examinations and evaluations on treatment of patients	**Data show White board**	TMJ abnormalities	anatomy of TMJ, application, AI integration in TMJ diagnostic imaging	**1**	**27**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Salivary gland disease	imaging modalities, interpretation, AI integration in salivary gland diagnostic imaging	**1**	**28**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Craniofacial anomalies	Cleft lip and palate	**1**	**29**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Computed tomography	indications, strength, limitations, Automated Segmentation and Computer-Aided Diagnosis	**1**	**30**
12. Course evaluation					
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.					

Number	Assessment measurement	
1	1st and 2nd semester 25%	theory 10% clinical 15%
2	Mid-year examination 15%	Theory 15%
3	Final examination (60%)	40% theory 20% clinical
Total		**100%**

13. Learning and teaching resources	
Required textbooks, methodology if present	**White and Pharoah's Oral radiology principles and interpretation. Sanjay Mallya and Ernest Lam. 8 th edition. 2019, Elsevier**
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities	(include for example, guest Lectures , internship , field studies)
Electronic References, Internet Sites	PubMed, Scopus, Elsevier, Google Scholar, Research Gates

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14. Course Evaluation		
1	First + second semester 25%	Theory 10% Practical 15%
2	Midyear examination 15%	Theory 15%
3	Final examination	Theory 40% Practical 20%
Total		**100%**

15. Learning & Teaching Resources	
Required textbooks, methodology if present	**White and Pharoah's Oral radiology principles and interpretation. Sanjay Mallya and Ernest Lam. 8 th edition. 2019, Elsevier**
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities	(include for example, guest Lectures , internship , field studies)
Electronic References, Internet Sites	PubMed, Scopus, Elsevier, Google Scholar, Research Gates

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Course Description (1)

1. Course Title	General Pathology
2. Course Code	**050308**
3. Semester/Year	Third Year / First and Second Semesters
4. Description Preparation Date	Academic Year 2026–2027
5. Available Attendance Form	**Full-time (In-person): Lectures, Practical Laboratory Sessions, Case-Based Learning, Seminars, and E-learning Activities**
6. No. of Hours (Total)	**120 Hours (Theory: 60 Hours; Practical: 60 Hours)**
7. No. of Credits (Total)	**6 Credits (Theory: 4 Credits; Practical: 2 Credits)**
8. Course Administrator Name	**Mays Maher Mustafa**
9. E-mail	**Mays.m@albayan.edu.iq**

Course Objective: The **General Pathology** course provides undergraduate dental students with a comprehensive understanding of the fundamental mechanisms of disease and their relevance to oral and systemic health. The course covers cellular adaptation, cell injury and death, inflammation, tissue repair, hemodynamic disorders, immunopathology, neoplasia, genetic and environmental diseases, infectious diseases, and organ system pathology. Students gain practical experience in histopathology, tissue processing, microscopic examination, immunohistochemistry, molecular pathology, and digital pathology. The course also introduces **Artificial Intelligence (AI)** applications in pathology, including AI-assisted histopathological diagnosis, digital pathology, biomarker analysis, image interpretation, and precision medicine, preparing students for evidence-based clinical practice and modern diagnostic technologies.

Knowledge	**A1**	Explain the fundamental mechanisms of disease, including cellular adaptation, cell injury, inflammation, tissue repair, hemodynamic disorders, and neoplasia.
	A2	Describe the pathology of major organ systems and explain the pathological basis of common oral and systemic diseases.
	A3	Discuss immunopathology, infectious diseases, molecular pathology, and clinicopathological correlations relevant to dentistry.
	A4	Explain the principles and applications of histopathology,

		immunohistochemistry, molecular pathology, digital pathology, and Artificial Intelligence (AI) in disease diagnosis.
Skills	**B1**	Perform basic histopathological laboratory procedures safely, including tissue handling, fixation, processing, staining, and microscopic examination.
	B2	Interpret histopathological findings and correlate microscopic changes with clinical manifestations of oral and systemic diseases.
	B3	Apply laboratory safety, quality assurance, ethical standards, and infection prevention measures during pathology laboratory practice.
	B4	Utilize digital pathology systems and AI-assisted diagnostic technologies for histopathological interpretation and evidence-based clinical decision-making.
Values	**C1**	Demonstrate professionalism, ethical responsibility, teamwork, lifelong learning, and commitment to evidence-based pathology practice.
	C2	Adhere to laboratory biosafety regulations, infection prevention guidelines, and ethical standards while handling biological specimens.
	C3	Demonstrate effective communication, collaboration, and respect for colleagues and patients during laboratory and clinical activities.
	C4	Appreciate the importance of continuous professional development by integrating emerging technologies, including Artificial Intelligence (AI), into pathology and dental practic

10. Teaching and Learning Strategies

1.	Interactive lectures supported by multimedia presentations to explain the fundamental concepts of general pathology and oral pathology.	**4.**	Small-group discussions, seminars, and student present teamwork, and critical thinking.
2.	Practical laboratory sessions focusing on tissue processing, histopathological techniques, staining methods, microscopic examination, and clinicopathological correlation.	**5.**	Self-directed learning through scientific literature, pathology atlases, digital resources, and evidence-based learning materials.
3.	Case-based learning (CBL) and problem-based learning (PBL) to develop diagnostic reasoning and clinical decision-making skills.	**6.**	Integration of digital pathology, virtual microscopy, whole-slide imaging, and Artificial Intelligence (AI) applications for histopathological diagnosis and simulation-based learning.

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11. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	2	A1, B1	Introduction to General Pathology: Concepts of Disease, Etiology, Pathogenesis and Homeostasis	Interactive lecture, multimedia presentation	Quiz, class participation
2	2	A1, B1	Cellular Adaptations, Cell Injury and Cell Death	Interactive lecture, discussion	Quiz
3	2	A1, B1	Intracellular Accumulations, Pigments and Pathological Calcification	Lecture, microscopic demonstration	Written examination
4	2	A1, B2	Acute Inflammation: Vascular and Cellular Events	Interactive lecture	Quiz
5	2	A1, B2	Chemical Mediators and Outcomes of Acute Inflammation	Lecture, case discussion	Midterm examination
6	2	A1, B2	Chronic Inflammation and Granulomatous Diseases	Lecture, discussion	Quiz
7	2	A1, B2	Tissue Repair, Wound Healing and Regeneration	Lecture	Written examination
8	2	A1, B2	Hemodynamic Disorders: Edema, Hyperemia, Congestion and Hemorrhage	Lecture	Quiz
9	2	A1, B2	Thrombosis, Embolism, Infarction and Shock	Lecture, case discussion	Written examination
10	2	A1, B2	Disorders of Growth: Atrophy, Hypertrophy, Hyperplasia and Metaplasia	Interactive lecture	Quiz
11	2	A2, B2	Neoplasia: Terminology, Classification and Characteristics of Tumors	Lecture	Quiz

12	2	A2, B2	Molecular Basis of Cancer and Carcinogenesis	Lecture	Written examination
13	2	A2, B2	Tumor Biology, Metastasis and Tumor Markers	Lecture	Quiz
14	2	A2, B2	Genetic Disorders and Developmental Abnormalities	Lecture	Assignment
15	2	A2, B2	Environmental and Nutritional Diseases	Lecture	Practical assessment
16	2	A2, B2	Diseases of the Immune System and Autoimmunity	Interactive lecture	Quiz
17	2	A2, B2	Infectious Diseases and Host–Pathogen Interaction	Lecture, case-based learning	Quiz
18	2	A2, B2	Hematologic Disorders and Anemia	Lecture	Written examination
19	2	A2, B2	Cardiovascular Pathology	Lecture	Quiz
20	2	A2, B2	Respiratory System Pathology	Lecture	Assignment
21	2	A2, B2	Gastrointestinal and Liver Pathology	Lecture	Quiz
22	2	A2, B2	Renal and Urinary System Pathology	Lecture	Quiz
23	2	A2, B2	Endocrine System Pathology	Lecture	Written examination
24	2	A2, B2	Oral Manifestations of Systemic Diseases	Lecture	Quiz
25	2	A3, B2	Oral Pathology: Developmental and Inflammatory Lesions	Lecture, discussion	Assignment
26	2	A3, B2	Oral Potentially Malignant Disorders and Oral Cancer	Lecture, case-based learning	Written examination
27	2	A4, B2	Diagnostic Pathology and Histopathological Techniques	Lecture, laboratory demonstration	Quiz
28	2	A4, B4	Artificial Intelligence in General Pathology	Interactive lecture, AI demonstration	Presentation, assignment
29	2	A4, B4	Artificial Intelligence in Diagnostic and Molecular Pathology	Interactive lecture, digital pathology	Presentation, assignment

				demonstration	
30	2	A1–A4, B1–B4, C1–C4	Review, Case Discussions and Recent Advances in General Pathology	Interactive review, seminar	Final revision, seminar evaluation

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12. Course Evaluation	
توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ	
13. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Robbins & Cotran Pathologic Basis of Disease. (2024). *Robbins & Cotran Pathologic Basis of Disease* (11th ed.). Elsevier. 2. Robbins Basic Pathology. (2024). *Robbins Basic Pathology* (11th ed.). Elsevier. 3. Oral Pathology: Clinical Pathologic Correlations. (2024). *Oral Pathology: Clinical Pathologic Correlations* (8th ed.). Elsevier.
Main References (sources)	1. Robbins & Cotran Atlas of Pathology. (2024). Elsevier. 2. Rosai and Ackerman's Surgical Pathology. (2023). Elsevier. 3. Sternberg's Diagnostic Surgical Pathology. (2023). Wolters Kluwer. 4. Color Atlas of Oral Diseases. (2023). Thieme. **5.** Burket's Oral Medicine. (2024). Wiley-Blackwell.
Recommended Books & References (Scientific Journals, Reports …)	• Modern Pathology • The American Journal of Surgical Pathology • Journal of Pathology • Oral Diseases • Journal of Oral Pathology & Medicine • Oral Oncology • Modern Pathology • Nature Reviews Cancer • CA: A Cancer Journal for Clinicians
	• World Health Organization (WHO)

Websites or Electronic References	• International Agency for Research on Cancer (IARC) • National Cancer Institute (NCI) • College of American Pathologists (CAP) • American Society for Clinical Pathology (ASCP) • National Center for Biotechnology Information (NCBI) • PubMed • Pathology Outlines • World Federation for Medical Education (WFME)

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Course Description (1)

1. Course Title	**Oral Surgery**
2. Course Code	**٠٥٠٣٠3**
3. Semester/Year	Third Year / First and Second Semesters
4. Description Preparation Date	**2026–2027 Academic Year**
5. Available Attendance Form	**Full-time (In-person): Lectures, Laboratory Sessions, Seminars, and E-learning Activities**
6. No. of Hours (Total)	**90 Hours (Theory: 30 Hours; Practical/Clinical: 60 Hours)**
7. No. of Credits (Total)	4 Credits (Theory: 2 Credits; Practical/Clinical: 2 Credits)
8. Course Administrator Name	**Assist. Prof. Dr. Mudher M. B. Al-Sunubli**
9. E-mail	**mudher.m@albayan.edu.iq**

10. Course Objective: The **Oral Surgery** course provides undergraduate dental students with comprehensive knowledge and clinical skills in the diagnosis and management of oral surgical conditions. The course covers principles of exodontia, surgical anatomy, local anesthesia, patient assessment, infection control, surgical instruments, surgical techniques, management of medically compromised patients, postoperative care, and complications of oral surgery. Students develop practical competencies through laboratory and clinical training in tooth extraction, local anesthesia techniques, surgical instrumentation, and patient management. The course also introduces modern digital technologies and **Artificial Intelligence (AI)** applications in oral and maxillofacial surgery, including digital imaging, CBCT interpretation, surgical planning, risk assessment, and AI-assisted clinical decision-making, preparing students for safe, evidence-based dental practice.

Knowledge	**A1**	Explain the principles of oral surgery, surgical anatomy, diagnosis, treatment planning, and patient assessment for common oral surgical conditions.	
	A2	Describe surgical instruments, tooth extraction techniques, wound healing, infection control, and the prevention and management of surgical complications.	**A 2**
	A3	Explain the principles of local anesthesia, pharmacology of anesthetic agents, anesthesia techniques, medical emergencies, and postoperative patient care.	**A 3**

	A4	Explain the applications of digital dentistry, Cone-Beam Computed Tomography (CBCT), and Artificial Intelligence (AI) in oral and maxillofacial surgery.
Skills	**B1**	Perform basic oral surgical procedures safely, including patient assessment, surgical instrument handling, tooth extraction techniques, and local anesthesia administration.
	B2	Interpret clinical and radiographic findings and formulate appropriate diagnosis and treatment plans for oral surgical patients.
	B3	Apply infection prevention and control measures, sterilization protocols, biosafety principles, and emergency management in oral surgery practice.
	B4	Utilize digital technologies, CBCT imaging, and AI-assisted tools for diagnosis, surgical planning, risk assessment, and evidence-based clinical decision-making.
Values	**C1**	Demonstrate professionalism, ethical responsibility, teamwork, patient safety, lifelong learning, and commitment to evidence-based oral surgery practice.
	C2	Adhere to infection prevention guidelines, biosafety regulations, ethical principles, and patient confidentiality during oral surgical procedures.
	C3	Demonstrate effective communication with patients and healthcare professionals while obtaining informed consent and delivering patient-centered care.
	C4	Appreciate the importance of continuous professional development through integrating modern technologies, including Artificial Intelligence (AI), and evidence-based advances into oral surgery practice.

11. Teaching and Learning Strategies

1.	Interactive lectures supported by multimedia presentations to explain the fundamental concepts of oral surgery, local anesthesia, surgical anatomy, and patient management.	**4.**	Small-group discussions, seminars, and student communication skills, teamwork, professionalism, and lifelong learning.
2.	Practical laboratory and clinical training focusing on surgical instruments, tooth extraction techniques, local anesthesia administration, infection control, and emergency management.	**5.**	Self-directed learning through textbooks, scientific journals, clinical guidelines, online databases, and evidence-based learning resources.

3.	Case-based learning (CBL) and problem-based learning (PBL) to develop critical thinking, diagnosis, treatment planning, and clinical decision-making skills in oral surgery.	**6.**	Integration of digital technologies and Artificial Intelligence (AI) applications, including CBCT interpretation, digital surgical planning, virtual simulation, and AI-assisted clinical decision-making in oral surgery.

