

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 II
Course No (.....)



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Review committee:

Head of the Department

Quality Assurance head

Dean of Faculty



I. Course Identification and General Information:

| | | | | | |
|----|--|--|--------------|----------|------------|
| 1 | Course Title: | Human Physiology 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: | 2 nd Level / 2 nd Semester | | | |
| 5 | Pre –Requisite (if any): | Human Physiology I | | | |
| 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 II provides the students with the essential concepts and mechanisms of human body at its different levels of organization, putting emphasis on their integrated nature in regulating body functions. The course gives an overview on the physiology and functions of cardiovascular, respiratory, endocrine, digestive s and renal systems. It prepare student to understand future disease process and pathophysiology.

| 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 functions of the different organelles in the human cell. | | 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 | Understand the role of kidney in homeostasis. | | A3 Explain the structure and function of the human body in health and disease related to the practice of dentistry. |
| a3 | Understand physiology of the cardiovascular system. | | A5 Show an understanding of the psychological, cultural and social factors that have implications on oral disease management and prevention |
| 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. |
| b3 | Distinguish between normal and abnormal functions of renal system. | | B3 Prioritize patient's treatment needs and formulate an appropriate treatment plan. |
| 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. |
| c3 | Reform hematological analysis related to units. | | C3 | Apply infection control and radiation protection according to international standards |
| D. Transferable Skills: | | | | |
| d1 | Assess the importance of homeostasis in explanation of different abnormality of acid-base balance. | | D1 | Commit to continuous education, self-development and lifelong learning to remain updated with advances in dental practice. |
| d2 | Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day. | | D2 | Use advanced information and communication technologies to enrich and diversify professional experience. |
| d3 | Work separately or in a team to research and prepare a scientific topic. | | 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. | Lectures Presentation | -Quizzes -Midterm Exam -Final Exam - Oral Exam |
| a2 Understand the role of kidney in homeostasis. | Lectures Presentation | -Quizzes -Midterm Exam -Final Exam - Oral Exam |
| a3 Understand physiology of the cardiovascular system. | Lectures Presentation | -Quizzes -Midterm Exam -Final Exam - Oral Exam |
| (B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods: | | |

| 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 Written Exam -Practical Exam - Oral Exam |
| b3 Distinguish between normal and abnormal functions of renal system. | Lectures Discussion | - Midterm Exam -Final Written Exam -Practical Exam - Oral 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 | -Direct Observation - Practical Exam |
| c2 Determine the requirements of homeostasis. | -Lab Experiments | -Direct Observation - Practical Exam |
| c3 Reform hematological analysis related to units. | -Lab Experiments | -Direct 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 Assess the importance of homeostasis in explanation of different abnormality of acid-base balance. | - Discussion - Self Learning - Presentation | Research Homework Group work |
| d2 Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly | - Discussion - Self Learning - Presentation | Research Homework |

| | | | |
|----|--|---|------------------------------------|
| | scientific day. | - Seminars | Group work |
| d3 | Work separately or in a team to research and prepare a scientific topic. | - 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 | cardiovascular system | -Physiological anatomy of heart - pulmonary and systemic circulation -Blood pressure and factor Determining and maintaining it. | 3 week | 6 | a1, a2, b1,b2 |
| 2 | Endocrine system | Introduction to endocrine system Mechanism of action of hormones Thyroid gland Endocrine glands and their functions. | 2 week | 4 | a1, a2, b1,b2 |
| 3 | The kidney | - Functional anatomy of the kidneys. - Mechanisms of urine formation. - Regulation of acid-base balance by the kidney | 2week | 4 | a1,a2, b2 |
| 4 | Midterm Exam | MCQs and essay questions | 1 week | 2 | a1,a2, b1, b2 |
| 5 | Respiratory system. | - Functions of respiratory system - Mechanism of respiration - hypoxia. | 3week | 6 | a1,a2, a3 b1 |
| 6 | Digestive system. | · Functions of gastrointestinal tract. · Gastrointestinal secretions and motility · Saliva and mastication | 3week | 6 | |

