هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

Course Specifications

Course Title:	**Physiology**
Course Code:	**2062140-3**
Program:	**Bachelor in Food Science and Nutrition**
Department:	**Food Sciences and Nutrition Department**
College:	**College of Science**
Institution:	**Taif University**

Table of Contents

A. Course Identification

1. Credit hours: 3 Hours
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: 6th level / 2rd year
4. Pre-requisites for this course (if any)**: General biology (201104-4)**
5. Co-requisites for this course (if any)**: None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	3h/ Week	80%
2	**Blended**	---	---
3	**E-learning**	---	---
4	**Distance learning**	---	---
5	**Other**	3h/ Week	20%

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	---
4	**Others** (specify)	---
	Total	**60**

B. Course Objectives and Learning Outcomes:

1. Course Description

Introduction to human physiology (cell, tissue, organs and systems) - Digestive System, Digestion, Absorption (roll of enzymes) - Metabolism (carbohydrates, proteins, lipids) - Circulatory system and blood - (RBCS, WBCS, Blood Plasma) - Blood homeostasis - Glands and Hormones - The Respiratory system and Respiration - The excretory system and excretion - Body fluids - The Nervous system.

2. Course Main Objective:

1) To acquire an appropriate background about the structure and function of the human cell, tissue and organs.
2) To know about the normal basis of organ function and body fluids and blood homeostasis.

3. Course Learning Outcomes:

CLOs		Aligned PLOs
1.0	**Knowledge and understanding:**	
1.1	Student recognizes the normal functions of different body systems in human.	**K 1**
2.0	**Skills:**	
2.1	Student describes the coordination between human body systems	**S 1**
2.2	Student analyzes of laboratory blood and urine tests	**S 3**
3	**Values:**	
3.1	Student cooperates information technology in various field of human physiology.	**V 1**
3.2	Student reacts with applied modern technology for explanation the basis of physiological function in human	**V 2**
3.3	Student supports to using the research and the audiovisual media in presentation of the data of the different body system in human.	**V 3**

C. Course Content:

No	List of Topics	Contact Hours
1	Introduction to human physiology (cell – tissue - organs – system) - cell structure and function- Specialized cells of the animal body - proteins and cholesterol of cell membrane.	**3**
2	Digestive system - digestion - mechanical digestion - chemical digestion - absorption - enzymes and digestion	**3**
3	Hormones and digestion - metabolism (carbohydrates, proteins, lipids).	**3**
4	The Circulatory system and Blood - Components of the circulatory system - Type of circulatory systems	**3**
5	Components of blood (RBCS, WBCS, Blood Plasma) - exchanges between blood and cells - blood pressure	**3**
6	The excretory system and excretion and body fluids -excretion cycle - homeostatic functions of the kidney - nephron functions to produce urine - homeostatic functions of the kidney	**3**
7	The respiratory system and respiration - respiratory system principles -homeostasis and gas exchange - methods of respiration in animals	**3**
8	The nervous system (control) structure and functions - function of the nervous system - cellular basis of the nervous system - Functionally three types of neurons found - neuron characters	**3**
9	The reproduction system structure and functions - fertilization	**3**
10	Glands and hormones, as well as chemical hormonal coordination	**3**
Total		**30**
Experimental Topics		
1	Safety guidelines - guidelines to methods of physiological techniques - laboratory safety precautions	**3**
2	Samples of animal and cells and tissues- Samples of types of membrane proteins that serve various functions	**3**
3	The pH of saliva - the detection of proteins - investigation of saliva-amylase and maltase - Investigation of the acidity of gastric juice	**3**
4	Detection of lactic acid in the gastric juice - investigation of the protein digesting function of pepsin in gastric content	**3**
5	Experiments on the isolated rat heart preparation	**3**
6	Blood pressure measurement - blood Sampling	**3**
7	Determination of hemoglobin - Determination of blood types.	**3**