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	➢ History taking • Demographic data • Chief complaint • History of present complaint • Past dental and medical history • Social and family history	**Diagnosis in oral surgery**	Interactive lecture	Quiz, class participation
2	1	➢ Examination • Extra-oral examination • Intra-oral examination ➢ Differential diagnosis ➢ Diagnosis of pain, lump, and ulcer ➢ Consent	**Diagnosis in oral surgery**	Lecture, discussion	Quiz
3	1	➢ Communicable pathogenic organisms ➢ Aseptic techniques • Terminology & concepts • AI Assist in sterilization cycles • Techniques of Instrument Sterilization; Sterilization with Heat; Sterilization with Gas • Techniques of Instrument Disinfection	**Infection Control in Surgical Practice**	Interactive lecture	Written examination
4	1	• Maintenance of Sterility • Surgical Field Maintenance • Operatory Disinfection • Surgical Staff Preparation • Postsurgical Asepsis	**Infection Control in Surgical Practice**	Lecture, case-based learning	Assignment

5	1	• Extraction of teeth (exodontia). • Definition. • Methods of extraction. • Indications of teeth extraction.	**Extraction of teeth and Contra indications of extraction**	Interactive lecture	Midterm examination
6	1	• 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	**Extraction of teeth and Contra indications of extraction**	Lecture, laboratory demonstration	Quiz
7	1	• 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.	**General arrangement for extraction and Dental forceps (types)**	Practical laboratory	Practical assessment
8	1	• 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	**General arrangement for extraction and Dental forceps (types)**	Practical demonstration	Quiz
9	1	• Soft tissue retraction. • Handling of the forceps.	**Techniques of forceps extraction and post-**	Clinical demonstration	Practical assessment

		• 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.	**operative instructions**		
10	1	• 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.	**Elevators**	Lecture, clinical demonstration	Written examination
11	1	• 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.	**Elevators**	Lecture	Quiz
12	1	• Failure to secure anesthesia. • Failure to remove the tooth with either forceps or elevator.	**Complications of dental extraction**	Lecture, case discussion	Quiz

		• 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.			
13	1	• Excessive bleeding after extraction. • Damage to the surrounding soft tissues. • Post -operative pain. • Post-operative swelling. • Creation of an oro-anrtal communication. • Trismus.	**Complications of dental extraction**	Lecture	Written examination
14	1	• 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	**Basic surgical instruments**	Case-based learning	Assignment

		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			
15	1	• Neurophysiology • Mode and site of action of local anesthetic • Active forms of local anesthetics	**Introduction to local anesthesia**	Interactive lecture	Practical assessment
16	1	• Pharmacokinetics of local anesthetics • Metabolism • Systemic actions of local anesthetics	**Pharmacology of local anesthesia**	Interactive lecture	Quiz
17	1	• Vasoconstrictors • Mode of action • Dilutions of vasoconstrictors • Specific agents	**Pharmacology of local anesthesia**	Lecture	Quiz
18	1	• Trigeminal nerve: ✓ Ophthalmic branch ✓ Maxillary branch ✓ Mandibular branch	**Surgical anatomy in local anesthesia**	Lecture	Written examination
19	1	• The Syringe • The Needle • The Cartridge	**Instruments of local anesthesia**	Practical demonstration	Quiz

		• Additional Armamentarium • Preparation of the Armamentarium			
20	1	• Osteology of the maxilla • Osteology of the mandible •AI assistance in anatomical land marks	**Surgical anatomy in local anesthesia**	Clinical demonstration	Practical assessment
21	1	• 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	**Techniques of local anesthesia**	Clinical training	Quiz
22	2	• 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	**Techniques of local anesthesia**	Practical laboratory	Practical assessment
23	1	• Supplemental injection techniques ✓ Intraosseous injection ✓ Periodontal ligament injection ✓ Intraseptal injection	**Techniques of local anesthesia**	Lecture, case discussion	Written examination

		✓ Intrapulpal injection			
24	1	• Local Complications ✓ Needle breakage ✓ Prolonged anesthesia (paresthesia) ✓ Facial nerve paralysis ✓ Ocular complications ✓ Trismus ✓ Soft tissue injury ✓ Hematoma	**Complications of local anesthesia**	Lecture, simulation	Quiz
25	1	✓ Pain on injection ✓ Burning on injection ✓ Infection ✓ Edema ✓ Sloughing of tissues ✓ Postanesthetic intraoral lesions	**Complications of local anesthesia**	Interactive lecture	Assignment
26	1	• Systemic complications ✓ Overdose ✓ Allergy	**Complications of local anesthesia**	Interactive lecture	Quiz
27	1	• Computer controlled local anesthetic delivery • Articaine hydrochloride • Local anesthesia reversal • Buffering of local anesthetic solution • Nasal local anesthetic mist for maxillary nonmolar teeth	**Advances in local anesthesia**	AI demonstration	Presentation
28	1	• Sedation techniques: Oral, sublingual, transdermal, intranasal, intramuscular, intravenous and inhalational • Nitrous oxide • Complications and medicolegal considerations	**Conscious sedation**	AI-based case study	Assignment
29	1	• Types of general anesthesia used in	**Fundamentals of general**	Seminar	Seminar evaluation

		dentistry • Advantages • Disadvantages • Indications • Contraindications	**anesthesia**		
30	1	• Overview of medical emergencies • Basic measures, equipment and drugs • AI diagnostic evolution • Common emergencies ✓ Collapse ✓ Anaphylaxis ✓ Cardiac arrest ✓ Diabetic collapse due to hypoglycemia ✓ Fits and convulsions ✓ Adrenal crisis ✓ Acute severe asthma ✓ Chest pain	**Medical emergencies during dental treatment**	Interactive lecture, seminar, AI-based case discussion	Comprehensive assessment, seminar evaluation

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13. Course Evaluation	
توزيع الدرجة من ١٠٠ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Marsh, P. D., & Martin, M. V. (2023). *Oral Microbiology* (7th ed.). Elsevier. 2. Murray, P. R., Rosenthal, K. S., & Pfaller, M. A. (2024). *Medical Microbiology* (10th ed.). Elsevier. 3. Jawetz, Melnick & Adelberg's *Medical Microbiology* (29th ed., 2024). McGraw-Hill Education.
Main References (sources)	1. Hupp, J. R., Ellis, E., & Tucker, M. R. (2024). *Contemporary Oral and Maxillofacial Surgery* (8th ed.). Elsevier. 2. Malamed, S. F. (2024). *Handbook of Local Anesthesia* (8th ed.). Elsevier. 3. Miloro, M., Ghali, G. E., Larsen, P. E., & Waite, P. D. (2023). *Peterson's Principles of Oral and Maxillofacial Surgery* (4th ed.). Springer.
Recommended Books & References (Scientific Journals, Reports …)	1- Fragiskos, F. D. (2021). *Oral Surgery*. Springer. 2- Fonseca, R. J. (2023). *Oral and Maxillofacial Surgery* (4th ed.). Elsevier. 3- Neville, B. W., Damm, D. D., Allen, C. M., & Chi, A. C. (2024). *Oral and Maxillofacial Pathology* (5th ed.). Elsevier.
Websites or Electronic References	• *Journal of Oral and Maxillofacial Surgery (JOMS)*. • *International Journal of Oral and Maxillofacial Surgery*. • *British Journal of Oral and Maxillofacial Surgery*.

	• *Journal of Cranio-Maxillofacial Surgery*. • *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. • *Journal of Dental Research*. *Clinical Oral Investigations*.
	➢ American Association of Oral and Maxillofacial Surgeons (AAOMS) ➢ World Health Organization (WHO) ➢ PubMed ➢ National Center for Biotechnology Information (NCBI) ➢ American Dental Association (ADA) ➢ National Institute for Health and Care Excellence (NICE) ➢ International Association for Dental Research (IADR) ➢ Cochrane Library 1. European Association for Cranio-Maxillo-Facial Surgery (EACMFS

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Course Description (1)

1. Course Title	**Dental radiology**
2. Course Code	**050310**
3. Semester/Year	annual
4. Description Preparation Dat	2027-2026
5. Available Attendance Form	Lectures and Laboratory
6. No. of Hours (Total)	Theory: 30 hours Practical: 60 hours
7. No. of Credits (Total)	4
8. Course Administrator Name	lecturer hamsa jamal mahdi
9. E-mail	Hamsa.jamal@albayan.edu.iq

10. Course Objectives

Knowledge		Gaining experience and information related to X-rays, radiographs, and all types of radiography equipment Developing the student's skills in the field of dealing with radiographic films, digital sensors, and means of displaying them Increasing students' knowledge of techniques for taking radiographs using films and digital sensors and Learn how to evaluate the type of photos taken, possible errors, and ways to avoid them
Skills		• Enabling the student to use x-ray machines correctly • Explain the importance of radiation protection and its risks • Enabling the student to read and diagnose radiographs of various types • Providing sufficient information about the latest types of devices and diagnostic methods in the field of oral and maxillofacial radiology • Reading radiographs • Use of devices • Possibility of protection from radiation risks • Acquiring skills in taking radiographs with their various techniques while taking preventive measures for the doctor, workers, and patients

		• Developing the skills of reading and interpreting apparent cases to reach the correct diagnosis

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11. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required educational outcomes**	**hours**	**the week**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Physics of radiation	introduction and definitions of nature of radiation, type of radiation	**1**	**1**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Production of radiation	x-ray machine, interaction of x-ray with matter composition of matter	**1**	**2**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Film imaging	types of x-ray films, processing cycle, dark room, intensifying screen	**1**	**3**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Factors controlling x-ray beam	dosimetry and invers square low	**1**	**4**
Daily examinations	**Data show**	Projection geometry	(sharpness, distortion, image	**1**	**5**

and evaluations on treatment of patients	**White board**		characterstic and artifacts)		
Daily examinations and evaluations on treatment of patients	**Data show White board**	Biological effects of radiation	direct & indirect effects, determistic and stochastic effect	**1**	**6**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Safety and Protection	source of exposure , dose limits , exposure and risk and reducing dental exposure	**1**	**7**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Intraoral projection	periapical, bitewing, and occlusal radiography	**1**	**8**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Digital radiography	strength , limitations , comparing with conventional radiography and indications	**1**	**9**
Daily examinations and evaluations	**Data show White board**	Patient's management	management of pt. Child, contrast media & localization technique	**1**	**10**

on treatment of patients					
Daily examinations and evaluations on treatment of patients	**Data show White board**	Cephalometric imaging	technique, indications, evaluation of the image	**1**	**11**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Panoramic radiography	principels, technique, positin and interpretation	**1**	**12**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Craniofacial imaging	types, indication and interpretation	**1**	**13**
Daily examinations and evaluations on treatment of patients	**Data show White board**	CBCT	principles, components, strength and limitations	**1**	**14**
Daily examinations and evaluations on treatment of patients	**Data show White board**	CBCT	clinical applications in maxillofacial region, anatomy and interpretations	**1**	**15**

Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiographic anatomy part1	teeth, supporting dentoalveolar structures, maxilla and mid facial bones	**1**	**16**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiographic anatomy part 2	teeth, supporting dentoalv structures, maxilla and mid facial bones	**1**	**17**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Advanced imaging modalities	CT, MRI AND ULTRASOUND	**1**	**18**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiography &Implantology	modalities, indications	**1**	**19**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Infection control	infection control in radiography clinic, protection of pt., protection of workers	**1**	**20**
Daily examinations and	**Data show White board**	Prescribing diagnostic imaging	radiologic examination and	**1**	**21**

evaluations on treatment of patients			guide lines for ordering imaging		
Daily examinations and evaluations on treatment of patients	**Data show White board**	Radiographical interpretations of common diseases	interpretation of dental caries, and periodontal disease	**1**	**22**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Cysts of the jaw	odontogenic and non-odontogenic cysts, AI in automated detection of jaw lesions	**1**	**23**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Dental anomalies	acquired and developmental	**1**	**24**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Inflammatory conditions of the jaws	periapical inf disease, osteomyelitis, pericoronitis	**1**	**25**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Trauma	dento alveolar trauma , dental fractures and bone fractures	**1**	**26**

Daily examinations and evaluations on treatment of patients	**Data show White board**	TMJ abnormalities	anatomy of TMJ, application, AI integration in TMJ diagnostic imaging	**1**	**27**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Salivary gland disease	imaging modalities, interpretation, AI integration in salivary gland diagnostic imaging	**1**	**28**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Craniofacial anomalies	Cleft lip and palate	**1**	**29**
Daily examinations and evaluations on treatment of patients	**Data show White board**	Computed tomography	indications, strength, limitations, Automated Segmentation and Computer-Aided Diagnosis	**1**	**30**
12. Course evaluation					
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.					

Number	Assessment measurement	
1	1st and 2nd semester 25%	theory 10% clinical 15%
2	Mid-year examination 15%	Theory 15%
3	Final examination (60%)	40% theory 20% clinical
Total		**100%**

13. Learning and teaching resources	
Required textbooks, methodology if present	**White and Pharoah's Oral radiology principles and interpretation. Sanjay Mallya and Ernest Lam. 8 th edition. 2019, Elsevier**
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities	(include for example, guest Lectures , internship , field studies)
Electronic References, Internet Sites	PubMed, Scopus, Elsevier, Google Scholar, Research Gates

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14. Course Evaluation		
1	First + second semester 25%	Theory 10% Practical 15%
2	Midyear examination 15%	Theory 15%
3	Final examination	Theory 40% Practical 20%
Total		**100%**

15. Learning & Teaching Resources	
Required textbooks, methodology if present	**White and Pharoah's Oral radiology principles and interpretation. Sanjay Mallya and Ernest Lam. 8 th edition. 2019, Elsevier**
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities	(include for example, guest Lectures , internship , field studies)
Electronic References, Internet Sites	PubMed, Scopus, Elsevier, Google Scholar, Research Gates

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Course Description (1)

1. Course Title	General Pathology
2. Course Code	**050308**
3. Semester/Year	Third Year / First and Second Semesters
4. Description Preparation Date	Academic Year 2026–2027
5. Available Attendance Form	**Full-time (In-person): Lectures, Practical Laboratory Sessions, Case-Based Learning, Seminars, and E-learning Activities**
6. No. of Hours (Total)	**120 Hours (Theory: 60 Hours; Practical: 60 Hours)**
7. No. of Credits (Total)	**6 Credits (Theory: 4 Credits; Practical: 2 Credits)**
8. Course Administrator Name	**Mays Maher Mustafa**
9. E-mail	**Mays.m@albayan.edu.iq**

Course Objective: The **General Pathology** course provides undergraduate dental students with a comprehensive understanding of the fundamental mechanisms of disease and their relevance to oral and systemic health. The course covers cellular adaptation, cell injury and death, inflammation, tissue repair, hemodynamic disorders, immunopathology, neoplasia, genetic and environmental diseases, infectious diseases, and organ system pathology. Students gain practical experience in histopathology, tissue processing, microscopic examination, immunohistochemistry, molecular pathology, and digital pathology. The course also introduces **Artificial Intelligence (AI)** applications in pathology, including AI-assisted histopathological diagnosis, digital pathology, biomarker analysis, image interpretation, and precision medicine, preparing students for evidence-based clinical practice and modern diagnostic technologies.

Knowledge	**A1**	Explain the fundamental mechanisms of disease, including cellular adaptation, cell injury, inflammation, tissue repair, hemodynamic disorders, and neoplasia.
	A2	Describe the pathology of major organ systems and explain the pathological basis of common oral and systemic diseases.
	A3	Discuss immunopathology, infectious diseases, molecular pathology, and clinicopathological correlations relevant to dentistry.
	A4	Explain the principles and applications of histopathology,

		immunohistochemistry, molecular pathology, digital pathology, and Artificial Intelligence (AI) in disease diagnosis.
Skills	**B1**	Perform basic histopathological laboratory procedures safely, including tissue handling, fixation, processing, staining, and microscopic examination.
	B2	Interpret histopathological findings and correlate microscopic changes with clinical manifestations of oral and systemic diseases.
	B3	Apply laboratory safety, quality assurance, ethical standards, and infection prevention measures during pathology laboratory practice.
	B4	Utilize digital pathology systems and AI-assisted diagnostic technologies for histopathological interpretation and evidence-based clinical decision-making.
Values	**C1**	Demonstrate professionalism, ethical responsibility, teamwork, lifelong learning, and commitment to evidence-based pathology practice.
	C2	Adhere to laboratory biosafety regulations, infection prevention guidelines, and ethical standards while handling biological specimens.
	C3	Demonstrate effective communication, collaboration, and respect for colleagues and patients during laboratory and clinical activities.
	C4	Appreciate the importance of continuous professional development by integrating emerging technologies, including Artificial Intelligence (AI), into pathology and dental practic

10. Teaching and Learning Strategies

1.	Interactive lectures supported by multimedia presentations to explain the fundamental concepts of general pathology and oral pathology.	**4.**	Small-group discussions, seminars, and student present teamwork, and critical thinking.
2.	Practical laboratory sessions focusing on tissue processing, histopathological techniques, staining methods, microscopic examination, and clinicopathological correlation.	**5.**	Self-directed learning through scientific literature, pathology atlases, digital resources, and evidence-based learning materials.
3.	Case-based learning (CBL) and problem-based learning (PBL) to develop diagnostic reasoning and clinical decision-making skills.	**6.**	Integration of digital pathology, virtual microscopy, whole-slide imaging, and Artificial Intelligence (AI) applications for histopathological diagnosis and simulation-based learning.

