



Jordan University of Science and Technology
Faculty of Dentistry
Department of Preventive Dentistry
Course Syllabus

Course Information	
Course Title	Oral Biochemistry.
Course Code	ADS 224
Prerequisites	MED 218
Course Website	-
Instructor	Mohammad Younis Gharaibeh
Office Location	M5 Level -4
Office Phone #	23772
Office Hours	Sun 10-12
E-mail	younisgh@just.edu.jo
Teaching Assistant(s)	-----
Course Description	
<p>This course is designed primarily for students in various health-related programs (dental hygiene, dental assisting, medical technology, etc.). The course involves the study of biological processes such as metabolism, diseases, and growth, their regulation through chemical messenger-receptor systems, and their relation to dental and oral tissues.</p>	

Textbook	
Title	Biochemistry
Author(s)	Campbell & Farrell
Publisher	Thomson
Year	2006
Edition	5 th -edition
Book Website	-
Other references	Handout.

Assessment		
Assessment	Expected Due Date	Percentage
First Exam	Week 6	30%
Second Exam	Week 11	30%
Final Exam	Week 16	40%
Assignments	-	
Participation	-	

Attendance	-	
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Course Objectives	Percentage
1-Identify the basic themes of biochemistry and the organization of cells and oral links.	15%
2-Demonstrate protein and enzymes effectiveness biologically.	15%
3-Learn about collagen and its functions.	10%
4-The various chemical processes taking place in the body in terms of normal and abnormal metabolism.	30%
5-The metabolism of calcium and phosphorus (Hydroxyapatite) and their roles in oral tissues.	15%
6-Understand the regulation of the parathyroid gland and calcitonin synthesis.	15%

Teaching & Learning Methods
<ul style="list-style-type: none"> • Lectures. • Group discussion <p>Teaching duration:</p> <ul style="list-style-type: none"> • 16 weeks

Please fill the following table

Learning Outcomes: Upon successful completion of this course, students will be able to	
Related Objective(s)	Reference(s)
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Useful Resources
National Academy of science http://www.nap.edu/index.html .

Course Content		
Week	Topics	Chapter in Textbook (handouts)
1	Introduction and orientation to course syllabus	
2	General basics of biochemistry and organization of cells	Chapter 1

3	Protein – structure function and its physiochemical properties.	Chapter 6+7 & handout
4	Enzymes - functions, coenzymes, activators, and inhibitors	Chapter 6+7 & handout
5	Collagen - synthesis, functions and diseases	Handout
6	First exam	NA
7	Lipids-structure and function	Chapter 8
8	Carbohydrates metabolism (1)	Handout
9	Carbohydrates metabolism (11)	Handout
10	Carbohydrates metabolism (111)	Handout
11	Second exam	NA
12	Hormones-Definition, classification, function, regulation.	Handout
13	Parathyroid & Calcitonin metabolism	Handout
14	Calcium and phosphorus metabolism	Handout
15	Discussion	
16	Final exam (TBA)	

Please fill following table

Additional Notes	
Attendance policy:	
Expected workload:	
Feedback:	

Course Content		
Week	Title of the Lecture	Lecturer
1	Introduction, Oral structure links to Proteins (functions, amino acids, structure, properties).	Mohammad Younis Gharaibeh
2	Enzymes (reactions, activators, inhibitors, Apoenzymes, mode of enzyme activity)	=
3	Enzymes(clinical significance of plasma enzyme concentration, isoenzyme,regulation,zymogen).	=
4	Collagen, Elastin (structure, synthesis, diseases). And oral links.	=
5	Digestion (salivary, gastric, intestinal, absorption)	=
6	First exam	=
7	Metabolism of carbohydrates (concentration of glucose in the blood, source of energy,	=

	Glycogenesis).	
8	Glycogenolysis, TCA, Glycolysis, Gluconeogenesis, Hexose monophosphate pathway, electron transport system	=
9	Hormones involved in regulating blood glucose ,&glucose assay	=
10	Second exam	
11	Fates(levels, absorption, oxidation, ketone bodies, metabolic diseases, lipogenesis, cholesterol.	=
12	Hormones(classification, abnormalities in receptor sites, regulation	=
13	Hormones of the parathyroid glands (PTH) And of the thyroid gland.	=
14	Calcium and Phosphate metabolism	=
15	Discussion	=
16	Final exam (TBA)	