



## Course Specifications

<b>Course Title:</b>	Human Physiology for Nursing
<b>Course Code:</b>	5603221-2
<b>Program:</b>	Nursing program
<b>Department:</b>	College of Nursing
<b>College:</b>	College of Nursing
<b>Institution:</b>	Umm Al - Qura University, Makkah, Saudi Arabia

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## A. Course Identification

<b>1. Credit hours:</b>			
<b>2. Course type</b>			
a.	University <input checked="" type="checkbox"/>	College <input type="checkbox"/>	Department <input type="checkbox"/>
b.	Required <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>	Others <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b>			
<b>4. Pre-requisites for this course (if any):</b> Completed Preparatory Year			
<b>5. Co-requisites for this course (if any):</b>  Not applicable			

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom		80%
2	Blended		5%
3	E-learning		
4	Distance learning		
5	Other		15%

### 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	2hrs/w/15w=30hrs
2	Laboratory/Studio	
3	Tutorial	2hrs/semester=2 hrs
4	Others (specify) Assignments	2hrs/semester=2 hrs
	<b>Total</b>	<b>34 hrs</b>

## B. Course Objectives and Learning Outcomes

- **Body fluid:** fluid compartments, Intra and extracellular fluids; Composition of body fluids; Barriers separating compartments; movement of body fluids; Cells placed in different concentrations of fluid; Forces regulating the movement of fluid; body fluid regulation
- **Digestive system:** Organs of digestive system; Basic structure of digestive tract wall; Teeth, salivary glands, esophagus and stomach; Digestion of food in stomach; Small intestine, its parts, villi, microvilli and movements; Pancreas; liver; Gall bladder; Digestion and absorption of food in small intestine; Large intestine; defecation. Physiological disorders associated with digestive system, Gastroesophageal Reflux Disease, Chronic Diarrhea, Chronic Constipation, Gastroenteritis, Ulcers, Hemorrhoids.
- **Renal system:** Components of renal system; Functions of renal system; macroscopic and Microscopic structure of kidney; Structure of nephron; glomerular filtration, filtration membrane, Urine formation; ; tubular reabsorption and secretion; Regulation of urine composition; hormonal control of renal system; Ureter; Urinary bladder; Micturition; dialysis therapy.
- **CVS1:** The heart, its coverings, chambers and valves; Conducting system of heart; Cardiac cycle.
- **CVS2:** ECG; Blood vessels, arteries, veins and capillaries; Blood pressure.

- **Respiratory system:** Organs of respiratory system, conducting and respiratory zones; Lungs and their coverings; Mechanism of breathing, inspiration and expiration; Respiratory volumes and capacities; Gas exchange in lungs and transport in blood; Internal respiration; Regulation of respiration.
- **Blood:** Functions of blood, its components; Plasma; Formed elements, Erythrocyte, Hemoglobin molecule; Leukocytes and their types; Platelets; Hemostasis, clotting of blood; Blood groups, ABO and Rh systems.
- **Lymphatic system & Immunity:** Lymphatic vessels and capillaries, lymph nodes, lymphatic organs; Immunity, Antigens, Antibodies; Cells of immune system, T and B lymphocytes; Macrophages; Humoral and cell mediated immunity.
- **Neurophysiology:** Functional organization of nervous system; Sensory receptors and their classification; Motor control of nervous system; Reflex arc.
- **ANS:** Sympathetic and parasympathetic nervous system; neurotransmitters and their effects on body tissues/ organs.
- **Excitable tissues:** Excitability, Membrane potential, Action potential and its conduction through the nerve fiber, Types of muscles, their differences, and functions in the body.
- **Skin & regulation of B.T.** Functions of skin; Layers of skin; Temperature regulation at high and low body temperature.
- **Endocrine system:** Hormones, Chemical nature and control of hormone release; Endocrine glands; Hormones of anterior and posterior pituitary glands, thyroid and parathyroid gland hormones, Cortical and medullary hormones of adrenal gland, Pancreatic hormones, Pineal and thymus glands, Ovarian and testicular hormones.
- **Reproductive system:** Organs of male reproductive system; spermatogenesis, testicular hormones, Secondary sex characteristics. Organs of female reproductive system; Oogenesis and ovarian cycle, Menstrual cycle; Ovarian hormones and secondary sex characteristics; Mammary glands.
- **Pregnancy & prenatal physiology:** Fertilization of ovum, Zygote formation, Implantation, Placental functions, Hormonal and physiological changes in mothers' body.

## 2. Course Main Objective

At the completion of the physiology course, students are expected to be able to:

1. Recognize the role and basic underlying principles of the different body systems in regulating the internal environment.
2. Explain how different body systems achieve their functions and how these functions are regulated and interrelated.
3. List the normal values of important physiological parameters and interpret such values when given.
4. Predict the effects of disease processes on the normal functions and how the body responds & compensates for such disturbances.
5. Develop essential learning skills such as communication skill through writing scientific articles and presenting scientific materials in front of audiences.

