Republic of Yemen

Ministry of Higher Education & Scientific Research

Emirates International University

Faculty of Dentistry

Department of Basic Science

Doctor of Dental Surgery (DDS)

Course Specification of

Human Physiology I

Course No (.....)

Review committee:

Head of the Department

Quality Assurance head

Dean of Faculty

I. Course Identification and General Information:

1	**Course Title:**	Human Physiology I			
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 / 1st Semester			
5	**Pre –Requisite (if any):**	Biology			
6	**Co –Requisite (if any):**	None			
7	**Program (s) in which the Course is Offered:**	Doctor of Dental Surgery (DDS)			
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:**	Dr. Sadeq Saad Abdulmogni			

II. Course Description:

Physiology I familiarizes students with basic definitions and principles related to physiology The course emphasizes the concept of internal environment and homeostasis and the concept of feedback in a biological system. It also helps students to understand body fluid and cellular physiology. The course gives an overview on the physiology and functions of blood.

III. Course Intended Learning Outcomes (CILOs):	**Referenced PILOs** Learning out of program

Upon successful completion of the course, students will be able to:				
	A. Knowledge and Understanding:	**I, A or E**		
a1	Describe the functions of the different organelles in the human cell, and describe the transport system across the cell membranes.		**A1**	Describe the scientific basis of dentistry and the relevant biomedical and behavioral sciences which form the basis for understanding human growth, development and health.
a2	Describe the body fluids, compartments, composition & functions.		**A2**	Explain the structure and function of the human body in health and disease related to the practice of dentistry.
	B. Intellectual Skills:			
b1	Distinguish between physiological and pathological performance of body cells.		**B1**	Incorporate theoretical basic biomedical, behavioral and dental sciences with the clinical signs and symptoms for appropriate understanding of disease and its management.
b2	Integrate physiology with other sciences		**B2**	Apply critical thinking and evidence-based problem solving when providing patient's care.
	C. Professional and Practical Skills:			
c1	Choose and classify data obtained from physiological experiments.		**C1**	Obtain and record a comprehensive history, perform an appropriate physical examination, and carry out different investigations to reach a correct diagnosis and treatment.
c2	Determine the requirements of homeostasis.		**C2**	Detect pathological conditions related to the dental practice
	D. Transferable Skills:			
d1	Work separately or in a team to research and prepare a scientific topic.		**D2**	Use advanced information and communication technologies to enrich and diversify professional experience.
d2	Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day.		**D3**	Demonstrate leadership and teamwork skills with colleagues and other oral health team for effective

				delivery of oral health care.

(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 functions of the different organelles in the human cell, and describe the transport system across the cell membranes.	Lectures Presentation	-Quizzes -Midterm Exam -Final Exam -Oral Exam
a2	Describe the body fluids, compartments, composition & functions.	Lectures Presentation	-Quizzes -Midterm Exam -Final Exam -Oral 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	Distinguish between physiological and pathological performance of body cells.	-Lectures - Discussion	-Quizzes -Midterm Exam -Final Exam -Oral Exam
b2	Integrate physiology with other sciences	Lectures Presentation	- Midterm Exam -Final Exam -Oral Exam -Practical 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	Choose and classify data obtained from physiological experiments.	-Lab Experiments	-Practical Observation - Practical Exam
c2	Determine the requirements of homeostasis.	-Lab Experiments	-Practical Observation - Practical Exam
(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**

