Oral Physiology Syllabus*:

code:2219011282

First semester 2024/2025

COURSE INFORMATION	
Course name: Oral Physiology **Semester**: First Semester **Department: Department** of Basic Dental Science **Faculty:** Dentistry	**Course Code: 2219011282** **Section:** 1 **Core Curriculum:** Doctor of Dental Surgery (DDS)
Day(s) and Times(s): **Monday: 8,30-9,30** **Wednesday 8,30-9,30** **Classroom: Hall 224 Pharmacy**	**Credit Hours:** 1 **Prerequisites**: None

COURSE DESCRIPTION

This course aims to introduce and familiarize second-year medical students with basic definitions and principles related to oral physiology, including Functions of teeth, calcium and phosphate metabolism, the Somatosensory system of the face and oral cavity, Pain sensation, Saliva and salivary glands, Taste and smell sensation, Mastication, Deglutition, and speech.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- PowerPoint lectures and active classroom-based discussion.
- Relevant films and documentaries
- Video lectures
- E-learning resources: e-reading assignments and practice quizzes through Microsoft Teams
- Practical demonstration
- Practical tutorial

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Lecturers	**Dr. Gehan el wakeel**

REFERENCES AND LEARNING RESOURCES

Required Textbook

1-Textbook of Dental Anatomy and Oral Physiology Including Occlusion and Forensic Odontology Editor Manjunatha BS BDS MDS (DNB) Associate Professor Department of Oral and Maxillofacial Pathology-Forewords C Bhasker RaoGSKuma R Gowramma First edition 2013

2-Fundamentals of oral anatomy, physiology and histology /(edited by) Bharath Rao ,associate Professor, Faculty of Dentistry, Melaka Manipal Medical College, Manipal Academy of Higher Education, Manipal, India .k, Bharath Rao.Elsevier:REXL India PVt.Ltd., (2019)

Additional Resources:

1. Ganong, review of Medical physiology 26th edition(Elsevier2019)

2-GuytonandHallTextbookofMedicalPhysiology14thEdition(Elsevier2021)

STUDENTLEARNINGOUTCOMESMATRIX*						
TOPICSDETAILS/STUDENTLEARNINGOUTCOMESMATRIX						
Core curriculum learning outcomes	**Program learning outcomes**	**Course objectives**	**Topic and subject**	**Lecture No.**	**Intended learning outcomes**	**Assessment**
CC-LO- A: Medical and Dental Knowledge	**A1. Demonstrate medical and dental knowledge of the basic sciences, including anatomy, physiology, biology, pathology, and dental material, etc.** **A3. Recognize and explain the human body's structure, function, and pathogenesis related to the oral and maxillofacial region.**	1-Main functions of teeth 2-main functions of calcium 3-calcium distribution in the body. 4-dietary sources of calcium 5-Calcium balance.	-Main functions of teeth -Calcium metabolism	L1	1- To know main functions of teeth 2-To know main functions of calcium, 3-To understand calcium distribution in the body. 4-To know dietary sources of calcium 5-To describe Calcium balance.	• Exams • Quizzes • "On-line' reading assignments • homework assignments
		1--Calcium homeostasis 2--parathyroid gland functions and disorders 3-Disorders of calcium metabolism	-Calcium metabolism	L2	6-To explain calcium homeostasis 7-To describe parathyroid gland functions and disorders 8-To know disorders of calcium metabolism	• Exams • Quizzes • "On-line' reading assignments homework assignments
		1-Functions of phosphorus 2-Distribution of total body phosphorus 3-Daily phosphorus Requirement 4-Phosphorus balance 5-Calcium phosphate Interaction 6-Theories of mineralization	-Phosphate metabolism -Theories of mineralization	L3	1-To know functions of phosphorus 2-To describe distribution of total body phosphorus 3-To know daily phosphorus requirement 4- To explain phosphorus balance 5- To describe calcium phosphate interaction 6- To understand different theories of mineralization	• Exams • Quizzes • "On-line' reading assignments • homework assignments
		1-Structure of somatosensory system	Somatosensory system of face and mouth	L4	1- To know structure of somatosensory system. 2- To describe mechanism of Somatosensation	• • Exams • Quizzes • "On-line'