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11. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	2	A1, B1	Introduction to General Pathology: Concepts of Disease, Etiology, Pathogenesis and Homeostasis	Interactive lecture, multimedia presentation	Quiz, class participation
2	2	A1, B1	Cellular Adaptations, Cell Injury and Cell Death	Interactive lecture, discussion	Quiz
3	2	A1, B1	Intracellular Accumulations, Pigments and Pathological Calcification	Lecture, microscopic demonstration	Written examination
4	2	A1, B2	Acute Inflammation: Vascular and Cellular Events	Interactive lecture	Quiz
5	2	A1, B2	Chemical Mediators and Outcomes of Acute Inflammation	Lecture, case discussion	Midterm examination
6	2	A1, B2	Chronic Inflammation and Granulomatous Diseases	Lecture, discussion	Quiz
7	2	A1, B2	Tissue Repair, Wound Healing and Regeneration	Lecture	Written examination
8	2	A1, B2	Hemodynamic Disorders: Edema, Hyperemia, Congestion and Hemorrhage	Lecture	Quiz
9	2	A1, B2	Thrombosis, Embolism, Infarction and Shock	Lecture, case discussion	Written examination
10	2	A1, B2	Disorders of Growth: Atrophy, Hypertrophy, Hyperplasia and Metaplasia	Interactive lecture	Quiz
11	2	A2, B2	Neoplasia: Terminology, Classification and Characteristics of Tumors	Lecture	Quiz

12	2	A2, B2	Molecular Basis of Cancer and Carcinogenesis	Lecture	Written examination
13	2	A2, B2	Tumor Biology, Metastasis and Tumor Markers	Lecture	Quiz
14	2	A2, B2	Genetic Disorders and Developmental Abnormalities	Lecture	Assignment
15	2	A2, B2	Environmental and Nutritional Diseases	Lecture	Practical assessment
16	2	A2, B2	Diseases of the Immune System and Autoimmunity	Interactive lecture	Quiz
17	2	A2, B2	Infectious Diseases and Host–Pathogen Interaction	Lecture, case-based learning	Quiz
18	2	A2, B2	Hematologic Disorders and Anemia	Lecture	Written examination
19	2	A2, B2	Cardiovascular Pathology	Lecture	Quiz
20	2	A2, B2	Respiratory System Pathology	Lecture	Assignment
21	2	A2, B2	Gastrointestinal and Liver Pathology	Lecture	Quiz
22	2	A2, B2	Renal and Urinary System Pathology	Lecture	Quiz
23	2	A2, B2	Endocrine System Pathology	Lecture	Written examination
24	2	A2, B2	Oral Manifestations of Systemic Diseases	Lecture	Quiz
25	2	A3, B2	Oral Pathology: Developmental and Inflammatory Lesions	Lecture, discussion	Assignment
26	2	A3, B2	Oral Potentially Malignant Disorders and Oral Cancer	Lecture, case-based learning	Written examination
27	2	A4, B2	Diagnostic Pathology and Histopathological Techniques	Lecture, laboratory demonstration	Quiz
28	2	A4, B4	Artificial Intelligence in General Pathology	Interactive lecture, AI demonstration	Presentation, assignment
29	2	A4, B4	Artificial Intelligence in Diagnostic and Molecular Pathology	Interactive lecture, digital pathology	Presentation, assignment

				demonstration	
30	2	A1–A4, B1–B4, C1–C4	Review, Case Discussions and Recent Advances in General Pathology	Interactive review, seminar	Final revision, seminar evaluation

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12. Course Evaluation	
توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ	
13. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Robbins & Cotran Pathologic Basis of Disease. (2024). *Robbins & Cotran Pathologic Basis of Disease* (11th ed.). Elsevier. 2. Robbins Basic Pathology. (2024). *Robbins Basic Pathology* (11th ed.). Elsevier. 3. Oral Pathology: Clinical Pathologic Correlations. (2024). *Oral Pathology: Clinical Pathologic Correlations* (8th ed.). Elsevier.
Main References (sources)	1. Robbins & Cotran Atlas of Pathology. (2024). Elsevier. 2. Rosai and Ackerman's Surgical Pathology. (2023). Elsevier. 3. Sternberg's Diagnostic Surgical Pathology. (2023). Wolters Kluwer. 4. Color Atlas of Oral Diseases. (2023). Thieme. **5.** Burket's Oral Medicine. (2024). Wiley-Blackwell.
Recommended Books & References (Scientific Journals, Reports …)	• Modern Pathology • The American Journal of Surgical Pathology • Journal of Pathology • Oral Diseases • Journal of Oral Pathology & Medicine • Oral Oncology • Modern Pathology • Nature Reviews Cancer • CA: A Cancer Journal for Clinicians
	• World Health Organization (WHO)

Websites or Electronic References	• International Agency for Research on Cancer (IARC) • National Cancer Institute (NCI) • College of American Pathologists (CAP) • American Society for Clinical Pathology (ASCP) • National Center for Biotechnology Information (NCBI) • PubMed • Pathology Outlines • World Federation for Medical Education (WFME)

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Course Description (1)

1. Course Title	**Oral Surgery**
2. Course Code	**٠٥٠٣٠3**
3. Semester/Year	Third Year / First and Second Semesters
4. Description Preparation Date	**2026–2027 Academic Year**
5. Available Attendance Form	**Full-time (In-person): Lectures, Laboratory Sessions, Seminars, and E-learning Activities**
6. No. of Hours (Total)	**90 Hours (Theory: 30 Hours; Practical/Clinical: 60 Hours)**
7. No. of Credits (Total)	4 Credits (Theory: 2 Credits; Practical/Clinical: 2 Credits)
8. Course Administrator Name	**Assist. Prof. Dr. Mudher M. B. Al-Sunubli**
9. E-mail	**mudher.m@albayan.edu.iq**

10. Course Objective: The **Oral Surgery** course provides undergraduate dental students with comprehensive knowledge and clinical skills in the diagnosis and management of oral surgical conditions. The course covers principles of exodontia, surgical anatomy, local anesthesia, patient assessment, infection control, surgical instruments, surgical techniques, management of medically compromised patients, postoperative care, and complications of oral surgery. Students develop practical competencies through laboratory and clinical training in tooth extraction, local anesthesia techniques, surgical instrumentation, and patient management. The course also introduces modern digital technologies and **Artificial Intelligence (AI)** applications in oral and maxillofacial surgery, including digital imaging, CBCT interpretation, surgical planning, risk assessment, and AI-assisted clinical decision-making, preparing students for safe, evidence-based dental practice.

Knowledge	**A1**	Explain the principles of oral surgery, surgical anatomy, diagnosis, treatment planning, and patient assessment for common oral surgical conditions.	
	A2	Describe surgical instruments, tooth extraction techniques, wound healing, infection control, and the prevention and management of surgical complications.	**A 2**
	A3	Explain the principles of local anesthesia, pharmacology of anesthetic agents, anesthesia techniques, medical emergencies, and postoperative patient care.	**A 3**

	A4	Explain the applications of digital dentistry, Cone-Beam Computed Tomography (CBCT), and Artificial Intelligence (AI) in oral and maxillofacial surgery.
Skills	**B1**	Perform basic oral surgical procedures safely, including patient assessment, surgical instrument handling, tooth extraction techniques, and local anesthesia administration.
	B2	Interpret clinical and radiographic findings and formulate appropriate diagnosis and treatment plans for oral surgical patients.
	B3	Apply infection prevention and control measures, sterilization protocols, biosafety principles, and emergency management in oral surgery practice.
	B4	Utilize digital technologies, CBCT imaging, and AI-assisted tools for diagnosis, surgical planning, risk assessment, and evidence-based clinical decision-making.
Values	**C1**	Demonstrate professionalism, ethical responsibility, teamwork, patient safety, lifelong learning, and commitment to evidence-based oral surgery practice.
	C2	Adhere to infection prevention guidelines, biosafety regulations, ethical principles, and patient confidentiality during oral surgical procedures.
	C3	Demonstrate effective communication with patients and healthcare professionals while obtaining informed consent and delivering patient-centered care.
	C4	Appreciate the importance of continuous professional development through integrating modern technologies, including Artificial Intelligence (AI), and evidence-based advances into oral surgery practice.

11. Teaching and Learning Strategies

1.	Interactive lectures supported by multimedia presentations to explain the fundamental concepts of oral surgery, local anesthesia, surgical anatomy, and patient management.	**4.**	Small-group discussions, seminars, and student communication skills, teamwork, professionalism, and lifelong learning.
2.	Practical laboratory and clinical training focusing on surgical instruments, tooth extraction techniques, local anesthesia administration, infection control, and emergency management.	**5.**	Self-directed learning through textbooks, scientific journals, clinical guidelines, online databases, and evidence-based learning resources.

3.	Case-based learning (CBL) and problem-based learning (PBL) to develop critical thinking, diagnosis, treatment planning, and clinical decision-making skills in oral surgery.	**6.**	Integration of digital technologies and Artificial Intelligence (AI) applications, including CBCT interpretation, digital surgical planning, virtual simulation, and AI-assisted clinical decision-making in oral surgery.

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	➢ History taking • Demographic data • Chief complaint • History of present complaint • Past dental and medical history • Social and family history	**Diagnosis in oral surgery**	Interactive lecture	Quiz, class participation
2	1	➢ Examination • Extra-oral examination • Intra-oral examination ➢ Differential diagnosis ➢ Diagnosis of pain, lump, and ulcer ➢ Consent	**Diagnosis in oral surgery**	Lecture, discussion	Quiz
3	1	➢ Communicable pathogenic organisms ➢ Aseptic techniques • Terminology & concepts • AI Assist in sterilization cycles • Techniques of Instrument Sterilization; Sterilization with Heat; Sterilization with Gas • Techniques of Instrument Disinfection	**Infection Control in Surgical Practice**	Interactive lecture	Written examination
4	1	• Maintenance of Sterility • Surgical Field Maintenance • Operatory Disinfection • Surgical Staff Preparation • Postsurgical Asepsis	**Infection Control in Surgical Practice**	Lecture, case-based learning	Assignment

5	1	• Extraction of teeth (exodontia). • Definition. • Methods of extraction. • Indications of teeth extraction.	**Extraction of teeth and Contra indications of extraction**	Interactive lecture	Midterm examination
6	1	• 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	**Extraction of teeth and Contra indications of extraction**	Lecture, laboratory demonstration	Quiz
7	1	• 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.	**General arrangement for extraction and Dental forceps (types)**	Practical laboratory	Practical assessment
8	1	• 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	**General arrangement for extraction and Dental forceps (types)**	Practical demonstration	Quiz
9	1	• Soft tissue retraction. • Handling of the forceps.	**Techniques of forceps extraction and post-**	Clinical demonstration	Practical assessment

		• 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.	**operative instructions**		
10	1	• 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.	**Elevators**	Lecture, clinical demonstration	Written examination
11	1	• 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.	**Elevators**	Lecture	Quiz
12	1	• Failure to secure anesthesia. • Failure to remove the tooth with either forceps or elevator.	**Complications of dental extraction**	Lecture, case discussion	Quiz

		• 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.			
13	1	• Excessive bleeding after extraction. • Damage to the surrounding soft tissues. • Post -operative pain. • Post-operative swelling. • Creation of an oro-anrtal communication. • Trismus.	**Complications of dental extraction**	Lecture	Written examination
14	1	• 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	**Basic surgical instruments**	Case-based learning	Assignment

		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			
15	1	• Neurophysiology • Mode and site of action of local anesthetic • Active forms of local anesthetics	**Introduction to local anesthesia**	Interactive lecture	Practical assessment
16	1	• Pharmacokinetics of local anesthetics • Metabolism • Systemic actions of local anesthetics	**Pharmacology of local anesthesia**	Interactive lecture	Quiz
17	1	• Vasoconstrictors • Mode of action • Dilutions of vasoconstrictors • Specific agents	**Pharmacology of local anesthesia**	Lecture	Quiz
18	1	• Trigeminal nerve: ✓ Ophthalmic branch ✓ Maxillary branch ✓ Mandibular branch	**Surgical anatomy in local anesthesia**	Lecture	Written examination
19	1	• The Syringe • The Needle • The Cartridge	**Instruments of local anesthesia**	Practical demonstration	Quiz

		• Additional Armamentarium • Preparation of the Armamentarium			
20	1	• Osteology of the maxilla • Osteology of the mandible •AI assistance in anatomical land marks	**Surgical anatomy in local anesthesia**	Clinical demonstration	Practical assessment
21	1	• 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	**Techniques of local anesthesia**	Clinical training	Quiz
22	2	• 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	**Techniques of local anesthesia**	Practical laboratory	Practical assessment
23	1	• Supplemental injection techniques ✓ Intraosseous injection ✓ Periodontal ligament injection ✓ Intraseptal injection	**Techniques of local anesthesia**	Lecture, case discussion	Written examination

		✓ Intrapulpal injection			
24	1	• Local Complications ✓ Needle breakage ✓ Prolonged anesthesia (paresthesia) ✓ Facial nerve paralysis ✓ Ocular complications ✓ Trismus ✓ Soft tissue injury ✓ Hematoma	**Complications of local anesthesia**	Lecture, simulation	Quiz
25	1	✓ Pain on injection ✓ Burning on injection ✓ Infection ✓ Edema ✓ Sloughing of tissues ✓ Postanesthetic intraoral lesions	**Complications of local anesthesia**	Interactive lecture	Assignment
26	1	• Systemic complications ✓ Overdose ✓ Allergy	**Complications of local anesthesia**	Interactive lecture	Quiz
27	1	• Computer controlled local anesthetic delivery • Articaine hydrochloride • Local anesthesia reversal • Buffering of local anesthetic solution • Nasal local anesthetic mist for maxillary nonmolar teeth	**Advances in local anesthesia**	AI demonstration	Presentation
28	1	• Sedation techniques: Oral, sublingual, transdermal, intranasal, intramuscular, intravenous and inhalational • Nitrous oxide • Complications and medicolegal considerations	**Conscious sedation**	AI-based case study	Assignment
29	1	• Types of general anesthesia used in	**Fundamentals of general**	Seminar	Seminar evaluation

		dentistry • Advantages • Disadvantages • Indications • Contraindications	**anesthesia**		
30	1	• Overview of medical emergencies • Basic measures, equipment and drugs • AI diagnostic evolution • Common emergencies ✓ Collapse ✓ Anaphylaxis ✓ Cardiac arrest ✓ Diabetic collapse due to hypoglycemia ✓ Fits and convulsions ✓ Adrenal crisis ✓ Acute severe asthma ✓ Chest pain	**Medical emergencies during dental treatment**	Interactive lecture, seminar, AI-based case discussion	Comprehensive assessment, seminar evaluation

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13. Course Evaluation	
توزيع الدرجة من ١٠٠ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Marsh, P. D., & Martin, M. V. (2023). *Oral Microbiology* (7th ed.). Elsevier. 2. Murray, P. R., Rosenthal, K. S., & Pfaller, M. A. (2024). *Medical Microbiology* (10th ed.). Elsevier. 3. Jawetz, Melnick & Adelberg's *Medical Microbiology* (29th ed., 2024). McGraw-Hill Education.
Main References (sources)	1. Hupp, J. R., Ellis, E., & Tucker, M. R. (2024). *Contemporary Oral and Maxillofacial Surgery* (8th ed.). Elsevier. 2. Malamed, S. F. (2024). *Handbook of Local Anesthesia* (8th ed.). Elsevier. 3. Miloro, M., Ghali, G. E., Larsen, P. E., & Waite, P. D. (2023). *Peterson's Principles of Oral and Maxillofacial Surgery* (4th ed.). Springer.
Recommended Books & References (Scientific Journals, Reports …)	1- Fragiskos, F. D. (2021). *Oral Surgery*. Springer. 2- Fonseca, R. J. (2023). *Oral and Maxillofacial Surgery* (4th ed.). Elsevier. 3- Neville, B. W., Damm, D. D., Allen, C. M., & Chi, A. C. (2024). *Oral and Maxillofacial Pathology* (5th ed.). Elsevier.
Websites or Electronic References	• *Journal of Oral and Maxillofacial Surgery (JOMS)*. • *International Journal of Oral and Maxillofacial Surgery*. • *British Journal of Oral and Maxillofacial Surgery*.

	• *Journal of Cranio-Maxillofacial Surgery*. • *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. • *Journal of Dental Research*. *Clinical Oral Investigations*.
	➢ American Association of Oral and Maxillofacial Surgeons (AAOMS) ➢ World Health Organization (WHO) ➢ PubMed ➢ National Center for Biotechnology Information (NCBI) ➢ American Dental Association (ADA) ➢ National Institute for Health and Care Excellence (NICE) ➢ International Association for Dental Research (IADR) ➢ Cochrane Library 1. European Association for Cranio-Maxillo-Facial Surgery (EACMFS

1. Course Title	Oral surgery/5th
2. Course Code	050503
3. Semester/Year	year
4. Description Preparation Date	2026/7/25
5. Available Attendance Form	Theory and clinical
6. No. of Hours (Total)	30 hours theoretical +180 hours clinical / year
7. No. of Credits (Total)	8
8. Course Administrator Name	Dr. Omar Bakr Hazm
9. E-mail	Omar.bakr@albayan.edu.iq

10. Course Objectives		
Knowledge	A1	Acquisition of experience and information to aid in identifying diseases and understanding their causes.
	A2	Development of communication skills with patients in a scientific manner enhance patient confidence in the student.
	A3	Conducting a comprehensive oral examination to detect any conditions unknown to the patient and directing them towards the risks of certain conditions.
	A4	Graduate students with knowledge about the multiple treatment options and choosing the best for the patient
Skills	B1	Acquiring skills in conducting necessary clinical examinations for early detection of oral cancer.

	B2	Developing communication skills with patients and managing complications resulting from surgical procedures
	B3	Recognizing methods for managing diseases accompanying surgical patients such as hypertension and diabetes.
	B4	Make the graduates able to deal with surgical complications
Values	**C1**	Encouraging students through expressive and thoughtful expression, quick communication, and response.
	C2	Encouraging problem-solving and cultivating distinctive thinking.
	C3	Engaging students in interactive lectures and brainstorming sessions.
	C4	Equipping students to examine, diagnose, and treat patients.

11. Teaching and Learning Strategies

1.	Lectures using data show and power point	4.	E-learning
2.	Educational films	5.	Blackboards
3.	Display screens	6.	Student discussion groups.