| No. | Units/Topics List | Sub Topics List | Number of Weeks | Contact Hours | Learning Outcomes (CILOs) |
|--|-------------------|--------------------------|-----------------|---------------|---------------------------|
| | | Functions of liver | | | b1,b2 |
| 7 | Review | | 1week | 2 | a1,a2, a3 b1 |
| 8 | Final Exam | MCQs and essay questions | 1week | 2 | a1,a2, a3 b1, 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 | Measurement of blood pressure | 1 st | 2 | b2, c1, c2, c3 |
| 2 | Measurement of blood pressure | 2 nd | 2 | b2,b3,c2 |
| 3 | ECG | 3 rd | 2 | a1, a2, b1,c1,c2 |
| 4 | ECG | 4 th | 2 | a1, a2, b1,c1,c2 |
| 5 | Pulse | 5 th -6 th | 4 | b2, b3, c1, c2, c3 |
| 6 | Body temperature | 7 th | 2 | b2, b3, c1, c2, c3 |
| 7 | Pulmonary functions test. | 8 th | 2 | b2, b3, c1, c2, c3 |
| 8 | Revision | 9 th | 2 | b2, b3, c1, c2, c3 |
| 9 | Practical Exam | 10 th | 2 | b2, b3, c1, c2, c3 |
| 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
- Practical Exam
- Direct Observation
- Oral Exam
- Research
- Homework
- Group work

VII. Assignments:

| No. | Assignments | Week Due | Mark | Aligned CILOs (symbols) |
|--------------|--|------------------------------------|----------|-------------------------|
| 1 | Assignment 1: Research Homework Group work | 10 th -14 th | 5 | d1, d2, d3 |
| 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 | 4 th & 12 th | 10 | 10 % | a1, a2 |
| 2 | Midterm Exam | 8 th | 20 | 20% | a1, a2, b1, b2, |
| 3 | Assignments | 10 th -14 th | 5 | 5% | a1, a2, b1, b2 |
| 4 | Practical Exam | 10 th | 15 | 15 % | c1, c2, d1, d2 |
| 5 | Final Exam | 16 th | 40 | 40% | a1, a2, b1, b2 |
| 6 | Oral Exam | 16 th | 10 | 10 % | a1, a2, a3, b1, b2, b3 |
| Total | | | 100 | 100 % | |

IX. Learning Resources:

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

- 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 2010, Human physiology, 10th edition.
- 3- Kaplan 2006,.Medical step 1 physiology, 6th edition,
- 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
Program of Doctor of Dental Surgery (DDS)

Course Plan (Syllabus) of
Human Physiology **II**

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 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): | Human Physiology I | | | |
| 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 | | | |

| III. Course Description: |
|--|
| <p>Physiology II provides the students with the essential concepts and mechanisms of human body at its different levels of organization, putting emphasis on their integrated nature in regulating body functions. The course gives an overview on the physiology and functions of cardiovascular, respiratory, endocrine, digestive s and renal systems. It prepare student to understand future disease process and pathophysiology.</p> |

| 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. |
| a2 | Understand the role of kidney in homeostasis. |
| a3 | Understand physiology of the cardiovascular system. |
| | B. Intellectual Skills: |
| b1 | Distinguish between physiological and pathological performance of body cells. |
| b2 | Integrate physiology with other sciences |
| b3 | Distinguish between normal and abnormal functions of renal system. |
| | C. Professional and Practical Skills: |
| c1 | Choose and classify data obtained from physiological experiments. |
| c2 | Determine the requirements of homeostasis. |
| c3 | Reform hematological analysis related to units. |
| | D. Transferable Skills: |
| d1 | Assess the importance of homeostasis in explanation of different abnormality of acid-base balance. |
| d2 | Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day. |
| d3 | Work separately or in a team to research and prepare a scientific topic. |

| V. Course Contents: | | | | |
|-------------------------------|-------------------|-----------------|-----------------|---------------|
| A. Theoretical Aspect: | | | | |
| No. | Units/Topics List | Sub Topics List | Number of Weeks | Contact Hours |
| | | | | |

