Republic of Yemen

Ministry of Higher Education & Scientific Research

Emirates International University

Faculty of Dentistry

Department of Basic Science

Bachelor of Doctor of Dental Surgery

Course Specification of

Program of Oral Histology & Embryology II

Course No. ( )

Review committee: Head of the Department Quality Assurance head Dean of Faculty

I. Course Identification and General Information:

1	**Course Title:**	Oral Histology & Embryology II			
2	**Course Code & Number:**				
3	**Credit Hours:**	**Credit Hours**	**Theory Hours**		**Lab. Hours**
			Lecture	**Exercise**	
		3	2	--	2
4	**Study Level/ Semester at which this Course is offered:**	2nd Level / 2nd Semester			
5	**Pre –Requisite (if any):**	Oral Histology & Embryology I			
6	**Co –Requisite (if any):**	None			
7	**Program (s) in which the Course is Offered:**	Doctor of Dental Surgery			
8	**Language of Teaching the Course:**	English			
9	**Study System:**	Semester based System			
10	**Mode of Delivery:**	Full Time			
11	**Location of Teaching the Course:**	Faculty of Dentistry			
12	**Prepared by:**	Prof..Saeed M. Saeed			

II. Course Description:

Oral histology and embryology include the study of surface form of the oral structures and the detailed histological structure and development of hard and soft oral and para-oral structures.

- Oral Histology includes the study of the development and physiology of the oral structures and their associated structures. Knowledge of oral histology is essential to understanding of the pathological changes in structure or function.

1. The major goal of this course is to provide you with current, basic knowledge of the development, structure and function of the oral tissues.

2. This course deals with the histology of.

A. The structures in and around the mouth. Our objective is to integrate the histology of the oral tissues with their functions.

B. The material presented in this course is based upon you having a working knowledge of the general histology of cells and tissues as presented in General Histology.

C. When you have successfully completed this course, you will be able to critically evaluate histologic images of normal tissues, understand the important developmental processes and the structural specialization of the cells and tissues of the oral cavity. This course should prepare you to develop critical thinking and problem-solving skills, which will apply to other basic science and clinical courses

III. Course Intended Learning Outcomes (CILOs) **Upon successful completion of the course, students will be able to:**		**Referenced PILOs** **Learning out of program**		
A. Knowledge and Understanding:		**I, A or E**		
a1	Describe the components of enamel organ structurally and functionally and specify the role of IEE (ameloblast) during the presecretory phase, secretory phase and maturative phase of amelogenesis		**A1**	
a2	Describe dentinogenesis including time frame and the sequence of development, the cells involved and the general formation of dentin		**A1**	
a3	Describe the dental pulp in terms of origin and development, its histological structure (cells, ECM, vascular and neural elements) its functions and the 4 zones that comprise it		**A1**	
a4	Describe the development, physical and chemical characteristics of cementum		**A1**	
a5	Describe the development, histological structure and functions of the periodontal ligament including its blood and nerve supply and the Physical and chemical characteristics including histological concepts of bone, including cell types (review)		**A1**	

a6	Describe the clinical features, classifications and functions and general histologic structure of the different types of oral mucosae and the classification, development, and general structure of salivary glands		A2	
	B. Intellectual Skills:			
b1	Differentiate between decalcification and ground sections of hard tissues and their utilities		B2	
b2	Predict the functional deficit that can arise from certain structural disorders like amelogenesis imperfecta		B2	
	C. Professional and Practical Skills:			
c1	Demonstrate proficiency and expertise in the proper use of the light microscope in examining histological specimens on glass slides.		C2	
c2	Recognize, identify and describe the characteristic structures of teeth at the light microscope histologic level, and for selected tissues, at the electron microscopic ultrastructural level...		C1	
c3	Draw and label the structures they have seen in electron photomicrographs and under light microscope during practical classes.		C1	
	D. Transferable Skills:			
d1	Study independently for continuous self-learning and plan research studies to achieve goals.		D1	
d2	Utilize the resources of biomedical information including the available electronic facilities to update his/her knowledge		D2	