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12. The Structure of the Course

Week	Hours	Topic/Subject Name	RLOs	Learning Method	Evaluation Method
1	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.	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
2	1	**Preliminary management of patients with facial fractures**	• Etiology of maxillofacial trauma • Primary survey and advanced trauma life support (ATLS) Secondary survey.	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
3	1	**Fractures of the mandible**	• Classification • Clinical features • Imaging • Treatment; closed treatment, methods of immobilization, period of treatment, open	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			reduction and internal fixation (ORIF) • Teeth in the fracture line • Complications		
4	1	**Fractures of the mandible**	Mandibular fractures that require special consideration: • Pediatric fractures, • Fractures of edentulous mandible • Condylar fractures • Comminuted fractures	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
5	1	**Fractures of the middle third of facial skeleton**	• Classification, clinical presentation imaging and treatment of: ✓ Le Fort fractures ✓ Zygomatic complex fractures	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
6	1	Fractures of the middle third of facial skeleton	□ Classification, clinical presentation imaging and treatment of: □ Orbital floor fractures □ Nasal bone fractures □ Complications of fractures of middle third of facial skeleton	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
7	1	**Dentoalveolar and soft tissue injuries**	• Factors affecting dentoalveolar injuries • Classification	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			• Clinical presentation • Radiographic evaluation • Treatment • Splinting techniques • Complications. • Soft tissue injures; classification, treatment and soft tissue injuries of special significance		
8	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
9	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			• Correction of abnormal ridge relationships		
10	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
11	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
12	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			• 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		
13	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			✓ Compound type ✓ Complex type • Surgical treatment of odontogenic tumors • Enucleation and/or curettage, adjunctive treatment • Resection and pre surgical digital planning		
14	1		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 □ Aneurysmal bone cyst □ Fibro-osseous lesions □ Fibrous dysplasia □ Ossifying fibroma □ Cemento-osseous dysplasia	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			□ Osteoma □ Osteosarcoma		
15	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
16	1	**Oral cancer**	• Management of the neck • Postoperative follow up • Radiotherapy, radiotherapy techniques and fractionation • Chemotherapy, agents and scheduling • Palliative treatment and terminal care	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
17	1	**Implant Treatment: Advanced Concepts**	• Immediate post-extraction implants • Immediate loading versus delayed loading • Bone grafts and graft substitutes • Sinus lift procedure	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

18	1	**Implant Treatment: Advanced Concepts**	• Inferior alveolar nerve lateralization • Narrow and short implants • Image-guided implantology • Computer-Assisted Implant Surgery and surgical guide • Special implants (zygomatic and extra-oral implants)	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
19	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			sialadenitis and Bacterial sialadenitis , □ Obstructive conditions□ □ Functional conditions: Xerostomia, Sialorrhea□ □ Conditions of possible traumatic origin: Mucocele, Ranula□		
20	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
21	1	**Temporomandibular joint (TMJ) disorders**	• TMJ anatomy • Evaluation and Radiographic examination of the TMJ • Disorders of the TMJ: • Structural (internal derangement)	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			• Wilkes classification of internal derangement • Functional (myofascial pain) • Management: non-surgical, minimally invasive (arthocentesis and arthroscopy) and surgery		
22	1	**Temporomandibular joint (TMJ) disorders**	• Hypermobility of TMJ • Hypomobility of TMJ: • Classification of TMJ ankyloses • Treatment	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
23	1	**Orthognathic surgery**	• Definition • Treatment objectives • Clinical examination (facial evaluation in frontal and profile views) • Radiographic evaluation (Lateral cephalometric analysis), classical and digital evaluation • Pre-surgical Orthodontic Considerations • Treatment Timing	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
24	1	**Orthognathic surgery**	• Mock surgery and fabrication of splints and presurgical digital simulation • Surgical treatment phase (mandibular excess, mandibular deficiency, maxillary excess, Maxillary and Midface Deficiency)	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			• Distraction osteogenesis		
25	1	**Cleft lip and palate**	□ Epidemiology □ Etiology □ Classification □ Prenatal diagnosis □ Clinical manifestations □ Management; presurgical orthopedics, primary operative management, treatment planning and timing, surgical procedures of cleft lip	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
26	1	**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.	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
27	1	**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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			• Cryosurgery techniques • Uses of cryosurgery • The advantages of using cryosurgery • The disadvantages of using cryosurgery		
28	1	**Vascular anomalies**	• Classification (according to ISSVA 2018) ➢ Hemangioma • Clinical presentation and staging • Investigations • Treatment ✓ In the proliferative phase ✓ In the evolutive 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	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams
29	1	**Principles of reconstructive surgery of defects of the jaws**	□ Goals of reconstruction □ Biologic basis of bone reconstruction □ Types of grafts (autogenous, allogeneic,	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			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	1	**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,	Theoretical lecture using PowerPoint	The short, midterm, semester, and final exams

			Submental Flap, Vascularized Iliac Crest Grafts		

13. Course Evaluation

Distribution of the score out of 100 according to the tasks assigned to the student, such as daily preparation, daily exams, oral, monthly, written and records.

Theory %10 Clinical %15	1st semester + 2ed semester
Theory %15	Mid year exam
Theory %40 Clinical %20	Final exam
Theory **%65** Clinical **%35**	**100%**

14. Learning & Teaching Resources

Required textbooks (curricular if any)	• Contemporary Oral and Maxillofacial Surgery 7th Edition - September 27, 2018 Authors: James R. Hupp, Myron R. Tucker, Edward Ellis • Misch's Contemporary Implant Dentistry 4th Edition - October 1, 2019 Author: Randolph Resnik
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports …)	
Websites or Electronic References	

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Course Description (1)

1. Course Title	periodontics/ fifth grade
2. Course Code	050507
3. Semester/Year	**2027-2026**
4. Description Preparation Date	**9/7/2026**
5. Available Attendance Form	lectures, clinics
6. No. of Hours (Total)	30 hrs theoretical, 90 hrs clinical 4.5 units
7. No. of Credits (Total)	**4.5**
8. Course Administrator Name	Manar Ibrahim Ahmed
9. E-mail	manar.i@albayan.edu.iq

10. Course Objectives

Knowledge	A1	Gaining experience and information that will help him identify the disease and know its causes -
	A2	Developing motivational interviewing skills to encourage patients to take preventive measures.
	A3	Increasing the student's knowledge of methods for examining teeth and detecting ca and gingivitis, based on factors such as oral hygiene and habits
	A4	,Learn how to assess patients' risks of dental diseases, including dietary diseases tobacco use, and chronic diseases
Skills	B1	Motivating the student through the style of expression,thinking, and speed of communication and response
	B2	Urging the student to solve problems and possess distinctive thinking
	B3	The lecture depends on student interaction and brainstorming
	B4	Qualifying students to examine, diagnose and treat patients
Values	C1	Acquiring skills in conducting clinical examinations for early detection of periodontal diseases
	C2	Developing motivational interviewing skills to encourage patients to take preventive measures.

	C3	dentify the indicators and techniques for applying gum disease treatments and theI .correct methods for using chemical and mechanical prevention methods
	C4	Qualifying students to examine, diagnose and treat patientst

11. Teaching and Learning Strategies

1.	Lectures using data show and power point	**4.**	E-learning
2.	Educational films	**5.**	Blackboards
3.	Display screens	**6.**	.Student discussion groups

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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	Learn how to examine, manage and diagnose the cases. - Overall appraisal of the patient - Medical history - Dental history : - Photographic documentation - Clinical Examination - Probing force and angulation - Periodontal examination : - Radiographic examination - Laboratory aids clinical diagnosis -Artificial Intelligence in Periodontal Diagnosis	Periodontal examination and diagnosis	Datashow &whiteboard	Quiz
2	1	Learn about the mechanisms, outcomes of bone loss - Bone destruction caused by the extension of gingi inflammation - Bone destruction caused by trauma from occlusion - Bone destruction caused by systemic disorders - Factors determining bone morphology in periodontal diseas - Bone destruction patterns in periodontal disease:	Bone loss and pattern of bone destruction	Data show &whiteboard	Quiz
3	1	Learn about the new and modern radio graphical modalities of diagnosis: -Normal interdental bone - Radiographic techniques - Bone Loss : - Radiographic appearance of periodontal disease -Digital intraoral radiography -Artificial Intelligence in Periodontal Radiographic Diagnosis	Radiographic aids in the diagnosis periodontal diseases	Data show &whiteboard	Oral quiz

4	1	Learn about the new and advanced methods of diagnosis: -Advances in periodontal probing - Generations of periodontal probes - Advances in microbiologic/biochemical analyses - Advances in characterizing host response - Advanced Imaging Modalities -Cone Beam Computed Tomography (CBCT) and Artificial Intelligence (AI) in Periodontal Diagnosis	Advanced diagnosis	Data show &whiteboard	Quiz
5	1	Learn about the external forces, traumatic occlusion and the outcomes - Assessment of occlusion - Adaptive capacity of the periodontium to occlusal forces - Trauma from occlusion - Stages of tissue response to trauma from occlusion -Relationship between plaque-induced periodontal diseases and trauma from occlusion - Clinical and radiographic signs of trauma from occlusion - Pathologic tooth migration: o Pathogenesis -treatment -Digital Occlusal Analysis in the Diagnosis of Trauma from Occlusion	Periodontal response to external forces	Data show &whiteboard	Quiz
6	1	Learn the immune system, parts, reactions with periodontal tissues o Components of innate immunity: o Cells of innate immunity -Trained Immunity in Periodontitis	Immunology (Innate immunity)	Data show &whiteboard	Home work
7	1	Learn the immune system, parts, reactions with periodontal tissue - Adaptive immunity -The humoral response to plaque -Osteo-immunology in periodontal diseases	Immunology (Adaptive immunity)	Data show &whiteboard	Home work

		- Therapeutic Strategy			
8	1	Learn about the causes, management and prevention of tooth mobility - Introduction - Types: - Digital Assessment of Tooth Mobility - Directions of movement - Factors influencing tooth mobility - Classification of tooth mobility - Initial & secondary tooth mobility - Sign & symptoms - Treatment	Tooth mobility	Data show &whiteboard	Quiz
9	1	Learn about the types, uses and benefits of epidemiological studies - Introduction - Measuring the occurrence of conditions or diseases - Typical measurement of periodontal disease - True and surrogate measures of the periodontal condition - Epidemiologic study designs - Suspected modifiable causative factors for periodontal disease	Epidemiology of periodontal diseases	Data show &whiteboard	Report
10	1	Learn about the prognosis of periodontal treatment - Definitions - Types of prognosis - Overall versus individual tooth prognosis - Detrimental factors -Patient compliance -Systemic and environmental factors	Determination of prognosis	Data show &whiteboard	Quiz
11	1	Learn about the relationship of periodontology with various aspects of dentistry -Restorative interrelationships	Interrelationships of periodontal diseases with other aspects of dentistry	Data show &whiteboard	Quiz

		- Biologic considerations - Aesthetic tissue management –orthodontic interaction - Orthodontic tooth movement in adults with periodontal tissue breakdown - Orthodontic treatment considerations - Periodontal surgery associated with ortho therapy Prosthodontic and Periodontic interaction -Precision Periodontology: The Future of Interdisciplinary Dental Care			
12	1	Learn about the indication, contra indication and the guidelines of periodontal surgery –General principles - Rationale for periodontal surgery - Fundamentals of periodontal surgery: - Papilla management - Flap elevation	General Principles of Periodontal Surgery	Data show short movie	Discussion group
13	1	Learn about the indication, contra indication , advantages and disadvantages and the procedure of gingivectomy - Gingivectomy –Surgical procedure - Gingivoplasty - Gingival curettage - Periodontal dressings (Periodontal Packs) - Postoperative instructions - Management of postoperative pain	Gingivectomy and local excision	Data show short movie	Discussion group
14	1	Learn about the indication, contra indication , advantages and disadvantages and the procedure of flap surgery - Objectives, indication, and contraindications -Digital Surgical Planning in Periodontal Flap Surgery - Flap techniques - Full and partial thickness flap	Flap surgery	Data show short movie	Discussion group

		- Osteoplasty - Suturing techniques			
15	1	Learn about the indication, contra indication , advantages and disadvantages and the procedure of mucogingival surgery - Objectives - Techniques to increase attached gingiva: - Techniques to deepen the vestibule - Techniques to remove the frenum - Techniques to improve aesthetics - Therapy to correct excessive gingival display -Minimally Invasive Tunnel Technique in Mucogingival Surgery	Mucogingival and aesthetic surgery	Data show short movie	Discussion group
16	1	Learn about the causes, diagnosis, classification and the treatment of furcation involvement -Introduction - Anatomy of furcation area: o Root complex o Root trunk - Local anatomic factors - Classification of furcation involvement - Diagnosis - Differential diagnosis - Treatment -Biologic Agents in Furcation Regeneration – Prognosis	Furcation involvement and treatment	Data show short movie	Discussion group
17	1	Learn about the advantages, disadvantages and the principles of laser therapy in periodontics –laser physics and biologic interactions - Laser Types - Laser applications in periodontics - Advantages and disadvantages - Complications and risks of laser therapy	Laser therapy	Data show &whiteboard	Quiz

18	1	Learn about the advantages, disadvantages and the principles locally delivered controlled- release antimicrobial of in periodontics - Objectives - Types - Rationale for local delivery and controlled release - Clinical significance - Clinical indications - Adverse effect. Nanotechnology-Based Local Drug Delivery in Periodontics	Locally delivered controlled- release antimicrobials	Data show &whiteboard	Quiz
19	1	Learn about the diagnosis of patient's systemic diseases and the steps of dental management - Cardiovascular diseases - Renal disease - Chemotherapy	Management of medically compromised patients-part 1	Data show &whiteboard	Quiz
20	1	Learn about the diagnosis of patients systemic diseases and the steps of dental management - Endocrine/metabolic disorders - Pregnancy - Hemorrhagic disorders - Blood dyscrasias - Liver diseases - Neurologic Disorders - Infectious diseases –Dental Management of Patients with COVID-19 and Post-COVID Conditions	Management of medically compromised patients-part 2	Data show &whiteboard	Quiz
21	1	Learn about the indication, contraindication, advantages, disadvantages and how to use the sonic and ultrasonic instruments –Power-driven instruments: overview - Mechanism of action of power scalers - Type of power instruments	Sonic and ultrasonic instrumentation and irrigation	Data show &whiteboard	Quiz

		- Mechanized instruments vs manual instruments - Clinical outcomes of power-driven instruments - Power-driven devices and COVID-19- associated limitations - Irrigators			
22	1	Learn about the advantages, disadvantages and the role of GCF in the maintenance of periodontal health -Introduction - Permeability of junctional and sulcular epithelia - Function - Amount - Composition - Methods of collection - Cellular and humoral activity in GCF - Clinical significance - Drugs in GCF - GCF as a diagnostic/prognostic tool for periodontal disease	Gingival crevicular fluid	Data show &whiteboard	Quiz
23	1	Learn how to diagnose, prevent and manage the DH Introduction - Epidemiology - Etiology - Theories of dentin hypersensitivity - Diagnosis - Measurement methods - Prevention and management -Biomimetic Remineralization in the Management of Dentin Hypersensitivity	Dentin hypersensitivity	Data show &whiteboard	Quiz
24	1	Learn about the healing process and the regeneration in physiological and pathological conditions, the principles of good regeneration techniques -Periodontal Wound Healing - Phases of wound healing - Factors that affect healing	Tissue regeneration (general principles)	Data show short movie	Quiz

		- Periodontal wound healing			
25	1	Learn about the indication, contraindication, advantages, disadvantages and the principles of tissue regeneration - Regenerative capacity of bone cells - Regenerative capacity of gingival connective tissue cells - Regenerative capacity of periodontal tissues. -Cell-Free Regenerative Therapy in Periodontology	Regenerative periodontal therapy	Data show short movie	Quiz
26	1	Learn the types of reconstructive procedures and the techniques -Non- bone graft associated new attachment -Types of bone graft - Guided tissue regeneration	Reconstructive surgical technique	Data show short movie	Quiz
27	1	Discussed the advanced methods to attain attachment gain and regeneration -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	Advanced regenerative approaches	Data show short movie	Quiz
28	1	An introduction to the dental implant indication, contra indication and the principles of it. -Peri-implant anatomy and Peri-implant diseases classification -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	Oral implantology part-1	Data show &whiteboard	Quiz

		- Peri-implant health - Peri-implant mucositis - Peri-implantitis			
29	1	Discussed the implant dental tissues interface and the type of connection -Implant-related complications and failure - Definitions of implant survival and success - Types and prevalence of implant complications - Surgical complications - Biologic Complications - Prosthetic or mechanical complications - Aesthetic and phonetic complications	Oral implantology part-2	Data show &whiteboad	Quiz
30	1	-Supportive implant treatment - Rationale for supportive implant treatment - Examination of implants - Assessment of peri-implant health - Implant maintenance - Treatment of peri-implant diseases - Referral of patients to the periodontist - Artificial Intelligence in Peri-Implant Disease Diagnosis and Risk Prediction	Oral implantology part-3	Data show &whiteboard	Quiz

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13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

1st and 2nd semester 25%	Theoretical 10% Clinical 15%
Mid year exam	Theoretical 15%
Final exam	Theoretical 40% Clinical 20%
100%	**Theoretical 65%** **Clinical 35%**

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Carranza's Clinical Periodontology
Main References (sources)	1- lindhe 2015 2- Newman, M.G., Takei, H.H., Klokkevold, P.R. and Kornman, K.S. (2024). *Carranza's Clinical Periodontology*. 14th ed. Elsevier. 3-Patil, S., Albogami, S., Hosmani, J., et al. (2023). **Efficacy of artificial intelligence in the detection of periodontal bone loss and classification of periodontal diseases: A systematic review.** *Journal of the American Dental Association (JADA)*, 154(9), pp.795–804.e1. 4- Khubrani, Y.H., et al. (2025). **Deep learning for detecting periodontal bone loss on dental radiographs: A systematic review employing APPRAISE-AI and meta-analysis.** *Dentomaxillofacial Radiology*, 54(2). 5- Khubrani, Y.H., et al. (2025). Deep learning for detecting periodontal bone loss on dental radiographs: A systematic review employing APPRAISE-AI and meta-analysis. *Dentomaxillofacial Radiology*, 54(2). 6- European Federation of Periodontology (EFP). (2020). *S3-Level Clinical Practice Guideline for the Treatment of Stage I–III Periodontitis*. *Journal of Clinical Periodontology*, 47(S22), S4–S60. 7- Walter, C., Schmidt, J.C., Dula, K. and Sculean, A. (2020). Cone Beam Computed Tomography (CBCT) for diagnosis and treatment planning in periodontology: A systematic review. *Journal of Clinical.* 8-Zhang, P., et al. (2023). **Roles of trained immunity in the pathogenesis of periodontitis.** *Journal of Leukocyte Biology*, 114(2), pp. 201–214.