		2-Mechansim of Somatosensation 3-types of stimuli 4-Somatosensory receptors and end organs			3- To Know types of stimuli 4- To describe somatosensory receptors and end organs	reading assignments • homework assignments
		5-Neural pathways 6-Somatosensory reflexes of oral cavity	Somatosensory system of face and mouth	L5	1- To describe neural pathways 2- To explain somatosensory reflexes of oral cavity	• Exams • Quizzes • "On-line' reading assignments homework assignments
		1-Definition and components of pain 2-Pain receptors and mechanism of pain 3-Trigeminal pain pathway and theories of pain 4-Higher Brain Function regulating Orofacial nociception 5- Classification of Orofacial pain 6- Difference between Allodynia and Hyperalgesia 7- Trigeminal neuralgia	Orofacial pain	L6	1-To know definition and components of pain 2-To describe receptors of pain, pain afferent fibers ,stimuli of pain, mechanism of stimulation of pain receptors and pain producing substances 3-To explain Trigeminal pain pathway and theories of pain 4-To know higher brain function regulating orofacial nociception 5-To know classification of orofacial pain 6-To know difference between Allodynia and hyperalgesia 7-To understand trigeminal neuralgia	• Exams • Quizzes • "On-line' reading assignments • homework assignments
		8-Dental conditions associated with the release of pain-producing chemicals 9- Role of pain-producing chemicals in	Orofacial pain	L7	8- To understand role of pain producing chemicals in inflammatory tissues 9- To enumerate dental conditions and dental care or orthodontic procedures conditions associated with increased release of pain producing chemicals	• Exams • Quizzes • "On-line' reading assignments homework assignments

		inflammatory tissues 10-Dental sensitivity and pulpal pain			10- To know Dental sensitivity and pulpal pain	
		1-Types of salivary glands and composition of saliva 2- Factors affecting salivary flow and composition 3-Functions of saliva 4-Diagnostic application of Saliva 5- Disadvantages and limitations of salivary secretions	- Saliva	L8	1- To know the types of salivary glands and the composition of saliva 2- To describe factors affecting salivary flow and composition 3- To know the functions of saliva 4- To understand the diagnostic application of saliva 5- To Know disadvantages and limitations of salivary secretion	• Exams • Quizzes • assignments • "On-line' reading • homework assignments
		1-Overview and introduction to taste sensation 2- Taste receptors and structure of taste buds 3-Mechanism of taste sensation and structure of taste buds 4- How taste receptors mediate Sino nasal immunity and Respiratory disease 5- Impact of aging and medical status on Dysgeusia	-Taste sensation	L9	1- To understand overview and introduction to taste sensation 2- To describe taste receptors and the structure of taste buds 3- To Know the mechanism of taste sensation and taste pathway 4- To understand how taste receptors mediate sinonasal immunity and respiratory diseases 5- To know the impact of aging and medical status on Dysgeusia	• Exams • Quizzes • "On-line' reading assignments homework assignments

		An overview and introduction to smell Structure of olfactory mucosa Properties of olfactory neurons Perception of smell Types of odors Threshold of olfactory sensation Olfactory pathway Disorders of olfaction Age changes of olfaction	- Smell sensation	L10	1-To know an Overview and introduction to smell 2-To describe Structure of olfactory mucosa 3- To understand the Properties of olfactory neurons 4- To explain the Perception of smell, types of odors, and threshold of olfactory sensation 5-To describe the olfactory pathway 6-To know disorders and age changes of olfaction	• Exams • Quizzes • "On-line' reading assignments homework assignments
		1-Overview of mastication 2-Structures involved in mastication including jaw movement and muscles involved in mastication 3-Masticatory muscles and reflex pattern 4-Mastication related to immunity of the oral tissue barriers 6- Masticati on and cognitive status	- Mastication	L11	1- To know an overview of mastication 2- To Describe structures involved in mastication including jaw movement and muscles involved in mastication 3- To understand masticatory muscles and reflex pattern 4- To explain mastication related to immunity of the oral tissue barriers 5- To understand mastication and cognitive status	• Exams • Quizzes • "On-line' reading assignments • homework assignments