d1	Work separately or in a team to research and prepare a scientific topic.	- Discussion - Self Learning - Presentation	Research Homework Group work
d2	Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day.	- Discussion - Self Learning - Presentation - Seminars	Research 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	**Physiology definition & organization of the cell**	Functional morphology of the cell - Transport across cell membranes -Functional systems of the cell that make it a living organism.	Week 1 and 2	4	a1
2	**Body fluids, compartments, composition & functions.**	– Distribution of body fluid – Functions of water – Osmosis, osmolality, isotonicity & body water balance. – Dehydration and hydration	Week 3,4,5	6	a1,a2, b2
3	**Composition and functions of the blood.**	– Composition of blood: – Plasma – Blood elements – Functions of blood	Week 6,7	4	a1, a2 b1,b2
4	**Midterm Exam**	MCQs and essay questions	Week 8	2	a1,a2, b1
5	**RBCs, Formation and general functions**	– Red blood corpuscles – Erythropoiesis and factors affecting it – Most common types of normal and abnormal hemoglobin – Anemia: Types of anemia – RBCs functions	Week 9,10	4	a1, a2 b1,b2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
6	**Homeostasis**	– Define the internal environment. – Understand the importance of homeostasis.	Week 11	2	b1, b2
7	**1- WBCs: structures, classifications and functions** **2. Hemostasis and its disorders**	– White blood cells – Types of leucocytes – White blood cells functions – Platelets – Blood group – Blood transfusion mechanism of haemostasis – WBCs disorders	Week 12,13, 14,15	8	a1, a2, b1,b2
8	**Final Theoretical Exam**	MCQs and essay questions	Week 16	2	a1,a2, b1, d2
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	**Separation of the blood**	1st	2	b2, c1
2	**Measurement of the hemoglobin.**	2nd	2	b2,c2,
3	**Erythrocyte sedimentation rate (ESR)**	3rd	2	b2, c1,c2
4	**The hematocrit (H)**	4th	2	b2, c1,c2
5	**Bleeding time and Clotting time**	5th	2	b2, c1,c2
6	**Blood groups**	6th	2	b2, c1,c2
7	**The white blood cells**	7th	2	b2, c1,c2
8	**Review**	8th- 9th	4	b2, c1,c2

No.	Tasks/ Experiments	Week Due	Contact Hours	Learning Outcomes (CILOs)
9	Practical Exam	10th	2	b2, c1,c2
Number of Weeks /and Units Per Semester		10	20	

V. Teaching Strategies of the Course:

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

VI. Assessment Methods of the Course:

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

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	**Assignment :** **Research** **Homework** **Group work**	12th	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 1 & 2	4th & 12th	10	10 %	a1, a2
2	Midterm Exam	8th	20	20%	a1,a2, b1
3	Assignment	12th	5	5%	b1, b2, d1, d2
4	Practical Exam	10th	15	15 %	b2, c1,c2
5	Final Exam	16th	40	40%	a1, a2, b1, b2
6	Oral Exam	16th	10	10 %	a1, a2, b1, b2
Total			100	100 %	

IX. Learning Resources:

1- Required Textbook(s) :

1- Guyton and Hall 2010, Text book of medical physiology, 12th Ed, Mississippi Medical Center, Jackson, Mississippi, USA

2- Laurie Kelly 2005, Essentials of Human Physiology for Pharmacy, 1st Ed. CRC Press, Pharmacy Education series

2- Essential References:

1- Kelly , Essential of Human physiology. 8th edition.

2- Fox Human physiology, 10th edition, 2010.

3- Kaplan Medical step 1 physiology, 6th edition, 2006.

4- Mader,2004, understanding Human anatomy and physiology, 5th edition.

3- Electronic Materials and Web Sites etc.:

Websites:

1- www.csun.edu/science/biology/anatomy/anatomy.html

2- www.cliffsnotes.com

3- www.innerbody.com

4- www.anatomyandphysiology.com/

5- www.mhhe.com/biosci2/anatomyrevealed

	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.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Faculty of Dentistry

Department of Basic Science

Doctor of Dental Surgery (DDS)

Course Plan (Syllabus) of

Human Physiology I

Course No. (……)

I. Information about Faculty Member Responsible for the Course:								
Name of Faculty Member:	Sadeq Saad Abdulmogni	Office Hours						
Location& Telephone No.:	Sana'a 773609090	2 Hours Weekly						
E-mail:	asdhod@yahoo.com	SAT 1	SUN 1	MON	TUE	WED	THU	