9-Wu, Q., et al. (2024). **The common role of innate immune cells, underlying mechanisms and potential treatment targets in periodontitis and associated inflammatory diseases.** *Pharmacological Research*, 204, 107180.

10-López-Valverde, N., et al. (2024). **Inflammation and immune response in the development of periodontitis: an updated review.** *Frontiers in Cellular and Infection Microbiology*, 14.

11- Chang, T.H., Alshatti, R. and Mordini, L. (2024). **Coronally Advanced Flap versus Tunnel on the Treatment of Gingival Recession and Peri-implant Mucosal Defects: A Review of Current Clinical Indications.** *Dentistry Review*.
12- George, A.R. (2025). **Evolution of Tunneling Techniques in Periodontics.** *Gingival, Tissue and Mucogingival Surgery*.

13- Aroca, S. (2025). **Coronally Advanced Flap versus Tunnel Approach.** *Journal of Clinical Periodontology*.

14-Dipalma, G., et al. (2025). **The Precision Paradigm in Periodontology: A Multilevel Approach to Personalized Oral Healthcare.** *Journal of Personalized Medicine*, 15.

15-Gundelly, M., et al. (2024). **Precision Medicine in Periodontics: A Literature Review.** *Cureus*, 16.

16- Schwendicke, F., Krois, J. and Garcia-Godoy, F. (2022). **Precision dentistry—what it is, where it fails (yet), and how to get there.** *Clinical Oral Investigations*, 26, pp.3395–3403.

17- Najeeb, S., Zafar, M.S., Khurshid, Z. and Siddiqui, F. (2016). Applications of artificial intelligence in clinical dentistry. Journal of Taibah University Medical Sciences, 11(6), .pp.499–505

18-Schwendicke, F., Samek, W. and Krois, J. (2020). Artificial Intelligence in Dentistry: Chances and Challenges**.** *Journ*

19-Cortellini, P., Tonetti, M.S., Jepsen, S., et al. (2020). **European Federation of Periodontology (EFP) S3 Level Clinical Practice Guideline for the treatment of Stage I–III periodontitis.** *Journal of Clinical Periodontology*, 47(S22), S1–S60.

20-Jepsen, S., Caton, J.G., Albandar, J.M., et al. (2018). **Periodontal manifestations of systemic diseases and developmental and acquired conditions: Consensus report of Workgroup 3 of the 2017 World Workshop.** *Journal of Periodontology*, 89(Suppl. 1), S237–S248.

21-Reynolds, M.A. (2023). **Periodontal regeneration – current status and future perspectives.** *Periodontology 2000*, 92(1), 8–31. *al of Dental Research*, 99(7), pp.769–774.

22-Busnelli, A., et al. (2024). **Nanotechnology in Periodontal Drug Delivery: Current Perspectives and Future Directions.** *Pharmaceutics*, 16(3), Article 356.

23-Ranjan, R., et al. (2023). **Advanced Local Drug Delivery Systems for Periodontal Therapy: A Review.** *International Journal of Molecular Sciences*, 24, 11641.

24-Slots, J. (2024). **Local antimicrobial therapy in periodontics: Current evidence and future perspectives.** *Periodontology 2000*, 96(1), 146–163.

25- Alkurdi, K., et al. (2024). **Critical Evaluation of Global Infection Prevention and Control Guidelines for Oral Health Care: A Systematic Review.** *Healthcare*.
26- Granger, C., Twigg, J., Whiston, S., Grant, S. and Serban, S. (2024). **COVID-19 Case Management in Primary Dental Care Settings.** *British Dental Journal*.

27- **Infection Prevention and Control – National Quality Standards for Dental Practice (Updated 2024).**

28-Ayres, A.P., Teixeira-Neto, A. and Cortes, A.R.G. (2022). **Digital Workflow in Periodontology.** In: *Digital Dentistry: A Clinical Guide*. Wiley.

29- Deliberador, T.M., Weiss, S.G., Neto, A.T., et al. (2020). **Guided Periodontal Surgery: Association of Digital Workflow and Piezosurgery for the Correction of a Gummy Smile.** *Case Reports in Dentistry*, 2020, Article ID 4064023.

30-European Federation of Periodontology (EFP): Innovations – The 3D Periodontist (2024). Digital treatment planning for comprehensive periodontal rehabilitation.

31-West, N.X., et al. (2024). **Dentine hypersensitivity: Mechanisms, diagnosis and management.** *Journal of Dentistry*, 145, 104987.

32-Schlueter, N., Amaechi, B.T., Bekes, K., et al. (2025). **Consensus recommendations for the diagnosis and management of dentine hypersensitivity.** *Clinical Oral Investigations*.

33- Pashley, D.H. and Tay, F.R. (updated concepts). Biomimetic remineralization of dentin. *Journal of Dentistry*.

34-Sculean, A., Stavropoulos, A., Jepsen, S., et al. (2025). **Periodontal Regeneration: Current Status and Future Perspectives.** *Periodontology 2000*, 97(1), pp. 8–35.

35-Wu, Y., et al. (2024). **Cell-Free Therapy for Periodontal Regeneration: Current Progress and Future Perspectives.** *Bioengineering*, 11(5), 435.

36-Iorio-Siciliano, V., et al. (2024). **Extracellular Vesicles and Exosomes in Periodontal Regeneration: A Systematic Review.** *Journal of Clinical Medicine*, 13(9), 2487.

	37- Bornstein, M.M., et al. (2024). **Artificial Intelligence in Implant Dentistry: Current Applications and Future Perspectives.** *Clinical Oral Implants Research*
Recommended Books & References (Scientific Journals, Reports …)	Clinical periodontology Periodontal 2000 Newman, M.G., Takei, H.H., Klokkevold, P.R. and Kornman, K.S. (2024). *Carranza's Clinical Periodontology*. 14th ed. Elsevier
Websites or Electronic References	Pubmed Google scholar

جامعة البيان

Course Description (1)

1. Course Title	Oral Medicine
2. Course Code	050502
3. Semester/Year	Annual
4. Description Preparation Date	2026-2027
5. Available Attendance Form	Weekly
6. No. of Hours (Total)	30 hours theory and 120 hours practical
7. No. of Credits (Total)	6
8. Course Administrator Name	Lecturer Alaa Mohammed Shaheed
9. E-mail	alaa.mohammed@albayan.edu.iq

10. Course Objectives

Knowledge	**A1**	Develop student information on patient interviews and take the patients history of illness and medical history.
	A2	To acquire experience and information that will help him to identify the disease and find out its causes.
	A3	Increase students knowledge of different oral tissue screening methods and identification of injury areas.
	A4	Learn how to assess the risks of oral illness for patients based on factors such as oral hygiene, dietary habits, tobacco use and chronic diseases.
Skills	**B1**	Acquiring skills in oral clinical examinations for diagnosis and treatment of various oral diseases
	B2	Identification of signs and symptoms of TMJ disorders, saliva glands and lymph nodes diseases for diagnosis and treatment.
	B3	Development of early detection skills for certain diseases with oral symptoms.
	B4	Development of early detection of oral cancer.
Values	**C1**	Professional preparation and promotion of positive behavior in public life
	C2	Scientific preparation and encouragement of students to communicate in other fields of science.
	C3	Cultural preparation and refining of the student's personality.
	C4	Employing acquired skills for the student to become a dentist capable of treating patients.

11. Teaching and Learning Strategies

1.	Lectures using Data show and power point.	4.	Electronic education
2.	Educational films	5.	Smart probes
3.	Monitors	6.	Practical application in the clinic

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The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	Overview of the field Role of oral medicine in dentistry Importance of patient history and examination	The principles of oral diagnosis Clinical examinations	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
2	1	Extra oral examination Intra oral examination	The principles of oral diagnosis Clinical examinations	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
3	1	Tests for diabetes mellitus Tests for the thyroid gland Tests for hepatitis	Laboratory investigations in dentistry	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
4	1	The Hematological investigation Evaluation of red and white blood cells Evaluation of platelets	Laboratory investigations in dentistry	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
5	1	Types of facial pain Types of headaches	Orofacial pain	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
6	1	Differential diagnosis of facial pain Management strategies	Orofacial pain	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
7	1	Anatomy review Etiological factors of the TMJ disorder	T.M.J	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
8	1	Signs and symptoms Types of TMJ disorders Diagnosis, management, and treatment	T.M.J	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
9	1	Terms description Principal Causes of oral mucosal ulceration Classification of ulcerative, vesicular and bullouse lesions	Oral ulceration and Vesiculobullous lesions	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
10	1	Etiology and Pathogenesis Oral Manifestations (Oral Findings)	Oral ulceration and Vesiculobullous lesions	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
11	1	Laboratory Findings (Diagnosis) Differential diagnosis Management and Treatment	Oral ulceration and Vesiculobullous lesions	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

12	1	Classification Characteristics and clinical significance	White & red lesions	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
13	1	Differential diagnosis Management and Treatment	White & red lesions	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
14	1	Importance of early diagnosis Screening techniques	Early detection of oral cancer	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
15	1	Continued focus on patient education and management	Early detection of oral cancer	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
16	1	Types and clinical presentations Diagnosis and treatment	Pigmented oral lesions	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
17	1	Case studies and management strategies	Pigmented oral lesions	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
18	1	Classification and clinical features Etiology and Risk Factors	Benign, Premalignant and malignant lesions of the oral cavity	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
19	1	Pathogenesis Adjunctive diagnostic aids and screening tools	Benign, Premalignant and malignant lesions of the oral cavity	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
20	1	Integration of knowledge through clinical cases Staging and grading	Benign, Premalignant and malignant lesions of the oral cavity	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
21	1	Management strategies and treatment options	Benign, Premalignant and malignant lesions of the oral cavity	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
22	1	Classification Case studies and interdisciplinary approaches	Neuromuscular disorder	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
23	1	Understanding oral manifestations Diagnosis and management	Neuromuscular disorder	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
24	1	Anatomy and histology review Diseases affecting salivary glands	Salivary gland diseases	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
25	1	Tumors affecting salivary glands Differential diagnosis and management	Salivary gland diseases	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
26	1	The immune system of the mouth Classification of autoimmune diseases	Autoimmune diseases	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
27	1	Oral manifestations of autoimmune disorders	Autoimmune diseases	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
28	1	Diagnosis and management	Autoimmune diseases	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

29	1	Types of allergic reactions and their oral implications	Oral manifestation of allergic reaction	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations
30	1	Early detection of oral potentially malignant and malignant disorders Use of clinical images and intelligent image classification techniques to support diagnosis.	AI-Assisted diagnosis of oral potentially malignant and malignant disorders	Theoretical lecture using Power Point	Quizzes, monthly, mid-year and final examinations

13. Course Evaluation	
Distributing the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily examinations, oral and written exams, monthly and semester assessments, reports, etc.	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	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. 3. Little, James W., Craig Miller, and Nelson L. Rhodus. Dental management of the medically compromised patient. 2017, Elsevier Health Sciences.
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports …)	Make periodic reports and read recent research in reputable journals
Websites or Electronic References	PubMed, Scopus, Elsevier, Google Scholar, Research Gates

جامعة البيان

Course Title	General human anatomy/(first year)
Course Code	050105
Semester/Year	Yearly
Description Preparation Date	2026 -2027
Available Attendance Form	Lectures & Labs
No. of Hours (Total)	30 hours of Theoretical + 60 hours of practical
No. of Credits (Total)	4
Course Administrator Name	Ahmed saeed hamd
E-mail	Ahmed.sae@albayan.edu.iq

Course Objectives		
Knowledge	A1	Enable students to learn about human anatomy, especially the head and neck, and focus on knowing the locations of vital structures (nerves and blood vessels) and their direct relationship in the oral and maxillofacial area and his specialization as a dentist
	A2	Preparing students practically in terms of developing the knowledge gained in human anatomy in his work as a dentist.
	A3	Acquirement full knowledge of the organs of the human body and focus on the head and neck area.
	A4	Developing the student's ability to deal with multiple means of learning.
Skills	B1	Asking orally questions to students through which the student connect the Anatomy material with each other and connect it to student specialty as a dentist.
	B2	Motivating the student through thinking and speed of response in Understanding to facilitate memorizing the material.
	B3	Thinking about solving problems and how to avoid them.

	B4	**Teaching professional ethics.**
	C1	**Developing the acquired skills of the student in order to become a dentist capable of treating patients and solving problems related to the knowledge of oral and maxillofacial anatomy to avoid their occurrence.**
Values	C2	**The theoretical lecture depends on the students' daily interaction and develops Their ability to discussion.**
	C3	**Depending the practical side, means of illustration and explanatory videos,**
	C4	**encouraging the student to connect human anatomy with his work as A dentist**

Teaching and Learning Strategies
Practical lessons on anatomical models

1.	**Theoretical lectures using slides on screens.**		
2.			
3.			