| No. | Units/Topics List | Sub Topics List | Number of Weeks | Contact Hours |
|--|------------------------------|--|-----------------|---------------|
| 1 | cardiovascular system | -Physiological anatomy of heart - pulmonary and systemic circulation -Blood pressure and factor Determining and maintaining it. | 3 week | 6 |
| 2 | Endocrine system | Introduction to endocrine system Mechanism of action of hormones Thyroid gland Endocrine glands and their functions. | 2 week | 4 |
| 3 | The kidney | - Functional anatomy of the kidneys. - Mechanisms of urine formation. - Regulation of acid-base balance by the kidney | 2week | 4 |
| 4 | Midterm Exam | MCQs and essay questions | 1 week | 2 |
| 5 | Respiratory system. | - Functions of respiratory system - Mechanism of respiration - hypoxia. | 3week | 6 |
| 6 | Digestive system. | Functions of gastrointestinal tract. Gastrointestinal secretions and motility Saliva and mastication Functions of liver | 3week | 6 |
| 7 | Review | | 1 week | 2 |
| 8 | Final Exam | MCQs and essay questions | 1 week | 2 |
| Number of Weeks /and Units Per Semester | | | 16 | 32 |

| B. Case Studies and Practical Aspect: | | | |
|--|-------------------------------|----------------------------------|---------------|
| No. | Tasks/ Experiments | Week Due | Contact Hours |
| 1 | Measurement of blood pressure | 1 st | 2 |
| 2 | Measurement of blood pressure | 2 nd | 2 |
| 3 | ECG | 3 rd | 2 |
| 4 | ECG | 4 th | 2 |
| 5 | Pulse | 5 th -6 th | 4 |
| 6 | Body temperature | 7 th | 2 |
| 7 | Pulmonary functions test. | 8 th | 2 |
| 8 | Revision | 9 th | 2 |
| 9 | Practical Exam | 10 th | 2 |
| 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
- Practical Exam

- Direct Observation
- Oral Exam
- Research
- Homework
- Group work

VIII. Assignments:

| No. | Assignments | Week Due | Mark |
|--------------|---|-----------|----------|
| 1 | Assignment 1: Research Homework Group work | 10th-14th | 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 | 4 th & 12 th | 10 | 10 % |
| 2 | Midterm Exam | 8 th | 20 | 20% |
| 3 | Assignments | 10 th -14 th | 5 | 5% |
| 4 | Practical Exam | 10 th | 15 | 15 % |
| 5 | Final Exam | 16 th | 40 | 40% |
| 6 | Oral Exam | 16 th | 10 | 10 % |
| Total | | | 100 | 100 % |

X. Learning Resources:

| | |
|---|--|
| 1- Required Textbook(s) (maximum two): | |
| <p>Guyton and Hall 2010, Text book of medical physiology, 12th Ed, Mississippi Medical Center, Jackson, Mississippi, USA</p> <p>Laurie Kelly 2005, , Essentials of Human Physiology for Pharmacy, 1st Ed. CRC Press, Pharmacy Education series</p> | |
| 2- Essential References: | |
| <p>Kelly , Essential of Human physiology. 8th edition.</p> <p>Fox 2010, Human physiology, 10th edition.</p> <p>Kaplan 2006,.Medical step 1 physiology, 6th edition,</p> <p>Mader 2004,.understanding Human anatomy and physiology, 5th edition,</p> | |
| 3- Electronic Materials and Web Sites etc.: | |
| <p>Websites:</p> <p>www.csun.edu/science/biology/anatomy/anatomy.html</p> <p>www.cliffsnotes.com</p> <p>www.innerbody.com</p> <p>www.anatomyandphysiology.com/</p> <p>www.mhhe.com/biosci2/anatomyrevealed</p> | |

| XI. Course Policies: (Based on the Uniform Students' Bylaw (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. |
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| 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. |
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| 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. |