		1-An overview and introduction to deglutition 2-Phases and control of deglutition 3-Lower and upper esophageal sphincter 4-Antireflux function and control of lower esophageal sphincter function 5-Achalasia and gastroesophageal reflux disorders 6-Dysphagia: comparison between oropharyngeal and esophageal dysphagia.	- Deglutition	L12	1-To know an overview and introduction to deglutition 2-To describe phases and control of deglutition 3- To know lower and upper esophageal sphincter including anti-reflux function and control of lower esophageal sphincter function 4-To understand achalasia and gastroesophageal reflux disorders 5-To Describe dysphagia and differentiate between oropharyngeal dysphagia and esophageal dysphagia	• Exams • Quizzes • "On-line' reading assignments • homework assignments
		1-Nervous control of speech 2-Motor area of speech and Wernicke's area 3- Organs involved in speech	- Speech	L13	1-To describe nervous control of speech including motor area and Wernicke's area 2- To apply the knowledge of the mechanism of speech production and the organs involved in speech 3-To Know disorders of speech 4-To know the impact of aging on dental function	• Exams • Quizzes • "On-line' reading assignments • homework assignments
Domain E: Practice-Based Learning and Scientific Research	E5. Apply skills of reasoning and problem-solving in the context of dental study.	4-Mechanism of speech production 5-Disorders of speech 6-Impact of aging on dental function	- Speech	L13		

ACADEMIC SUPPORT

It is The Hashemite University's policy to provide educational opportunities that ensure fair, appropriate, and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their instructor to ensure that their individual needs are met. The University through its Special Needs section will exert all efforts to accommodate for individual needs

Special Needs Section: Dr. Gehan El Wakeel
Tel: ???
Location: C 443
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COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples, and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**
- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

The instructor has the right to fail the coursework or deduct marks where plagiarism is detected.

Late or Missed Assignments

In all cases of assessment, students who fails to attend an exam, class project or deliver a presentation on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

- Submitting a term paper on time is a key part of the assessment process. Students who fail to submit their work by the deadline specified will automatically receive a 10% penalty. Assignments handed in more than 24 hours late will receive a further 10% penalty. Each subsequent 24 hours will result in a further 10% penalty.
- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with the University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus.

Assessment	Grade Weighting	Assessment Date
Midterm Exam	40	Week 8 / one hour
Final Exam	60	Week 15-16 / determine by university
Total final grade	100	

Description of Exams

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. The exam will consist of a combination of multiple choice, short answer, match, true and false and/or descriptive questions.

Homework: Will be given for each chapter, while the chapter in progress you are supposed to work on them continuously and submit in next lecture when I finish the chapter.

You are also expected to work on in-chapter examples, self-tests and representative number of ends of chapter problems. The answers of self-tests and end of chapter exercises are given at the end of the book.

Quizzes: Unannounced quizzes will be given during or/and at the end of each chapter based upon the previous lectures. It will ensure that you come prepared to the class.

Grades are not negotiable and are awarded according to the following criteria*:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75
C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION			
Week	**Date**	**Topic**	**Lecture hour**
1	**7/10** **9/10**	**Main functions of teeth** **Calcium metabolism**	**1**
2	**14/10** **16/10**	**Calcium metabolism**	**1**
3	**21/10** **23/10**	**Phosphate metabolism**	**1**
4	**28/10** **30/10**	**Somatosensory system of face and mouth**	**1**
5	**4/11** **6/11**	**Somatosensory system of face and mouth**	**1**
6	**11/11** **13/11**	**Orofacial pain**	**1**
7	**18/11** **20/11**	**Orofacial pain**	**1**
8	**25/11**	**University Midterm Exam**	
9	**2/12** **4/12**	**Saliva**	**1**
10	**9/12** **11/12**	**Taste**	**1**
11	**16/12** **18/12**	**Smell**	**1**
12	**23/12** **25/12**	**Mastication**	**1**
13	**30/12** **1/1**	**Deglutition**	**1**
14	**6/1** **8/1**	**Speech –effect of aging on dental function**	**1**
15	**13/1**	**University Final exam**	
16	**20/1**		