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1. The Structure of the Course					
Week	**Hours**	**Topic/Subject Name**	**RLOs**	**Learning Method**	**Evaluation Method**
1	1	Defining Introduction to Human Anatomy Descriptive Anatomic Term	Introduction to Human Anatomy Descriptive Anatomic Terms	Theoretical lecture using Dat Show	Daily Theory Quiz
2	1	Defining Basic Structures: Skin, Fasciae, Muscle, Joints, Ligamen Bursae	Basic Structures: Skin, Fasciae, Muscle, Joints, Ligament, Bursae	Theoretical lecture using Dat Show	Daily Theory Quiz
3+4	2	Defining Basic Structures: Bone, Cartilage, Blood Vessels, Lymphatic System	Basic Structures: Bone, Cartilage, Blood Vessels, Lymphatic System	Theoretical lecture using Dat Show	Daily Theory Quiz
5	1	Defining Basic Structures: Nervous System, Mucous Membranes, Serous Membranes	Basic Structures: Nervous System, Mucous Membranes, Serous Membranes	Theoretical lecture using Dat Show	Daily Theory Quiz
6+7	2	Defining Skeletal system of the body Skull :Cranial Bones	Skeletal system of the body: Skull Cranial Bones	Theoretical lecture using Dat Show	Daily Theory Quiz
8+9	2	Defining Skeletal system of the body Skull : Facial Bones	Skeletal system of the body: Skull : Facial Bones	Theoretical lecture using Dat Show	Daily Theory Quiz
10+11	2	Defining External Views of the Skull	External Views of the Skull	Theoretical lecture using Dat Show	Daily Theory Quiz

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12+13	2	Defining * The Cranial Cavity *Major Foramina and Fissures locations and structurespass through Neonatal Skull	*The Cranial Cavity *Major Foramina and Fissures locations and structurespass through Neonatal Skull	Theoretical lecture using Dat Show	Daily Theory Quiz
14+15	2	Defining Skeleton of the Orbital Region, Openings into the Orbital Cavity Skeleton of the External Nose, nasal cavity, Paranasal Sinuses *Auditory ossicles Hyoid bone	*Skeleton of the Orbital Region, Openings into the Orbital Cavity *Skeleton of the* External Nose, nasal cavity, Paranasal Sinuses *Auditory ossicles Hyoid bone	Theoretical lecture using Dat Show	Daily Theory Quiz
16+17	2	Defining The Vertebral Column	The Vertebral Column	Theoretical lecture using Dat Show	Daily Theory Quiz
18+19	2	Defining Structure of the Thoracic Wall *Joints of the Chest Wall *Suprapleural Membrane	*Structure of the Thoracic Wall *Joints of the Chest Wall *Suprapleural Membrane *Diaphragm * Surface Anatomy	Theoretical lecture using Dat Show	Daily Theory Quiz

		*Diaphragm *Surface Anatomy			
20+21	2	Defining Thoracic cavity: Mediastinum, Pleurae, Trachea , Bronchi, Lungs	Thoracic cavity: Mediastinum, Pleurae, Trachea, Bronchi, Lungs	Theoretical lecture using Dat Show	Daily Theory Quiz
22+23+24	3	Defining Pericardium, Heart, Large arteries, veins and nerves of thorax	Pericardium, Heart, Large arteries, veins and nerves of thorax	Theoretical lecture using Dat Show	Daily Theory Quiz
25+26	2	Defining *Bones of the Shoulder (Pectoral girdle) girdles *Bones of the Upper extremities	*Bones of the Shoulder (Pectoral girdle) girdles *Bones of the Upper extremities	Theoretical lecture using Dat Show	Daily Theory Quiz
27+28	2	Defining *Bones of the Pelvic girdle *Bones of the Lower extremities	*Bones of the Pelvic girdle *Bones of the Lower extremities	Theoretical lecture using Dat Show	Daily Theory Quiz
29+30	2	Defining Abdominal cavity and organs	Abdominal cavity and organs	Theoretical lecture using Dat Show	Daily Theory Quiz

2. Course Evaluation	
First semester + second semester = 25 degrees 7.5 marks (practical, attendance and oral questions) + 5 degrees of theoretical daily exams (per semester) Mid-year exam score = 15 final exam score = 60 (40 theoretical + 20 practical) Grand Total = 100%	
3. Learning & Teaching Resources	
Required textbooks (curricular if any)	-
Main References (sources)	**Snell's clinical anatomy 10th edition** **Netter's head and neck anatomy 3rd edition** **Gray's anatomy for students 4th edition** **Atlas of clinical cross anatomy 2nd edition**
Recommended Books & References (Scientific Journals, Reports …)	**Read recent research in academic publishing journals**
Websites or Electronic References	**Google scholar , research gates**

Surgery Department

1. Course Title	General surgery
2. Course Code	050408
3. Semester/Year	**year**
4. Description Preparation Date	2026 -2027
5. Available Attendance Form	**Theory**
6. No. of Hours (Total)	30 hours Theoretical
7. No. of Credits (Total)	**2**
8. Course Administrator Name	Lec.dr ahmed saeed hamd
9. E-mail	**Ahmed.sae@albayan.edu.iq**

10. Course Objectives

Knowledge	A1	The student is at an advanced level in the field of general surgery, including recognizing general surgical cases
	A2	methods of diagnosis and treatment, and their relationship with their specific field as a dentist.
	A3	They should be familiar with surgical emergencies and how to handle them.
	A4	fundamentals of general surgery.
Skills	B1	Acquiring knowledge about general surgical cases, their diagnosis, and treatment
	B2	Essential diagnostic methods
	B3	emergency case management
	B4	, surgical complications management
Values	C1	specific skills related to the topic,
	C2	including specialized diagnostic techniques,
	C3	types of laboratory tests, and radiology relevant to surgical cases.
	C4	Qualifying students to examine, diagnose and treat patientst

11. Teaching and Learning Strategies

1.	Lectures using data show and power point	4.	E-learning

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2.	Educational films	5.	Blackboards
3.	Display screens	6.	.Student discussion groups

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12. The Structure of the Course					
Week	**Hours**	**Topic/Subject Name**	**RLOs**	**Learning Method**	**Evaluation Method**
1+2	2	Metabolic response to injury	• 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	Data show &whiteboard	**Quiz**
3+4	2	Wound healing	• Introduction • Classification of wound Healing Normal sequence of wound Healing • Factors affecting healing (local & systemic) Complications of wound healing	Data show &whiteboard	**Quiz**

5+6	2	Surgical wound and infections	• 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	Data show &whiteboard	**Oral quiz**
7+8	2	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	Data show &whiteboard	**Quiz**
9+10	2	Shock	• Introduction Pathophysiology	Data show &whiteboard	**Quiz**

			• *Ischemia–reperfusion syndrome* Classification of shock Consequences • *Unresuscitatable shock Multiple organ failure* RESUSCITATION • Fluid therapy • Monitoring • End points of resuscitation		
11+12	2	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	Data show &whiteboard	**Home work**
13+14	2	Parenteral feeding	• Introduction Route of delivery Peripheral • central venous access • Complications of parenteral nutrition Refeeding syndrome	Data show &whiteboard	**Home work**
15+16	2	Fluid	• Fluid balance • Abnormalities of body water Fluid overload and oedema Abnormalities of	Data show &whiteboard	**Quiz**

			electrolytes Fluid replacement • Acid-base balance • Abnormalities of acid-base balance		
17+18	2	Fluid and electrolytes balance	• Electrolytes balance Introduction • Principles of electrolyte balance Normal homeostasis • Barriers between compartments, osmolality and electrolyte concentrations • Homeostatic mechanisms	Data show &whiteboard	**Report**
19+20	2	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	Data show &whiteboard	**Quiz**
21	1	Preoperative preparation (History Taking)	• Introduction to the Patient • History of the presenting Complaint • Relevant medical history	Data show &whiteboard	**Quiz**

			• Family history Drug therapy Social history Allergies • Common surgical symptoms • Terms used in General Surgery and History Taking		
22	1	Anasthesia and 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	Data show short movie	**Discussion group**
23+24	2	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	Data show short movie	**Discussion group**

			• Ischemic heart disease Respiratory failure SPECIFIC Strategies		
25	1	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	Data show short movie	**Discussion group**
26+27	2	GENERAL POSTOPERATIVE PROBLEMS AND MANAGEMENT	• Nausea and vomiting Bleeding • Deep vein thrombosis Hypothermia and shivering Fever • Pressure sores Drains • Wound care Wound dehiscence • DISCHARGE OF PATIENTS	Data show short movie	**Discussion group**
28	1	Day case surgery	• Definition • SELECTION CRITERIA PREOPERATIVE ASSESSMENT SURGERY	Data show short movie	**Discussion group**

			• DISCHARGE		
29	1	Surgical ethics and law	• INTRODUCTION INFORMED CONSENT • MATTERS OF LIFE AND DEATH CONFIDENTIALITY • RESEARCH	Data show short movie	Discussion group
30	1	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	Data show short movie	Discussion group

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13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

1st and 2nd semester 25%	Theoretical 10% Clinical 15%
Mid year exam	Theoretical 15%
Final exam	Theoretical 40% Clinical 20%
100%	**Theoretical 65%** **Clinical 35%**

14. Learning & Teaching Resources

Required textbooks (curricular if any)	1.Baily and Love's short practice of surgery 25th edition 2008. 2.Schwarz principles of surgery.
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports …)	New articles from journals
Websites or Electronic References	Articles from goggle scholar and pupmed

جامعة البيان

Course Description (1)

1. Course Title	periodontics/ fourth grade
2. Course Code	050404
3. Semester/Year	annual
4. Description Preparation Date	30/7/2026
5. Available Attendance Form	lectures, clinics
6. No. of Hours (Total)	30 hrs theoretical, 90 hrs clinical
7. No. of Credits (Total)	5 units
8. Course Administrator Name	Hayder Sadiq Baker
9. E-mail	Hayder.sadiq@albayan.edu.iq

10. Course Objectives

Knowledge	**A1**	Gaining experience and information that will help him identify the disease a know its causes
	A2	Developing motivational interviewing skills to encourage patients to ta preventive measures.
	A3	Increasing the student's knowledge of methods for examining teeth a detecting caries and gingivitis, based on factors such as oral hygiene and hab
	A4	Learn how to assess patients' risks of dental diseases, including dieta diseases, tobacco use, and chronic diseases
Skills	**B1**	Acquiring skills in conducting clinical examinations for early detection periodontal diseases
	B2	Developing motivational interviewing skills to encourage patients to ta preventive measures
	B3	Identify the indicators and techniques for applying gum disease treatments a the correct methods for using chemical and mechanical prevention method
	B4	-Motivating the student through the style of expression,thinking, and speed communication and response
Values	**C1**	Professional preparation and urging the student to have positive behavior in his public life
	C2	Scientific preparation and urging the student to communicate in other fie of science
	C3	Cultural preparation and refining the student's personality

	C4	Utilizing the acquired skills so that the student becomes dentist capable treating patients

11. Teaching and Learning Strategies

1.	Lectures using data show and power point	4.	E-learnin
2.	Educational films	5.	Blackboards
3.	Display screens	6.	.Student discussion groups

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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	Learn the histological composition the periodontal tissues with scientific terms of it	Terms & definitions frequently used in periodontology	Datashow &whiteboard	**Quiz**
2	1	Students will learn the properties a the benefits of the gingival tissues a protective barrier	Gingiva	Datashow &whiteboard	**Quiz**
3	2	Students will learn the properties a the benefits of the PL as a connect part and cushion for external force	Periodontal ligament	Data sh &whiteboard	**Oral quiz**
4	1	Students will learn the properties a the benefits of the alveolar bone as invesment of the tooth root	Alveolar bone	Data show &whiteboard	**Oral quiz**
5	1	Learn about the root cement cover the roots, function and compositio	Root cementum	Data show Short movie	**Discussion groups**
6	1	Learn the causes, prevent measures and risks developing periodon diseases	Classification of periodontal diseases and conditions (2017)	Datashow &whiteboard	**Home work**
7	1	Learn about the new classification periodontal disease	Classification of periodontal diseases and conditions (2017) -Periodontitis	Datashow & whiteboard	**Quis**
8	1	Learn about the periodontal absc and its treatment1	Other conditions affecting the periodontium -Periodontal abscess:	Datashow &whiteboard	**Quis**
9	1	Learn about the types of periodon diseases, causes and its mechanism	Pathogenesis of periodontal disease	Datashow &whiteboard	**Report**

10	**1**	Learn the composition of bacte dental plaque, method of formati virulence factors and prevent measures	Dental plaque biofilm and periodontal microbiology	Datashow &whiteboard	**Home work**
11	**1**	Learn the the hypothesiese of plac	Microbiologic specificity of periodontal diseases	Data show	**Quis1**
12	**1**	Learn the composition of denta calculus, method of formation an preventive measures	Dental calculus	Data show & whiteboad	**Report**
13	**1**	Causes of dental stain and its treatmen	Dental stain	Data show &whiteboard	**Quiz**
14	**1**	Learn about the the systemic fact that cause periodontal disease	Systemic risk factors	Datashow &whiteboard	**Quiz**
15	**1**	Student must will learn the relat between cell and microbe	Etiology of periodontal disease molec biolog	Datashow &whiteboard	**Quiz**
16	**1**	The relation between smoking and risk on periodontal disease	Smoking and periodontal diseses	Datashow &whiteboard	**quis**
17	**1**	Student will learn about the impac periodontal diseses on general hea	Impact of periodontal infection on systemic health	Datashow &whiteboard	**Quis**
18	**1**	Effect of ashmatic patient periodontal treatment	Periodontal disease and asthma	Datashow &whiteboard	**Quis**
19	**1**	Learn about indices and its types	Periodontal indices	Datashow &whiteboard	**Quis**
20	**1**	Learn about the types of pockets its classification	Periodontal pocket	Datashow &whiteboard	**Quis**
21	**1**	Learn about the changes that oc during pockets formation at tis level	The periodontal pocket Periodontal disease activity	Datashow & whiteboard	Quis

22	**1**	Students will learn how to iden and treat various diseases of periodontium	Treatment plan guidelines - Phase 1	Datashow & whiteboard	**Home work**
23	**1**	In this phase of periodontal treatm , the students wii learn that the cur the condition is related to the remo of the causative agent	Cause related phase	Datashow & whiteboard	**Oral quis**
24	**1**	After the resolution of the disea students will learn how to reconstr the damage result from th pathogenic processes	Corrective phase	Datashow & whiteboard	**Quis**
25	**1**	After treatment, the health state m be maintained through regular foll up program	Maintenance phase	Datashow & whiteboard	**Oral quis**
26	**1**	Student will learn the types of to brush and interdental aids	Plaque biofilm control for the periodontal patient	Datashow & whiteboard	**quis**
27	**1**	Student will learn types composition of mouth washes	Chemical plaque biofilm control	Data sh &whiteboar	**quis**
28	**1**	Student will learn types instruments used in periodon branch	Periodontal instruments and sharpening	Datashow &whiteboard	**Home work**
29	**1**	Learn about the types of halito causes and treatment	halitosis	Datashow & whiteboard	**quis**
30	**1**	Types of antibiotics	Common antibiotic regimens	Datashow &whiteboard	**Discussion group**

13. Course Evaluation

1st and 2nd semester 25%	Theoretical 10% Clinical 15%
Mid year exam	Theoretical 15%
Final exam	Theoretical 40% Clinical 20%
100%	**Theoretical 65%** **Clinical 35%**

14. Learning & Teaching Resources

Required textbooks (curricular if any)	1- lindhe 2015 2-Newman_and Carranza's Clinical_Periodontology
Main References (sources)	Clinical periodontology Periodontal 2000
Recommended Books & References (Scientific Journals, Reports …)	Pubmed
Websites or Electronic References	Google scholar

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Course Description (1)

1. Course Title	General Medicine
2. Course Code	**050407**
3. Semester/Year	Fourth Year / First and Second Semesters
4. Description Preparation Date	Academic Year 2026–2027
5. Available Attendance Form	**Full-time (In-person): Lectures, Practical Laboratory Sessions, Case-Based Learning, Seminars, and E-learning Activities**
6. No. of Hours (Total)	**30 Hours (Theory)**
7. No. of Credits (Total)	**2 Credits (Theory)**
8. Course Administrator Name	**Mays Maher Mustafa**
9. E-mail	**Mays.m@albayan.edu.iq**

Course Objective: The **General Medicine** course provides undergraduate dental students with a comprehensive understanding of the diagnosis, pathophysiology, clinical manifestations, investigation, management, and prevention of common systemic diseases relevant to dental practice. The course covers endocrine, hematological, cardiovascular, gastrointestinal, renal, respiratory, immunological, neurological, psychiatric, hepatic, and metabolic disorders, with emphasis on their oral manifestations and implications for dental treatment. The course also introduces **Artificial Intelligence (AI)** applications in internal medicine, including AI-assisted diagnosis of systemic diseases, machine learning for predicting drug interactions, AI-based risk assessment for dental patients, wearable technologies for monitoring chronic diseases, and evidence-based clinical decision-making, preparing students for safe, patient-centered, and technology-enhanced dental practice..

Knowledge	**A1**	Explain the etiology, pathophysiology, clinical features, diagnosis, and management of common endocrine, hematological, cardiovascular, gastrointestinal, renal, respiratory, neurological, psychiatric, and immunological diseases relevant to dentistry.
	A2	Describe the oral manifestations and dental implications of systemic diseases and explain their impact on dental treatment planning.
	A3	Discuss pharmacological management, drug interactions, medical emergencies, and evidence-based clinical approaches in medically compromised dental patients.

	A4	Explain the principles and applications of **Artificial Intelligence (AI)**, machine learning, wearable technologies, and clinical decision-support systems in the diagnosis, monitoring, and management of systemic diseases.
Skills	**B1**	Obtain and interpret medical histories, recognize systemic conditions, and identify patients requiring medical consultation before dental treatment.
	B2	Assess medical risks, interpret relevant laboratory investigations, and apply appropriate modifications to dental treatment for medically compromised patients.
	B3	Apply safe prescribing practices, infection prevention measures, emergency management principles, and evidence-based clinical guidelines in dental practice.
	B4	Utilize AI-assisted clinical decision-support tools, predictive analytics, and digital health technologies to improve patient assessment and treatment planning.
Values	**C1**	Demonstrate professionalism, ethical responsibility, and commitment to evidence-based medical practice in dentistry.
	C2	Respect patient confidentiality, medical ethics, and safety standards while managing patients with systemic diseases.
	C3	Demonstrate effective communication and collaboration with physicians and other healthcare professionals to provide comprehensive patient care.
	C4	Appreciate the importance of lifelong learning and the responsible integration of Artificial Intelligence (AI) and emerging medical technologies into clinical dental practice.