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
a1	Describe the components of enamel organ structurally and functionally and specify the role of IEE (ameloblast) during the presecretory phase, secretory phase and maturative phase of amelogenesis	-Lectures - Presentation	-Quizzes -Midterm Exam -Final Exam
a2	Describe dentinogenesis including time frame and the sequence of development, the cells involved and the general formation of dentin	-Lectures - Presentation	-Quizzes -Midterm Exam -Final Exam
a3	Describe the dental pulp in terms of origin and development, its histological structure (cells, ECM, vascular and neural elements) its functions and the 4 zones that comprise it	-Lectures - Presentation	-Quizzes -Midterm Exam -Final Exam
a4	Describe the development, physical and chemical characteristics of cementum	-Lectures - Presentation	-Quizzes -Midterm Exam -Final Exam
a5	Describe the development, histological structure and functions of the periodontal ligament including its blood and nerve supply and the Physical and chemical characteristics including histological concepts of bone, including cell types (review)	-Lectures - Presentation	-Quizzes -Midterm Exam -Final Exam
a6	Describe the clinical features, classifications and functions and general histologic structure of the different types of oral mucosae and the classification, development, and general structure of salivary glands	-Lectures - Presentation	-Quizzes -Midterm Exam -Final Exam
(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching			

Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
b1	Differentiate between decalcification and ground sections of hard tissues and their utilities	-Lectures -Discussion	-Quizzes -Midterm Exam -Final Exam
b2	Predict the functional deficit that can arise from certain structural disorders like amelogenesis imperfecta	-Lectures -Discussion	-Quizzes -Midterm Exam -Final Exam

(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
c1	Demonstrate proficiency and expertise in the proper use of the light microscope in examining histological specimens on glass slides.	-Lab Experiments	- Practical Exam -Direct observation
c2	Recognize, identify and describe the characteristic structures of teeth at the light microscope histologic level, and for selected tissues, at the electron microscopic ultrastructural level...	-Lab Experiments	- Practical Exam -Direct observation
c3	Draw and label the structures they have seen in electron photomicrographs and under light microscope during practical classes.	-Lab Experiments	- Practical Exam -Direct observation

(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
d1	Study independently for continuous self-learning and plan research studies to achieve goals.	- Discussion - Self Learning - Presentation - Seminars	Research Homework Group work
d2	Utilize the resources of	- Discussion	Research

	biomedical information including the available electronic facilities to update his/her knowledge	- Self Learning - Presentation - Seminars	Homework Group work

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	ENAMEL	Physical characteristics, Chemical properties Structure Development Clinical considerations	1st-2nd	4	a1, b1
2	DENTIN	Physical characteristics, Chemical properties Structure Development Clinical considerations	3rd	2	a2, a3, b1, b2
3	PULP	Anatomy Structural Features Functions Regressive Changes (Aging) Development Clinical considerations	4th	2	a3, b1, b2
4	CEMENTUM	Cementogenesis Physical and chemical characteristics Classification of cementum Histological features of cementum Sharpey's fibres Clinical considerations	5th	2	a4, b1, b2
5	PERIODONTAL LIGAMENT	Development Structure principal fibres Clinical considerations	6th	2	a5, b1
6	ALVEOLAR BONE	Physical and chemical characteristics Histological concepts of bone, including cell types (review) Development of bone in general and alveolar bone in particular Histological features of alveolar bone Clinical considerations Age changes	7th	2	a5, b1, b2
7	Midterm Exam	-MCQs and essay questions	8th	2	a1-a5, b1, b2
8	ORAL MUCOSA	Definition and classification Development of oral mucosa Description of keratinized and non-keratinized	9th	4	a6, b1

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		oral mucosa Lining mucosa Specialized mucosa masticatory mucosa Functions of oral mucosa Age changes Clinical considerations			
9	SALIVARY GLANDS	Definition and classification Extrinsic (major) salivary glands Intrinsic (minor) salivary glands Age changes Clinical considerations Saliva (composition and function)	11th-13th	6	a6, b1, b2
10	Revision	revision of all previous topics	14th-15th	4	a1-a6, b 1-b2
11	Final Exam	-MCQs and essay questions	16th	2	a1-a6, b 1-b2
Number of Weeks /and Units Per Semester			16	32	