ASSESSMENT RUBRICS

Classroom Participation: Assessment Criteria					
Criteria	**Quality**				**score**
	Excellent (4 points)	**Good (3 points)**	**Satisfactory (2 points)**	**Needs Improvement (1 points)**	
Degree to which student integrates course readings into classroom participation	- often cites from readings; - uses readings to support points; - often articulates "fit" of readings with topic at hand.	- occasionally cites from readings; - sometimes uses readings to support points; - occasionally articulates "fit" of readings with topic at hand .	- rarely able to cite from readings; - rarely uses readings to support points; - rarely articulates "fit" of readings with topic at hand	- unable to cite from readings; - cannot use readings to support points; cannot articulates "fit" of readings with topic at hand .	
Interaction/ participation in classroom discussions	always a willing participant, responds frequently to questions; routinely volunteers point of view .	- often a willing participant, - responds occasionally to questions; - occasionally volunteers point of view .	- rarely a willing participant, - rarely able to respond to questions; - rarely volunteers point of view .	- never a willing participant., - never able to respond to questions; - never volunteers point of view .	
Interaction/participation in classroom learning activities	always a willing participant; acts appropriately during all role plays; responds frequently to questions; routinely volunteers point of view.	- often a willing participant; - acts appropriately during role plays; - responds occasionally to questions; - occasionally volunteers point of view.	- rarely a willing participant. - occasionally acts inappropriately during role plays; - rarely able to respond to direct questions; - rarely volunteers point of view .	- never a willing participant - often acts inappropriately during role plays;, - never able to respond to direct questions; - never volunteers point of view.	
Demonstration of professional attitude and demeanor	always demonstrates commitment through thorough preparation; always arrives on time; often solicits instructors' perspective outside class.	- rarely unprepared; rarely arrives late; - occasionally solicits instructors' perspective outside class .	- often unprepared; occasionally arrives late; - rarely solicits instructors' perspective outside class .	- rarely prepared; - often arrives late; - never solicits instructors' perspective outside class	

Assessment Rubrics to be determined by the department. Add samples below

Classroom Participation: Oral Presentation										
Element	**Excellent**			**Satisfactory**			**Needs Improvement**			**Points**
	8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	
Organization	▪ There is a logical sequence of information. ▪ Title slide and closing slide are included appropriately.			▪ There is some logical sequence of information. ▪ Title slide and closing slides are included.			▪ There is little or no logical sequence of information. ▪ Title slide and/ or closing slides are not included.			
Slide Design (text, colors, background, illustrations, size, titles, subtitles)	▪ Presentation is attractive and appealing to viewers.			▪ Presentation is somewhat appealing to viewers.			▪ Little to no attempt has been made to make presentation appealing to viewers.			
Content	▪ Presentation covers topic completely and in depth. ▪ Information is clear, appropriate, and accurate.			▪ Presentation includes some essential information. ▪ Some information is somewhat confusing, incorrect, or flawed.			▪ Presentation includes little essential information. ▪ Information is confusing, inaccurate, or flawed.			
Language	▪ Spelling, grammar, usage, and punctuation are accurate ▪ Fluent and effective			▪ There are minor problems in spelling, grammar, usage, and/or punctuation.			▪ There are persistent errors in spelling, grammar, usage, and/or punctuation. ▪ Less or not fluent and effective.			
Delivery	▪ Ideas were communicated with enthusiasm, proper voice projection and clear delivery. ▪ There was sufficient eye contact with audience. ▪ There were sufficient use of other non-verbal communication skills. ▪ Appropriate delivery pace was used.			▪ There was some difficulty communicating ideas due to voice projection, lack of preparation, incomplete work, and/or insufficient eye contact. ▪ Insufficient use of non-verbal communication skills. ▪ Delivery pace is somewhat appropriate.			▪ There was great difficulty communicating ideas due to poor voice projection, lack of preparation, incomplete work, and/or little or no eye contact. ▪ No use of non verbal communication skills. ▪ Inappropriate delivery pace was used.			

Interaction with Audience	▪ Answers to questions are coherent and complete. ▪ Answers demonstrate confidence and extensive knowledge.	▪ Most answers to questions are coherent and complete. ▪ Answers somehow demonstrate confidence and extensive knowledge.	▪ Answers to questions are neither coherent nor complete. ▪ Is tentative or unclear in responses.	
	Total Score (Y x 5/16) =			

- ***يمكن اجراء التعديلات المناسبة حسب طبيعة المقرر وبالتنسيق مع الكلية المعنية وتحديد أنواع التعلم بوضوح (الكتروني، مدمج، وجاهي) ونماذج التعلم (نسبة التعلم الوجاهي الى الألكتروني ونسبة التعلم المتزامن الى غير المتزامن) التي سوف يتم اتباعها أثناء تدريس المساقات وبما يتوائم مع نسب الادماج المشار اليها في كتاب مجلس التعليم العالي رقم مع/.1427 .***