8	Complete blood cell count interpretation- The pH of the urine - microscopic investigation of the urine sediment	**3**
9	Detection of sugar according to nylander and fehling - Detection of proteins - detection of blood and its decomposition products with the benzidine test	**3**
10	Experiments on regulation of extracellular fluids - animal excretory system - nephron - The nervous system - cellular basis of the nervous system	**3**
Total		**30**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Student recognizes the normal functions of different body systems in human.	Lecture.	Written Exam
2.0	**Skills**		
2.1	Student describes the coordination between human body systems	Lectures- Scientific media	Written Exam
2.2	Student analyzes of laboratory blood and urine tests	Labs	Practical Exam
3.0	**Values**		
3.1	Student cooperates information technology in various field of human physiology.	Lectures - Labs - Homework -Scientific media	Activities evaluation- Practical Exam
3.2	Student reacts with applied modern technology for explanation the basis of physiological function in human		
3.3	Student supports to using the research and the audiovisual media in presentation of the data of the different body system in human.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignment and Interaction during lectures	Continues	10%
2	Midterm exam	5-6	20%
3	Weekly Lab. Reports	Continues	20%
4	Practical exam	11	10%
5	Final exam	12	40%

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support:

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- There are 6 h per week for this purpose and the students know these hours according to the time of professor who teach the course.
- Student satisfaction surveys are conducted for academic guidance.
- Develop an improvement plan for academic guidance based on the results of the questionnaire analysis.

F. Learning Resources and Facilities

1.Learning Resources:

Required Textbooks	- Elaine N. Marieb, Katja Hoehn (2013): Human anatomy & physiology, 9th ed. ISBN-10 : 0321743261. - Lauralee Sherwood (2013): Human Physiology: from cells to systems. Belmont, CA- Brooks Cole- 8th ed. ISBN-13: 978-1133108931 - Ross and Wilson (2008): Anatomy and physiology,10th Ed.. - Elaine N. Marieb (2003): Essentials of Human Anatomy and Physiology, 7th.Ed. ISBN-13: 978-0805300123. - Rodney A Rhoades & George A Tanner (2003): Medical Physiology 2nd Ed. ISBN-13: 978-0781719360. - Hadley, M.E.(2000): Endocrinology, 5th edition, Prentice Hall, Upper Saddle River, NJ, (ISBN: 0130803561). - Color Atlas of Physiology, A. Despopoulos/S. Silbernagl.
Essential References Materials	- Anatomy and physiology, Ross and Wilson,10th Ed.2008.
Electronic Materials	- http://eds.a.ebscohost.com.sdl.idm.oclc.org/eds/detail/detail?vid=0&sid=85da3557-23e4-440d-b1c7-0e6076d0f65e%40sessionmgr4008&bdata=JnNpdGU9ZWRzLWxpdmU%3d - http://eds.a.ebscohost.com.sdl.idm.oclc.org/eds/detail/detail?vid=2&sid=2e793763-36dd-415b-919f-6f5e2f1a2a0b%40sessionmgr4010&bdata=JnNpdGU9ZWRzLWxpdmU%3d#AN=13385057&db=asn - http://eds.a.ebscohost.com.sdl.idm.oclc.org/eds/detail/detail?vid=8&sid=2e793763-36dd-415b-919f-6f5e2f1a2a0b%40sessionmgr4010&bdata=JnNpdGU9ZWRzLWxpdmU%3d#AN=86501174&db=edb
Other Learning Materials	- http://en.wikipedia.org/wiki/Human_Anatomy - http://www.youtube.com/watch?v=y2N_b0qwvxY - http://www.youtube.com/watch?v=3THZeaMfuSw - http://www.cliffsnotes.com/study_guide/The-Blood.topicArticleId-

2. Facilities Required:

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	- Classroom (capacity not more than 40 students) for 3 h/week. - Lab (capacity not more than 20 students) for 3 h/week
Technology Resources (AV, data show, Smart Board, software, etc.)	- Data Show projectors, smart blackboard. - Computer Portable PowerPoint presentations to special lectures.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	- Data Show projectors, smart blackboard. - Computer Portable PowerPoint presentations to special lectures.

G. Course Quality Evaluation:

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students, faculty, program leaders and Peer Reviewer	• Continuous monitoring by directors of program and quality assurance unit (Direct). • Applying Questionnaires received from the Deanship of Academic Development for Student evaluation (indirect). • Evaluation of course report (indirect).
Extent of achievement of course learning outcomes	Students, faculty, program leaders and Peer Reviewer	• Applying Questionnaires for Student evaluation (indirect). • Evaluation of course report (indirect).
Quality of learning resources	Faculty, program leaders, administrative staff, independent reviewers.	• Continuous monitoring by directors of program and quality assurance unit (Direct). • Applying Questionnaires for Student evaluation (indirect). • Evaluation of course report (indirect).

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	**Department council - Academic Development Committee**
Reference No.	**Department council NO: 2 Subject NO: 1**
Date	**30 /02 /1444 H**