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours	Learning Outcomes (CILOs)
1	Enamel (1): Ameloblast, Tomes process, Enamel matrix	1st	2	c1–c3
2	Enamel (2): Tufts, Spindle, Lamella, DEJ, CEJ	2nd	2	c1–c3
3	Dentin (1): Odontoblasts, Predentin	3rd	2	c1–c3
4	Dentin (2): Mantle dentin, Circumpulpal dentin, Interglobular dentin, Tomes granular layer, Dead tracts	4th	2	c1–c3
5	Pulp: Pulp chamber, Pulp canal, Pulp horns, Pulp zones, apical foramen	5th	2	c1–c3
6	PDL: Principal fibers, PDL LS, PDL TS	6th	2	c1–c3
7	Alveolar bone	7th	2	c1–c3
8	Oral mucosa(1): Submucosa, Lip	8th	2	c1–c3
9	Oral mucosa(2): Gingiva, Hard palate	9th	2	c1–c3
10	Oral mucosa(3): Tongue, Filiform, fungiform, circumvallate	10th	2	c1–c3

No.	Tasks/ Experiments	Week Due	Contact Hours	Learning Outcomes (CILOs)
	papillae			
11	Salivary glands(1): Mucous secretory units, serous secretory units, Intralobular ducts	11th	2	c1–c3
12	Salivary glands(2): Parotid gland, Submandibular gland, Sublingual gland	12th	2	c1–c3
13	Review	13th		
14	Practical Exam	14th	2	c1–c3
Number of Weeks /and Units Per Semester		**14**	**28**	

V. Teaching Strategies of the Course:

- Lectures
- Discussion
- Seminars
- Presentation
- Lab Experiments
- Self-Learning

VI. Assessment Methods of the Course:

- Quizzes
- Midterm Exam
- Final Exam
- Practical Exam
- Research
- Homework
- Group work

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Laboratory logbooks and reports. Research Homework Group work Discussion	weekly	5	b1, b2, d1, d2
Total			5	

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Quizzes	5th	5	5%	a1–a3, b1
2	Assignments	weekly	5	5%	b1, b2, d1, d2
3	Midterm Exam	8th	20	20%	a1-a5, b1, b2
4	Final Exam	16th	50	50%	a1-a6, b1. b2
5	Practical Exam	14th	20	20%	c1–c3
Total			100	100%	

IX. Learning Resources:

1- Required Textbook(s) (maximum two):

1- SMSaeed : Oral histology and embryology. 4 Ed.
2- G S Kumar; Orban's , (2011): Oral Histology and Embryology. 13th ed. Elsevier

2- Essential References:

1- B. K. B. Berkovitz, G. R. Holland and B. J. Moxham;, 2009, Oral Anatomy, Histology and Embryology, Fourth Edition, Mosby Elsevier
2- Arthur R. Hand and Marion E. Frank, 2015 Fundamentals of Oral Histology and Physiology, First Edition, Wiley Blackwell

3- Electronic Materials and Web Sites etc.:

https://onlinelibrary.wiley.com
http://edelweisspublications.com

	X. Course Policies: (Based on the Uniform Students' By law (2007)
1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
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Faculty of Dentistry

Department of Basic Science

Bachelor of Doctor of Dental Surgery

Course Plan (Syllabus) of **Oral Histology & Embryology II**

Course No. ( )

I. Information about Faculty Member Responsible for the Course:							
Name of Faculty Member:	**Prof. SMSaeed**	**Office Hours**					
Location& Telephone No.:	**Sana'a 771098083**	**2 Hours Weekly**					
			2				
E-mail:	smsmohd35@gmail.com	SAT	SUN	MON	TUE	WED	THU

II. Course Identification and General Information:

1	**Course Title:**	Oral Histology & Embryology II			
2	**Course Code & Number:**				
3	**Credit Hours:**	**Credit Hours**	**Theory Hours**		**Lab. Hours**
			Lecture	**Exercise**	
		3	2	--	2
4	**Study Level/ Semester at which this Course is offered:**	2nd Level / 2nd Semester			
5	**Pre –Requisite (if any):**	Oral Histology & Embryology I			
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7	**Program (s) in which the Course is Offered:**	Doctor of Dental Surgery			
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12	**Prepared by:**	Prof..Saeed M. Saeed			

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The structures in and around the mouth. Our objective is to integrate the histology of the oral tissues with their functions.