10. Teaching and Learning Strategies

1.	**Interactive lectures** supported by multimedia presentations to explain the pathophysiology, diagnosis, and management of systemic diseases relevant to dentistry.	**4.**	**Self-directed learning** using current medical literature, clinical guidelines, digital libraries, and evidence-based educational resources.
2.	**Case-Based Learning (CBL)** and **Problem-Based Learning (PBL)** to develop diagnostic reasoning, clinical decision-making, and management of medically compromised dental patients.	**5.**	**Clinical correlation sessions** emphasizing the oral manifestations of systemic diseases, medical risk assessment, and modifications of dental treatment.

3.	**Clinical case discussions**, seminars, and student presentations to strengthen communication, teamwork, and evidence-based practice.	**6.**	**Integration of Artificial Intelligence (AI)**, machine learning, wearable health technologies, and digital clinical decision-support systems for diagnosis, risk assessment, prediction of drug interactions, and monitoring of chronic diseases in dental patients.

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11. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	1	Diabetes Mellitus 1	Classification, Pathophysiology and Diagnosis	Interactive lecture, multimedia presentation	Quiz, class participation
2	1	Diabetes Mellitus 2	Complications, Oral Manifestations and Dental Considerations	Lecture, case discussion	Quiz
3	1	White Blood Cell Disorders 1	Classification, Leukocytosis, Leukopenia and Neutrophil Disorders	Interactive lecture	Quiz
4	1	White Blood Cell Disorders 2	Lymphoid Disorders, Leukemias, Lymphomas and Clinical Manifestations	Lecture, case discussion	Written examination
5	1	Hemostasis and Bleeding Disorders 1	Normal Hemostasis, Platelet Disorders and Coagulation Disorders	Lecture	Quiz
6	1	Hemostasis and Bleeding Disorders 2	Inherited and Acquired Bleeding Disorders, Clinical Features and Dental Considerations	Lecture, case discussion	Midterm examination
7	1	Adrenal Gland Disorders 1	Adrenal Hormones, Cushing Syndrome and Hyperaldosteronism	Interactive lecture	Quiz
8	1	Adrenal Gland Disorders 2	Addison Disease, Adrenal Insufficiency, Pheochromocytoma and Dental Considerations	Lecture	Written examination
9	1	Gastrointestinal Diseases and Peptic Ulcer Disease	Gastroesophageal Disorders, Gastritis, Peptic Ulcer Disease and Clinical Manifestations	Lecture	Quiz
10	1	Intestinal Diseases and Inflammatory Bowel Disease	Malabsorption, Crohn Disease, Ulcerative Colitis and Extraintestinal Manifestations	Lecture, discussion	Quiz
11	1	Pseudomembranous	Etiology, Pathogenesis, Clinical Features,	Lecture, case	Written examination

		Colitis	Diagnosis, Treatment and Prevention	discussion	
12	1	Hypertension	Classification, Risk Factors, Pathophysiology, Clinical Features and Dental Considerations	Interactive lecture	Quiz
13	1	Infective Endocarditis	Etiology, Risk Factors, Pathogenesis, Clinical Features, Prevention and Dental Considerations	Lecture, clinical discussion	Assignment
14	1	Ischemic Heart Disease	Risk Factors, Pathogenesis, Angina Pectoris, Myocardial Infarction and Dental Considerations	Lecture	Written examination
15	1	Heart Failure	Types, Pathophysiology, Clinical Manifestations, Management and Dental Considerations	Lecture	Quiz
16	1	Cardiac Arrhythmias	Classification, Causes, Clinical Manifestations, Diagnosis and Dental Management	Lecture	Quiz
17	1	Thyroid Diseases	Hyperthyroidism, Hypothyroidism, Thyroiditis, Goiter and Dental Manifestations	Interactive lecture	Written examination
18	1	Kidney Diseases	Acute and Chronic Kidney Disease, Renal Failure, Dialysis and Dental Considerations	Lecture	Quiz
19	1	Immunologic Diseases	Hypersensitivity, Autoimmune Diseases, Immunodeficiency and Clinical Manifestations	Lecture	Quiz
20	1	Liver Diseases	Hepatitis, Cirrhosis, Liver Failure, Portal Hypertension and Dental Considerations	Lecture	Written examination
21	1	Pulmonary Diseases	Asthma, COPD, Pneumonia, Tuberculosis and Dental Considerations	Lecture	Quiz
22	1	Red Blood Cell Disorders	Anemia, Polycythemia, Hemolytic Disorders and Clinical Manifestations	Lecture	Assignment
23	1	Drug and Alcohol Abuse	Commonly Abused Substances, Systemic Effects, Oral Manifestations and Dental Considerations	Lecture	Quiz
24	1	Psychiatric Disorders	Common Psychiatric Disorders, Clinical Features, Management and Dental Considerations	Interactive lecture	Written examination
25	1	Anxiety and Eating Disorders	Anxiety Disorders, Anorexia Nervosa, Bulimia Nervosa, Clinical Manifestations and Dental	Lecture, case-based learning	Quiz

			Implications		
26	1	Neurologic Disorders	Epilepsy, Stroke, Parkinson Disease, Multiple Sclerosis and Dental Considerations	Lecture	Assignment
27	1	AI in Diagnosis of Systemic Diseases and Machine Learning for Predicting Drug Interactions	AI-Assisted Diagnosis, Machine Learning Applications, Clinical Decision Support and Prediction of Drug Interactions	Interactive lecture, AI demonstration	Presentation, assignment
28	1	AI-Based Risk Assessment for Dental Patients and Wearable Technologies for Monitoring Chronic Diseases	AI-Based Risk Prediction, Patient Monitoring, Wearable Devices, Remote Monitoring and Personalized Healthcare	Interactive lecture, case-based learning	Presentation, assignment
29	1	Ethics, Data Privacy, and Responsible Use of Artificial Intelligence in Healthcare	Patient Privacy, Data Security, Algorithmic Bias, Informed Consent, Ethical Challenges and Responsible AI	Interactive lecture, seminar	Presentation
30	1	Review, Clinical Case Discussions, and Recent Advances in General Medicine	Integrated Clinical Cases, Systemic–Oral Correlations, Recent Advances and Emerging Technologies	Interactive review, seminar	Final revision, seminar evaluation

12. Course Evaluation	
Assessment Method Daily quizzes and class participation 5% Assignments, seminars, and presentations 10% Midterm examination 15 % Final examination 70 % Total 100%	
13. Learning & Teaching Resources	
Required textbooks (curricular if any)	1. Kumar, V., Abbas, A. K., & Aster, J. C. (2024). Robbins Basic Pathology (11th ed.). Elsevier. 2. Davidson, S., et al. (2023). Davidson's Principles and Practice of Medicine (25th ed.). Elsevier. 3. Goldman, L., & Schafer, A. I. (2024). Goldman-Cecil Medicine (27th ed.). Elsevier.
Main References (sources)	1. Harrison's Principles of Internal Medicine (22nd ed.). (2024). McGraw-Hill. 2. Oxford Handbook of Clinical Medicine (11th ed.). (2024). Oxford University Press. 3. Kumar & Clark's Clinical Medicine (11th ed.). (2024). Elsevier. 4. Current Medical Diagnosis & Treatment (2025). McGraw-Hill. **5.** Burket's Oral Medicine (2024). Wiley-Blackwell.
Recommended Books & References (Scientific Journals, Reports …)	• The New England Journal of Medicine (NEJM) • The Lancet • The BMJ (British Medical Journal) • JAMA – Journal of the American Medical Association • Annals of Internal Medicine • Journal of Clinical Medicine

	• Diabetes Care • Circulation • European Heart Journal • Journal of Oral Medicine and Oral Surgery
Websites or Electronic References	➢ World Health Organization (WHO) ➢ Centers for Disease Control and Prevention (CDC) ➢ American Diabetes Association (ADA) ➢ American Heart Association (AHA) ➢ European Society of Cardiology (ESC) ➢ National Institute for Health and Care Excellence (NICE) ➢ National Center for Biotechnology Information (NCBI) ➢ PubMed ➢ Medscape ➢ UpToDate ➢ World Federation for Medical Education (WFME) ➢ American College of Physicians (ACP) ➢ American College of Cardiology (ACC) ➢ American Academy of Neurology (AAN)

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Course Description (1)

1. Course Title	Oral Pathology
2. Course Code	050406
3. Semester/Year	Fourth Year / First and Second Semesters
4. Description Preparation Date	2026–2027 Academic Year
5. Available Attendance Form	Full-time (In-person): Lectures, Laboratory Sessions, Seminars, Case-based Learning, and E-learning Activities
6. No. of Hours (Total)	120 Hours (60 Theory + 60 Laboratory)
7. No. of Credits (Total)	6 Credits (2 Theory + 2 Practical)
8. Course Administrator Name	Afrah Abdul Sahib Abbas
9. E-mail	Afrah.a@albayan.edu.iq

10. Course Objectives

Knowledge	**A1**	Explain the etiology, pathogenesis, clinical manifestations, histopathological features, and diagnosis of oral and maxillofacial diseases
	A2	Describe developmental, inflammatory, cystic, neoplastic, infectious, and immune-mediated diseases affecting the oral cavity.
	A3	Correlate microscopic and clinical findings with radiographic and laboratory investigations for accurate diagnosis.
	A4	Recognize the role of artificial intelligence (AI) and digital pathology in the diagnosis, classification, prediction, and management of oral diseases.
Skills	**B1**	Identify oral pathological lesions through clinical examination and histopathological interpretation.
	B2	Differentiate between benign, premalignant, and malignant oral lesions.
	B3	Interpret biopsy reports and integrate clinical, radiographic, and microscopic findings.
	B4	Utilize digital pathology platforms and AI-assisted diagnostic tools for oral disease assessment.
Values	**C1**	Demonstrate ethical responsibility in diagnosis and patient management.
	C2	Promote evidence-based clinical decision making.
	C3	Appreciate interdisciplinary collaboration in oral healthcare.
	C4	Commit to lifelong learning and responsible use of artificial intelligence dental practice.

11. Teaching and Learning Strategies			
1.	Interactive lectures using multimedia presentations.	**4.**	AI-assisted digital pathology demonstrations.
2.	Laboratory sessions with microscopic slide interpretation.	**5.**	Student seminars and literature review presentations.
3.	Case-based learning and problem-based discussions.	**6.**	E-learning, self-directed learning and formative online assessments.

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1	2	**Introduction to Oral Pathology and Biopsy**	Principles of oral pathology; biopsy indications; biopsy techniques; specimen handling; fixation and processing	Lecture	Quiz
2	2	**Oral Wound Healing**	Phases of wound healing; healing of oral wounds; extraction socket healing; complications of healing	Lecture	Quiz
3	2	**Dental Caries**	Acute caries; chronic caries; histopathological features; progression of dental caries	Lecture	Quiz
4	2	**Pulpal Inflammation**	Acute pulpitis; chronic pulpitis; pulp polyp; histopathological features	Lecture	Quiz
5	2	**Periapical Lesions**	Periapical granuloma; radicular cyst; periapical abscess; clinical and histopathological features	Lecture	Quiz
6	2	**Osteomyelitis of the Jaw**	Acute osteomyelitis; chronic osteomyelitis; sequestrum; clinical and histopathological features	Lecture	Quiz
7	2	**Developmental Disorders of Teeth**	Developmental anomalies; abnormalities of tooth number, size, shape and structure; clinical significance	Lecture	Quiz
8	2	**Developmental Disorders of Soft Tissue**	Developmental abnormalities of oral soft tissues; congenital lesions; clinical features	Lecture	Quiz
9	2	**Non-Odontogenic Cysts**	Classification; developmental	Lecture	Quiz

			cysts; epithelial lining; clinical and histopathological features		
10	2	**Odontogenic Cysts**	Dentigerous cyst; odontogenic keratocyst; calcifying odontogenic cyst; eruption cyst	Lecture	Quiz
11	2	**Odontogenic Tumors I**	Ameloblastoma; adenomatoid odontogenic tumor; odontoma; clinical and histopathological features	Lecture	Quiz
12	2	**Odontogenic Tumors II**	Ameloblastic fibroma; odontoma; differential diagnosis; clinical and histopathological features	Lecture	Quiz
13	2	**Oral Epithelial Lesions**	Leukoplakia; squamous cell papilloma; clinical features; histopathological characteristics	Lecture	Quiz
14	2	**Epithelial Dysplasia**	Definition; grading; histopathological features; risk of malignant transformation	Lecture	Quiz
15	2	**Oral Squamous Cell Carcinoma**	Etiology and risk factors; clinical features; histopathology; grading and staging; prognosis	Lecture	Midterm
16	2	**Fibro-Osseous Lesions**	Fibrous dysplasia; ossifying fibroma; clinical and radiographic features; histopathology	Lecture	Quiz
17	2	**Giant Cell Lesions**	Central giant cell granuloma; peripheral giant cell granuloma; clinical features; histopathology; differential diagnosis	Lecture	Quiz
18	2	**Bone Tumors**	Osteoma; osteosarcoma; clinical and radiographic features; histopathology; prognosis	Lecture	Quiz
19	2	**Oral Infections**	Viral infections; bacterial infections; fungal infections;	Lecture	Quiz

			clinical and histopathological features		
20	2	**Oral Mucocutaneous Diseases**	Lichen planus; pemphigus vulgaris; clinical manifestations; histopathology; immunopathogenesis	Lecture	Quiz
21	2	**Benign Mesenchymal Lesions**	Fibroma; pyogenic granuloma; hemangioma; lymphangioma; clinical and histopathological features	Lecture	Quiz
22	2	**Mucocele**	Etiology; types; clinical features; histopathology; differential diagnosis; treatment	Lecture	Quiz
23	2	**Salivary Gland Tumors**	Pleomorphic adenoma; mucoepidermoid carcinoma; clinical features; histopathology; prognosis	Lecture	Quiz
24	2	**Oral Physical and Chemical Injuries**	Mechanical injuries; thermal injuries; chemical injuries; clinical features; tissue response and management	Lecture	Quiz
25	2	**Hematopoietic and Hematological Neoplasms**	Lymphomas; leukemias; plasma cell neoplasms; oral manifestations; diagnosis	Lecture	Quiz
26	2	A3,B3	Identification of individuals; dental records; dental age estimation; bite marks; forensic applications	Lecture	Quiz
27	2	A4,B4	Digital pathology; machine learning; histopathological image analysis; automated diagnosis; image classification	Lecture & Case Discussion	Assignment
28	2	A4,B4	Oral potentially malignant disorders; early cancer detection;	Lecture & Case Discussion	Presentation

			image-based screening; risk prediction; diagnostic accuracy		
29	2	A4,B4	AI-assisted diagnosis; prognosis prediction; personalized management; clinical decision support; precision medicine	Lecture & Seminar	Assignment
30	2	A4,B4,C4	Ethical considerations; machine learning; data privacy; algorithmic bias; future trends; clinical integration of AI	Seminar	Final Assessment

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13. Course Evaluation	
• Laboratory performance: **10%** • Seminars, assignments and AI project: **15%** • Midterm examination: **15 %** • Final theoretical examination: **40%** • Final laboratory examination: **20%**	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	• Neville BW, Damm DD, Allen CM, Chi AC. **Oral and Maxillofacial Pathology.** 5th Edition. Elsevier; 2024. • Regezi JA, Sciubba JJ, Jordan RCK. **Oral Pathology: Clinical Pathologic Correlations.** 8th Edition. Elsevier; 2023.
Main References (sources)	• Cawson's Essentials of Oral Pathology and Oral Medicine. 10th Edition. • WHO Classification of Head and Neck Tumours. 5th Edition. • Oral Diseases Journal. • Journal of Oral Pathology & Medicine.
Recommended Books & References (Scientific Journals, Reports …)	• Burket's Oral Medicine. • Contemporary Oral and Maxillofacial Pathology. • International Journal of Oral Science. • Journal of Dental Research. • Nature Reviews Disease Primers. • Recent publications on Artificial Intelligence in Oral Medicine and Oral Pathology (2023–2026).
Websites or Electronic References	• World Health Organization (WHO) • American Academy of Oral and Maxillofacial Pathology (AAOMP) • International Association for Dental Research (IADR) • PubMed • ScienceDirect • SpringerLink

	• Wiley Online Library • Google Scholar • AI-based Digital Pathology Educational Resources and Virtual Microscopy Platforms

جامعة البيان

Course Description (1)

1. Course Title	Oral surgery
2. Course Code	**050403**
3. Semester/Year	**2026-2027**
4. Description Preparation Date	**30/7/2026**
5. Available Attendance Form	**Lectures and clinic**
6. No. of Hours (Total)	**Theories =30h. clinic =120 h**
7. No. of Credits (Total)	**6 units**
8. Course Administrator Name	**Doctor lecturer: Natheer Ayed Jassem**
9. E-mail	**natheer.ayed@albayan.edu.iq**

10. Course Objectives

Knowledge	A1	Enable students to obtain knowledge and understanding of oral and maxillofacial surgery
	A2	Enabling students to obtain knowledge and understanding of general diseases of human body and their relationship to oral and dental health and their impact on treatment plan.
	A3	Enabling the student to perform simple tooth extraction operations
	A4	Training the student in simple surgical operations and suturing wounds
Skills	B1	Enabling students to acquire and understand the basic principles of oral surgery
	B2	Enabling students to write down the patient's general medical history.
	B3	Enabling students to possess self-learning skills to acquire information, skills, a practices related to tooth extraction in general.
	B4	Enabling students to possess self–learning skills to acquire informati skills, and practices related to tooth extraction in general.
Values	C1	Enabling students to possess self–learning skills to acquire information, skills, and practices related to tooth extraction in general.
	C2	Applying acquired skills to enable the student to become a dentist capa of performing various minor procedures.

