# Course Syllabus of Introduction to Physiology

**Faculty :** Faculty of Medicine and Health Sciences.
**Department: Basic Sciences**
**Program :** Bachelor of Medicine and Surgery

## I. General information about the course instructor :

| Name | Dr / Sadeq Saad Abdulmogny | Office Hours(3 Hours Weekly ) | | | | | |
|---|---|---|---|---|---|---|---|
| Location & phone number | 773609090 | Sat | Sun | Mon | Tue | Wed | Thu |
| Email | asdhod@yahoo.com | | | / | | | |

## II. General information about the course:

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|---|---|---|---|---|---|---|---|
| 1 | Course Title : | Introduction to Physiology. | | | | | |
| 2 | Course Code and Number : | BMD08 | | | | | |
| 3 | Credit Hours : | Credit Hours | | | | | Total |
| | | Theoretical | Seminar/Tutorial | Practical | Clinical | Training | |
| | | 3 | - | - | - | - | 3 |
| 4 | Study Level and Semester: | 1st year /1st semester | | | | | |
| 5 | Pre-requisites: | None | | | | | |
| 6 | Co-requisites : | None | | | | | |
| 7 | Program in which the course is offered: | Bachelor of Medicine and Surgery | | | | | |
| 8 | Teaching Language: | English | | | | | |
| 9 | Instruction location: | University of Science and Technology, Sana'a | | | | | |

## III. Course Description

This introductory physiology course introduces basics concepts in physiology of human body. The course familiarizes students with basic definitions and principles related to physiology. The course emphasizes the concept of internal environment and homeostasis and the concept of feed back in a biological system. It also helps students to understand body fluid and cellular physiology including osmosis , acid-base balance, body temperature and physiology of growth. The learning strategies that can be used is lectures and discussions (Seminars).

## IV. Course Aims:

1) To provide student with a basic knowledge and understanding concerning the fundamental mechanisms of human life as a continuous process.

2) To provide the student with the knowledge about the theoretical principles outlined in the syllabus in relation to ongoing basic sciences.

3) To get the student the ability to perform certain clinical basic skills

4) To develop the basic skills and ethical behavior required for scientific research, as well as effective communication and team work attitude.

## V. Course Intended Learning Outcomes (CILOs) :

**1.** Describe the functions of the different organelles in the human cell, and describe the transport system across the cell membranes.
**2**-Describe the body fluids, compartments, composition & functions
3- Explain physiology of the growth and growth factors. normal cell divisions.
4- Distinguish between physiological and pathological performance of body cells.
5- Integrate physiology with other sciences.
6- perform clinical skill of measuring body temperature.
7- Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day.

## VI. Course Contents

First: Theoretical Aspects

| No. | Course Topics/Units | Sub-topics | No. of Lectures | Contact Hours |
|---|---|---|---|---|
| 1 | **Physiology definition & organization of the cell** | - Functional morphology of the cell<br>- Junctions between cells, intercellular communications.<br>- Transport across cell membranes | 5 | 10 |



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| | | -Functional systems of the cell that make it a living organism.<br>-Genetic control of protein synthesis, cell function and cell reproduction. | | |
| **2** | **Physiology of growth & growth factors.** | - Definition of growth.<br>- Factors that affect the rate of growth. | 3 | 6 |
| **3** | **Body fluids, compartments, composition & functions.** | - Osmosis, osmolality, isotonicity & body water balance.<br>- Measurement of fluid volumes in the different body fluid compartments. | 3 | 6 |
| **4** | **Basis of acid base balance** | - Hydrogen ion concentration is precisely regulated.<br>- Definitions and meanings of acid and base.<br>- Defenses against changes in hydrogen ion concentration. | 3 | 6 |
| **5** | **Homeostasis** | - Define the internal environment.<br>- Understand the importance of homeostasis. | 3 | 6 |
| **6** | **Body temperature regulation** | - Regulation of body temperature.<br>- Role of hypothalamus.<br>- Abnormalities of body temperature regulation. | 3 | 6 |
| **7** | **Basal metabolism, metabolic rate and factors affecting.** | - Adenosine triphosphate functions as an energy currency.<br>- Control of energy release in the cells.<br>- Metabolic rate.<br>- Energy metabolism. | 3 | 5 |
| **Total** | | | **23** | **45= 3CH** |



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