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IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

	A. Knowledge and Understanding:
a1	Describe the components of enamel organ structurally and functionally and specify the role of IEE (ameloblast) during the presecretory phase, secretory phase and maturative phase of amelogenesis
a2	Describe dentinogenesis including time frame and the sequence of development, the cells involved and the general formation of dentin
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a5	Describe the development, histological structure and functions of the periodontal ligament including its blood and nerve supply and the Physical and chemical characteristics including histological concepts of bone, including cell types (review)
a6	Describe the clinical features, classifications and functions and general histologic structure of the different types of oral mucosae and the classification, development, and general structure of salivary glands
	B. Intellectual Skills:
b1	Differentiate between decalcification and ground sections of hard tissues and their utilities
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c2	Recognize, identify and describe the characteristic structures of teeth at the light microscope histologic level, and for selected tissues, at the electron microscopic ultrastructural level...
c3	Draw and label the structures they have seen in electronmicrographs and under light microscope during practical classes.
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d1	Study independently for continuous self-learning and plan research studies to achieve goals.
d2	Utilize the resources of biomedical information including the available electronic facilities to update his/her knowledge

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	ENAMEL	Physical characteristics, Chemical properties Structure Development Clinical considerations	1st-2nd	4
2	DENTIN	Physical characteristics, Chemical properties Structure Development Clinical considerations	3rd	2
3	PULP	Anatomy Structural Features Functions Regressive Changes (Aging) Development Clinical considerations	4th	2
4	CEMENTUM	Cementogenesis Physical and chemical characteristics Classification of cementum Histological features of cementum Sharpey's fibres Clinical considerations	5th	2
5	PERIODONTAL LIGAMENT	Development Structure principal fibres Clinical considerations	6th	2
6	ALVEOLAR BONE	Physical and chemical characteristics Histological concepts of bone, including cell types (review) Development of bone in general and alveolar bone in particular	7th	2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		Histological features of alveolar bone Clinical considerations Age changes		
7	**Midterm Exam**	-MCQs and essay questions	8th	2
8	**ORAL MUCOSA**	Definition and classification Development of oral mucosa Description of keratinized and non-keratinized oral mucosa Lining mucosa Specialized mucosa masticatory mucosa Functions of oral mucosa Age changes Clinical considerations	9th-10th	4
9	**SALIVARY GLANDS**	Definition and classification Extrinsic (major) salivary glands Intrinsic (minor) salivary glands Age changes Clinical considerations Saliva (composition and function)	11th-13th	6
10	**Revision**	revision of all previous topics	14th-15th	4
11	**Final Exam**	-MCQs and essay questions	16th	2
Number of Weeks /and Units Per Semester			**16**	**32**

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours
1	Enamel (1): Ameloblast, Tomes process, Enamel matrix	1st	2
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5	Pulp: Pulp chamber, Pulp canal, Pulp horns, Pulp zones, apical foramen	5th	2
6	PDL: Principal fibers, PDL LS, PDL TS	6th	2
7	Alveolar bone	7th	2
8	Oral mucosa(1): Submucosa, Lip	8th	2
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10	Oral mucosa(3): Tongue, Filiform, fungiform, circumvallate papillae	10th	2
11	Salivary glands(1): Mucous secretory units, serous secretory units, Intralobular ducts	11th	2
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Number of Weeks /and Units Per Semester		**14**	**28**

VI. Teaching Strategies of the Course:

- Lectures
- Discussion
- Seminars
- Presentation
- Lab Experiments
- Self-Learning

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- Quizzes
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- Final Exam
- Practical Exam
- Research
- Homework

– Group work

VIII. Assignments:

No.	Assignments	Week Due	Mark
1	Laboratory logbooks and reports. Research Homework Group work Discussion	weekly	5
Total			5

IX. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Quizzes	5th	5	5%
2	Assignments	weekly	5	5%
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