



Course Specifications

Course Title:	Oral Biology
Course Code:	MDS 113
Program:	Bachelor of Dentistry [BDS]
Department:	Maxillofacial surgery and Diagnostic sciences [MDS]
College:	College of Dentistry
Institution:	Majmaah University

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A. Course Identification

1. Credit hours: 3 (2+1+0)
2. Course type a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/> b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: 1 st Year / 1 st and 2 nd Semester
4. Pre-requisites for this course (if any): NA
5. Co-requisites for this course (if any): NA

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	40%
2	Blended	NA	NA
3	E-learning	NA	NA
4	Correspondence	NA	NA
5	Other - Laboratory	45	60%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	30
2	Laboratory/Studio	45
3	Tutorial	-
4	Others (specify)	-
	Total	75
Other Learning Hours*		
1	Study	45
2	Assignments	15
3	Library	15
4	Projects/Research Essays/Theses	-
5	Others (specify)	-
	Total	75

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

It is a one-year course, given as a one hour lecture in the 1st semester and one lecture and one practical session in the 2nd semester of the same year. Oral Biology course comprises instructions in the principles of oral anatomy and embryology, oral histology, and oral Physiology.

Oral biology is one of the most important courses in dentistry. Development of face, oral cavity and related structures is covered in this course, this course covers in detail the formation and structure of all the tissues of the tooth; namely Enamel, Dentin, Pulp and Cementum. In addition this course also covers the supporting tissues of the teeth like periodontal ligament, alveolar bone, salivary glands and maxillary sinus.

The fields of oral biology, oral embryology and oral histology are of utmost importance in the study of dental practice. This basic knowledge about the normal structure and formation of the various structures of the maxillofacial region is very important to understand the pathogenesis of various diseases and their treatment.

2. Course Main Objective

The main purpose of the course is to introduce the students to the basic structure of oral and paraoral structures. The students will also learn the genesis of the all the tissues of teeth and supporting structures. Applied and clinical implications of the variations of the structures will also be learnt by the students.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
K1.4	Recall the normal function, structure and development of various tissues of face in general and teeth in particular.	K1
K3.4	Enumerate the Physical and chemical properties of various structures of teeth needed for practice of dentistry.	K3
2	Skills :	
S1.4	Correlate between structure and function of various tissues of the oral cavity with clinical features in health	S1
3	Competence:	
C1.2	Demonstrate professional qualities and behavior towards the staff and fellow colleagues during sessions and tasks	C1

C. Course Content

No	List of Topics	Contact Hours
1	Oral Biology Introduction Overview of oral biology Importance of the subject Outline of the topics to be covered in the course	1
2	Early development & Germ layers Introduction	1

	Morula, gastrula Development of germ layers Formation of primitive streak	
3	Notochord Introduction Functions Fate Neural circulation Neural crest cells	1
4	Pharyngeal Arches Introduction Formation of arches Derivatives of each arch Their relation to each other	1
5	Development of Face Introduction Development of early face Development of eye Development of ear Development of lip	2
6	Development of Tongue & Palate Introduction Development of tongue Development of palate Anomalies Anatomical considerations Functions of tongue	2
7	Development of Tooth Introduction Stages of tooth formation Root development Reciprocal induction Clinical implications	2
8	Amelogenesis and life cycle of ameloblasts Introduction Origin Stages of amelogenesis Life cycle of ameloblasts	1
9	Enamel Introduction Physical & chemical properties Structure Clinical aspects	2
10	Differences between deciduous and permanent teeth General Aspects Morphologic differences Histologic differences Importance	1
11	Dentinogenesis & Dentin Introduction Origin	1

	Stages of dentinogenesis Types of Dentin	
12	Dentin Introduction Physical & chemical properties Structure Theories of dentin hypersensitivity Clinical aspects	2
13	Dental pulp Introduction Zones of pulp Functions Age changes	1
14	Cementum Introduction Physical & chemical properties Structure Types of cementum Types of cemento enamel junction Clinical aspects	1
15	Periodontal ligament Introduction Contents of periodontal ligament Principal fibres Functions Clinical implications	2
16	Alveolar bone Introduction Structure Classification Alveolar bone functions	1
17	Oral mucous membrane Introduction Classification Subdivisions of mucous membrane Specialized mucosa Dentogingival junction Passive eruption	3
18	Salivary gland Introduction Major & minor salivary gland Types of acini Types of cells Ducts of salivary gland Functions of saliva	2
19	Eruption and shedding: Introduction Movments of teeth Theories of eruption Mechanism of shedding Odontoclasts	2

	Applied aspects	
20	Maxillary sinus Introduction Anatomy Histology Functions Clinical significance	1
Total		30

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1	Knowledge		
K1.4	Recall the normal function, structure and development of various tissues of face in general and teeth in particular.	Lectures, Practical lab	Recall/Factual Questions in Written exams , Oral evaluations, OSPE, Assignments
K3.4	Enumerate the Physical and chemical properties of various structures of teeth needed for practice of dentistry.	Lectures, Practical lab	Recall/Factual Questions in Written exams , Oral evaluations, OSPE, Assignments
2	Skills :		
S1.4	Correlate between structure and function of various tissues of the oral cavity with clinical features in health	Lectures, Practical lab	Conceptual, Analytical or Evaluative questions in Written exams , Oral evaluations, OSPE, Assignments, weekly assessments
3	Competence:		
C1.2	Demonstrate professional qualities and behavior towards the staff and fellow colleagues during sessions and tasks	Expected professional behavior will be explained to them and also guidelines will be provided I study guide/ lab manual.	The group task / Assignment will be supervised closely each student will be evaluated using rubrics. DOP using rubrics

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1 + 2	Week 10 & Week 19	05%
2	Midyear exam – Theory	Week 14	25%
3	Behavior / Professionalism	During the course	05%
4	Assignment	During the course	10%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
5	Weekly Assessment	During the course	15%
6	Final Practical Exam	Week 14	15%
7	Final Theory Exam	Week 16	25%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

The student shall avail the consultancy during the displayed office hours

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	✓ Orbans Oral Histology & Embryology; 13th Edition. Author - G. S. Kumar; Publisher - Elsevier
Essential References Materials	✓ Tencate's Oral Histology Author - Antonio Nanci; Publisher – Elsevier ✓ Maji jose – Textbook of oral biology.
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	✓ Lecture room suitable for 30 students ✓ Fully equipped lab for practical sessions
Technology Resources (AV, data show, Smart Board, software, etc.)	✓ Projector ✓ Smart board with all the accessories ✓ Internet
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	✓ Microscopes ✓ Microscopic slides ✓ Soft tissues specimens and casts of oral structures

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	✓ Course Evaluation Survey ✓ Quality of Exam Survey

Evaluation Areas/Issues	Evaluators	Evaluation Methods
	Faculty	<ul style="list-style-type: none"> ✓ CLO Mapping with teaching & assessment. ✓ Course Blueprinting ✓ Grade Analysis ✓ Psychometric Analysis
	Peers	Grade Verification
Extent of achievement of course learning outcomes	Faculty member / Quality assurance committee	<ul style="list-style-type: none"> ✓ Direct assessment outcome analysis ✓ Course report preparation
Quality of learning resources, etc	Students / Faculty	<ul style="list-style-type: none"> ✓ Academic advising survey ✓ Student experience survey

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department Council
Reference No.	Meeting #6
Date	30/8/1440