	C3	**Applying acquired skills to enable the student to become a dentist capa of performing various minor procedures.**
	C4	**Recognizing the importance of continuous learning, self-assessment, a ongoing professional development in oral surgery.**

11. Teaching and Learning Strategies

1.	Online Authoring systems	**4.**	Microsoft power point for lecture presentations
2.	Internet access and E-mail	**5.**	Video and audio media equipment
3.	A data show projector	**6.**	**Training extraction of teeth in clinic**

جامعة البيان

12. The Structure of the Course					
Week	**Hours**	**Topic/Subject Name**	**RLOs**	**Learning Method**	**Evaluation Method**
1	1	**Cardiovascular diseases**	**General knowledge of cardiovascular diseases and their impact on the course of treatment in the dental clinic**	**Display data show and blackboard**	**quiz**
2	1	**Cardiac arrhythmia**	**General knowledge of heart arrhythmia and rheumatic fever**	**Display data show and blackboard**	**quiz**
3	1	**Bleeding disorder**	**General knowledge on bleeding disorder type ,how mange in dental clinic**	**Display data show and blackboard**	**quiz**
4	1	**Endocrinology**	**Thyroid gland ,pancreases and adrenal gland disease and effect of these disease on the oral surgery procedures**	**Display data show and blackboard**	**Discussion question**
5	1	**Pulmonary diseases**	**Explain how asthma, tuberculosis and chronic bronchial disease managed in dental clinic**	**Display data show and blackboard**	**quiz**
6	1	**Liver Diseases**	**Explain Viral hepatitis Dental management Oral manifestations and complications Alcoholic liver disease Dental management Oral complications and manifestations**	**Display data show and blackboard**	**1st trim exam.**
7	1	**Chronic kidney disease and dialysis**	**Chronic kidney disease Dental management of Patients receiving conservative care and Dialysis Renal transplant Oral complications and manifestations**	**Data show and blackboard display + explanatory films**	**quiz**
8	1	**Neurologic disorders**	**Epilepsy Dental management Oral complications and manifestations**	**Data show**	**quiz**

			Cerebrovascular accidents (stroke) Medical management Dental management	**and blackboard display explanatory films**	
9	**1**	**Pregnancy**	**Dental management Medical considerations Treatment timing Dental radiographs Drugs in pregnancy Oral manifestations and complications**	**Data show and blackboard display + explanatory films**	**Discussion question**
10	**1**	**AIDS and HIV infection**	**Oral manifestations Dental managements: Asymptomatic patient. Symptomatic patient.Patient with severe symptoms**	**Data show and blackboard display + explanatory films**	**Discussion groups**
11	**1**	**Rheumatologic and connective tissue disorders**	**Rheumatoid arthritis Dental management Oral manifestations and complications Dental management of patients with prosthetic joint**	**Display data show and blackboard**	**quiz**
12	**1**	**Allergy**	**Dental management Oral complications and manifestations**	**Data show and blackboard display + explanatory films**	**quiz**
13	**1**	**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**	**Data show and blackboard display + explanatory films**	**Discussion question**
14	**1**	**Odontogenic infections and fascial space infections**	**Explain Odontogenic Infections Spread of odontogenic infections The factors that influence the spread of odontogenic infections**	**Display data show and blackboard**	**quiz**
15	**1**	**Fascial space infections**	**Explain Fascial space infections Infection of spaces in relation to the lower jaw Infections of spaces in**	**Data show and blackboard display + explanatory films**	**Discussion groups**

			relation to the upper jaw Cavernous sinus thrombosis		
16	1	Principles of treatment of odontogenic infections	Explain Principles of treatment of odontogenic infections Principles for the use of appropriate antibiotics Sinus formation Necrotizing fasciitis	Display data show and blackboard	quiz
17	1	Principles of Flaps, suturing and management of difficult extraction	Explain Flaps in oral cavity Incision Flap design Types of Mucoperiosteal Flaps Flap reflection Suturing Suture Materials Needles Needle Holder Tissue Forceps	Display data show and blackboard	Discussion question
18	1	Management of difficult extraction	Explain The main indications for surgical extraction of teeth are , Steps of surgical extraction Indications for leaving root fragments Multiple Extractions Extraction sequencing	Display data show and blackboard	quiz
19	1	Principles of management of impacted teeth	Explain 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	Data show and blackboard display + explanatory films	quiz
20	1	Impacted upper third molars	Explain Surgical extraction Complications Impacted maxillary canine Classification Clinical examination Radiographic examination and assessment Options of treatment	Display data show and blackboard	Discussion groups
21	1	Impacted mandibular canines	Explain Impacted mandibular canines Impacted lower premolars Impacted	Display data show and blackboard	quiz

			maxillary premolars Impacted first and second molars Buried deciduous molars Supernumerary teeth Dilacerated incisors		
22	**1**	**Surgical aids to orthodontics**	**Explain Corticotomy assisted orthodontic treatment and labial Labial frenectomy. Temporary skeletal anchorage**	**Data show and blackboard display + explanatory films**	**Discussion question**
23	**1**	**Principles of endodontic surgery**	**Explain Definition Indications for periapical surgery Contraindications for periapical surgery Important considerations in periapical surgery Factors Associated with Success and Failures in Periapical Surgery**	**Display data show and blackboard**	**quiz**
24	**1**	**Surgical procedure of apicectomy**	**Explain apicectomy Surgical procedure and To perform biopsy or not Determination of success Microsurgical technique**	**Display data show and blackboard**	**quiz**
25	**1**	**Osteomyelitis and osteonecrosis of the jaw**	**Explain Osteomyelitis Definition. Classification Etiology and pathogenesis Clinical presentation Diagnostic imaging Microbiology Treatment: surgical, antimicrobial and hyperbaric oxygen Other Explain types of osteomyelitis: infantile, focal and diffuse sclerosing and Garre's sclerosing osteomyelitis**	**Display data show and blackboard**	**Discussion question**
26	**1**	**Radiation induced osteomyelitis and osteoradionecrosis**	**Explain Definition • Etiology Stages Treatment Prevention Medication related osteonecrosis of the jaw • Definition Pathophysiology Clinical presentation and staging Imaging Treatment Prevention**	**Data show and blackboard display + explanatory films**	**2nd trim exam**

27	1	**Dental Implants: Basic Concepts and Techniques**	**Explain 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)**	**Display data show and blackboard**	**quiz**
28	1	**Surgical Treatment Planning Considerations of dental implant**	**Explain 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**	**Display data show and blackboard**	**Discussion groups**
29		**Biopsy in oral and maxillofacial surgery**	**Explain Medical History • History of the lesion Examination Differential Diagnos Biopsy Principles Contraindication Excisional Biopsy Incisional Biopsy •Surgical technique**	**Data show and blackboard display + explanatory films**	**quiz**

30		**Diagnostic imaging in oral and maxillofacial surger**	**Explain Classification: Invasive and Nor 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 sc Radionuclide (scintigraphy or skeletal scan) Positron emission tomography (PET) Scan PET-CT Single Photon Emission Computed Tomography (SPECT) scan**	**Display data show and blackboard**	**Discussion question**

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1. Course Evaluation

No.	Assessment measurement	Score distribution concerning theoretical lectures	Score distribution concerning clinic
1	First semester	5%	7.5%
2	Mid year examination (15%)	15%	
3	Second semester	5%	7.5%
4	Final examination (60%)	40%	20%
Total	100%	65%	35%

2. Learning & Teaching Resources

Required textbooks (curricular if any)	**Dental management of medically compromised patient 9th edit. Contemporary Oral and Maxillofacial Surgery 7th edit.**
Main References (sources)	**Peterson's Principles of Oral and Maxillofacial Surgery (latest edition). Peterson's Principles of Oral and Maxillofacial Surgery: Contemporary Oral and Maxillofacial Surgery by James R. Hupp, Edward Ellis III, and Myron R. Tucker (latest edition). Oral and Maxillofacial Surgery by Raymond J. Fonseca (latest edition)**

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Recommended Books & References (Scientific Journals, Reports …)	**Make periodic reports and read recent research in reputable journals**
Websites or Electronic References	**Google scholar, research gates**

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Course Description (1)

1. Course Title	**General Anatomy /2nd**
2. Course Code	**050206**
3. Semester/Year	**Annual**
4. Description Preparation Date	**2026/2027**
5. Available Attendance Form	**Lectures & Labs**
6. No. of Hours (Total)	**30 hours of Theoretical + 60 hours of practical**
7. No. of Credits (Total)	**4**
8. Course Administrator Name	**Dina Ahmed Mahdi**
9. E-mail	**dina.a@albayan.edu.iq**

10. Course Objectives

Knowledge	A1	Enable students to learn about human anatomy, especially the head and neck,
	A2	focus on knowing the locations of vital structures (nerves and blood vessels)
	A3	their direct relationship in the oral and maxillofacial area and his specialization a dentist
	A4	Depending on the practical side, means of illustration and explanatory videos, a encouraging the student to connect human anatomy with his work as a dentist.
Skills	B1	Asking orally questions to students through which the student connect the anato material with each other and connect it to student specialty as a dentist.
	B2	Acquirement full knowledge of the organs of the human body and focus on head and neck area.
	B3	Motivating the student through thinking and speed of response in understanding facilitate memorizing the material.
	B4	Depending on the practical side, means of illustration and explanatory videos, a encouraging the student to connect human anatomy with his work as a dentist.
Values	C1	Preparing students practically in terms of developing the knowledge gained human anatomy in his work as a dentist.

	C2	Thinking about solving problems and how to avoid them. Teaching professio ethics
	C3	Developing the acquired skills of the student to become a dentist capable of treat patients and solving problems related to the knowledge of oral and maxillofa anatomy to avoid their occurrence.
	C4	Developing the student's ability to deal with multiple means of learning

11. Teaching and Learning Strategies

1.	**Theoretical lectures using slides on screens.**	**4.**	**Practical lessons on anatomical models**
2.	**Educational films and brief explanatory videos.**	**5.**	
3.	**Student discussion groups.**	**6.**	

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12. The Structure of the Course					
Week	**Hours**	**RLOs**	**Topic/Subject Name**	**Learning Method**	**Evaluation Method**
1 &2	2	**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	Theoretical lecture using Data Show	Daily Theory Quiz
3&4	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 • The Orbital Region 3D Digital Anatomy and Virtual Reality Applications in Orbital Anatomy	Theoretical lecture using Data Show	Daily Theory Quiz
5	1	**The Nasal region**	• 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	Theoretical lecture using Data Show	Daily Theory Quiz

			• 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		
6	1	**Mandibular nerve**	• Introduction • Branches of the Mandibular Nerve • Otic Ganglion • Clinical Notes • Mandibular nerve AI localization of the mandibular canal before oral and maxillofacial surgery	Theoretical lecture using Data Show	Daily Theory Quiz
7&8	2	**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	Theoretical lecture using Data Show	Daily Theory Quiz
9&10	2	**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	Theoretical lecture using Data Show	Daily Theory Quiz
11	1	**Tongue**	• Mucous Membrane of the Tongue • Muscles of the Tongue • Movements of the Tongue	Theoretical lecture using Data Show	Daily Theory Quiz
12	1	**Temporal region**	• The temporal fossa anatomy	Theoretical lecture using	Daily Theory Quiz

			• The infratemporal fossa • Communications • Muscles of mastication	Data Show	
13&14	2	**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	Theoretical lecture using Data Show	Daily Theory Quiz
15	1	**The Pterygopalatine fossa**	• Boundaries, Communications and openings • Maxillary nerve • Branches from the pterygopalatine ganglion • The pterygopalatine ganglion • The veins of the pterygopalatine fossa • Pterygopalatine fossa 3D digital anatomy and AI-assisted anatomical navigation in complex skull base regions	Theoretical lecture using Data Show	Daily Theory Quiz
16&17	2	**Temporomandibular joint**	• Introduction • The Articular Disk • Retrodiscal Tissue • Capsule • Synovial Membrane • Ligaments • Nerve Supply • Vascular Supply • Movements • Important Relations of the Temporomandibular Joint	Theoretical lecture using Data Show	Daily Theory Quiz

			• Clinical Notes • TMJ Artificial Intelligence in TMJ MRI interpretation and osteoarthritis diagnosis		
18&19	2	**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 • Neck AI-assisted ultrasound analysis of cervical lymph nodes	Theoretical lecture using Data Show	Daily Theory Quiz
20&21	2	**Triangles of the neck**	ANTERIOR TRIANGLE SUBMENTAL TRIANGLE SUBMANDIBULAR TRIANGLE CAROTID TRIANGLE MUSCULAR TRIANGLE • Posterior Triangle • Thyroid Gland • Blood supply & venous drainage • Nerve supply	Theoretical lecture using Data Show	Daily Theory Quiz
22	1	**Submandibular region**	• MUSCLES OF THE SUBMANDIBULAR REGION The submandibular gland Sublingual Gland	Theoretical lecture using Data Show	Daily Theory Quiz
23&24	2	**Root of the neck**	• Muscles of the Root of the Neck • The Thoracic Duct	Theoretical lecture using Data Show	Daily Theory Quiz

			• Main Nerves of the Neck • Cervical Plexus & Brachial Plexus • Lymph Drainage of the Head and Neck • Veins of the Head and Neck		
25&26	2	**Arteries of the neck**	• Common Carotid Artery • Carotid Sinus • Carotid Body • External Carotid Artery • Internal Carotid Artery • Subclavian Arteries (3 parts) • Circle of Willis	Theoretical lecture using Data Show	Daily Theory Quiz
27	1	**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 • Brain AI-assisted brain MRI segmentation and anatomical mapping	Theoretical lecture using Data Show	Daily Theory Quiz
28	1	**Cranial nerves**	• Introduction • Functional Components • Summary of cranial nerves	Theoretical lecture using Data Show	Daily Theory Quiz
29	1	**Pharynx**	• Muscles of the Pharynx • Pharynx divisions • Palatine Tonsils • Waldeyer's Ring of Lymphoid Tissue	Theoretical lecture using Data Show	Daily Theory Quiz
30	1	**Larynx**	• Cartilages of the Larynx • Membranes and Ligaments of the Larynx • Inlet of the Larynx	Theoretical lecture using Data Show	Daily Theory Quiz

			• Laryngeal Folds • Muscles of the Larynx • Nerve & blood Supply of the Larynx		

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13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Snell's clinical anatomy 10th edition Netter's head and neck anatomy 3rd edition
Main References (sources)	▪ Snell's clinical anatomy 10th edition ▪ Netter's head and neck anatomy 3rd edition ▪ Gray's anatomy for students 4th edition ▪ Atlas of clinical cross anatomy 2nd edition ▪ Three dimensional digital atlas of the orbit constructed from multi-modal radiological images ▪ Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology (2022). ▪ Temporomandibular joint assessment in MRI images using artificial intelligence tools: where are we now? A systematic review ▪ Surgical and Radiologic Anatomy (2022). ▪ Progress in the Application of Artificial Intelligence in Ultrasound-Assisted Medical Diagnosis ▪ Brain-computer interfaces and AI segmentation in neurosurgery: a systematic review of integrated precision approaches: S Ghosh, P Sindhujaa, DK Kesavan, B Gulyás…(Surgeries, 2025 - mdpi.com)
Recommended Books & References (Scientific Journals, Reports …)	Read recent research in academic publishing journals
Websites or Electronic References	Google scholar, research gates