II. Course Identification and General Information:					
1	Course Title:	Human Physiology I			
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 / 1st Semester
5	**Pre –Requisite (if any):**	Biology
6	**Co –Requisite (if any):**	None
7	**Program (s) in which the Course is Offered:**	Doctor of Dental Surgery (DDS)
8	**Language of Teaching the Course:**	English
9	**Study System:**	Semester based System
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11	**Location of Teaching the Course:**	Faculty of Dentistry
12	**Prepared by:**	Dr. Sadeq Saad Abdulmogni

III. Course Description:

Physiology I familiarizes students with basic definitions and principles related to physiology The course emphasizes the concept of internal environment and homeostasis and the concept of feedback in a biological system. It also helps students to understand body fluid and cellular physiology. The course gives an overview on the physiology and functions of blood.

IV. Course Intended Learning Outcomes (CILOs) :

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

	A. Knowledge and Understanding:
a1	Describe the functions of the different organelles in the human cell, and describe the transport system across the cell membranes.
a2	Describe the body fluids, compartments, composition & functions.
	B. Intellectual Skills:

b1	Distinguish between physiological and pathological performance of body cells.
b2	Integrate physiology with other sciences
	C. Professional and Practical Skills:
c1	Choose and classify data obtained from physiological experiments.
c2	Determine the requirements of homeostasis.
	D. Transferable Skills:
d1	Work separately or in a team to research and prepare a scientific topic.
d2	Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day.

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	**Physiology definition & organization of the cell**	Functional morphology of the cell - Transport across cell membranes -Functional systems of the cell that make it a living organism.	Week 1 and 2	4
2	**Body fluids, compartments, composition & functions.**	– Distribution of body fluid – Functions of water – Osmosis, osmolality, isotonicity & body water balance. – Dehydration and hydration	Week 3,4,5	6
3	**Composition and functions of the blood.**	– Composition of blood: – Plasma – Blood elements – Functions of blood	Week 6,7	4
4	**Midterm Exam**	MCQs and essay questions	Week 8	2
5	**RBCs, Formation and general**	– Red blood corpuscles – Erythropoiesis and factors affecting it – Most common types of normal and	Week 9,10	4

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
	functions	abnormal hemoglobin – Anemia: Types of anemia – RBCs functions		
6	Homeostasis	– Define the internal environment. – Understand the importance of homeostasis.	Week 11	2
7	2- WBCs: structures, classifications and functions 2. Hemostasis and its disorders	– White blood cells – Types of leucocytes – White blood cells functions – Platelets – Blood group – Blood transfusion mechanism of haemostasis – WBCs disorders	Week 12,13, 14,15	8
8	Final Theoretical Exam	MCQs and essay questions	Week 16	2
Number of Weeks /and Units Per Semester			16	32

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours
1	Separation of the blood	1st	2
2	Measurement of the hemoglobin.	2nd	2
3	Erythrocyte sedimentation rate (ESR)	3rd	2
4	The hematocrit (H)	4th	2
5	Bleeding time and Clotting time	5th	2

B. Case Studies and Practical Aspect:			
No.	**Tasks/ Experiments**	**Week Due**	**Contact Hours**
6	Blood groups	6th	2
7	The white blood cells	7th	2
8	Review	8th- 9th	4
9	Practical Exam	10th	2
Number of Weeks /and Units Per Semester		**10**	**20**

VI. Teaching Strategies of the Course:

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

VII. Assessment Methods of the Course:

- Quizzes
- Midterm Exam
- Final Exam
- Oral Exam
- Practical Exam

- Research
- Homework
- Group work

VIII. Assignments:

No.	Assignments	Week Due	Mark
1	**Assignment :** **Research** **Homework** **Group work**	12th	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 1 & 2**	4th & 12th	10	10 %
2	**Midterm Exam**	8th	20	20%
3	**Assignment**	12th	5	5%
4	**Practical Exam**	10th	15	15 %
5	**Final Exam**	16th	40	40%
6	**Oral Exam**	16th	10	10 %
Total			**100**	**100 %**

X. Learning Resources:

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2- Essential References:
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