## 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding</b>	
1.1	Recognize human anatomy, physiology, and pathophysiology emphasizing the dynamic relationships of human structures and function focusing on the all body systems.	
1.2	Recognize biological and physiological changes which developed as a normal consequence of aging process and those resulting from a pathological origin.	
1.3	Comprehend human growth and development across the life span	
1...		

CLOs		Aligned PLOs
<b>2</b>	<b>Skills :</b>	
2.1	Demonstrate critical thinking skills when providing client care.	
2.2	Explain the appropriate pathophysiology of each system alteration.	
2.3	Explain the appropriate pathophysiology of each system alteration.	
2...		
<b>3</b>	<b>Values:</b>	
3.1	Use effective communication techniques and positive relation with others.	
3.2	Work effectively as a member of a team and participate constructively in groups.	
3.3	Learn and operate the nursing leadership within a team.	
3.4	Stick to continued education.	
3.5	Develop the responsibility of searching, finding the information and data using.	
3.6	Access information sources (e.g. libraries, database, and scientific papers)	

## C. Course Content

No	List of Topics	Contact Hours
1	Body Fluids	2
2	Digestive System	2
3	Renal System	2
4	Cardiovascular System	2
5	Cardiovascular System I	2
6	Respiratory System II	2
7	Blood	2
8	Lymphatic System & Immunity	2
9	Neurophysiology	2
10	Autonomic Nervous System	2
11	Excitable Tissues (Nerve & Muscle)	2
12	Skin & Regulation of Body Temperature	2
13	Endocrine System	2
14	Reproductive System	2
15	Pregnancy & Prenatal Physiology	2
<b>Total</b>		<b>30</b>

## D. Teaching and Assessment

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

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and Understanding</b>		
1.1	List functional organization of body systems. Describe the anatomical significance with the physiological functions and with the clinical conditions during subsequent years of study.	Class room sessions. Regular 1 lecture (2 hours) per week.  Introductory lecture gives an overview of the content and significance of the course and of its	One Mid Term and final theory examinations including MCQs, Assignment  <b>Methods of assessment of knowledge acquired:</b> <b>Theory:</b> Mid Term Exam:

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		relationship to students' existing knowledge.  Each subsequent lecture begins with a similar overview linking the particular content of the presentation to the general overview.  Each lecture introduced with the aim of multimedia facilities, power point animations, movies, etc.	35 marks  Final Exam: 50 marks.  <b>Assignment and Presentation:</b> 15 marks  <b>Grand Total:</b> 100 marks
1.2	Write organs & basic structures of different body systems.		
1.3	Describe the anatomical significance with the physiological functions and with the clinical conditions during subsequent years of study.		
<b>2.0</b>	<b>Skills</b>		
2.1	Explain integrate the theoretical knowledge amongst various systems of the body.		
2.2	Differentiate the role of different body systems and integration between all of them (Holistic approach).		
...			
<b>3.0</b>	<b>Values</b>		
3.1			
3.2			
...			

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	Week 8	35%
2	Activity (Assignment & Presentation)	Week 11	15%
3	Final Written Exam	Week 17	50%
4			
5			
6			
7			
8			

\*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:  
2 hours per week

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	<p><b>Essentials of Human Anatomy &amp; Physiology (12<sup>th</sup> Edition, 2017)</b> by Elaine N. Marieb and Suzanne M. Keller ISBN: 978-01343 395326 Publisher: Pearson Education.</p> <p><b>Ross and Wilson Anatomy and Physiology, in health and illness (13<sup>th</sup> Edition, 2018)</b> by Anne Waugh &amp; Allison Grant ISBN: 978-0702072772 Publisher: Churchill Livingstone.</p> <p><b>Principles of Anatomy &amp; Physiology (15<sup>th</sup> Edition, 2016)</b> by Gerard J. Tortora &amp; Bryan H. Derrickson ISBN: 978-1119329398 Publisher: John Wiley.</p> <p><b>Hole's Human Anatomy and Physiology (15<sup>th</sup> Edition, 2018)</b> by David Shier, Jackie Butler, Ricki Lewis ISBN: 978-1259864568 Publisher: Mc Graw- Hill.</p>
<b>Essential References Materials</b>	<p><b>Anatomy and Physiology for Nurses at a Glance (1st Edition, 2015)</b> by Ian Peate, Muralitharan Nair ISBN: 978-1-118-74631-8 Publisher: Wiley-Blackwell</p> <p><b>Ross and Wilson Anatomy and Physiology, in health and illness (13<sup>th</sup> Edition, 2018)</b> by Anne Waugh &amp; Allison Grant ISBN: 978-0702072772 Publisher: Churchill Livingstone.</p>
<b>Electronic Materials</b>	<p>PubMed, Google-scholar, <a href="https://www.nature.com/ncb/">https://www.nature.com/ncb/</a></p>
<b>Other Learning Materials</b>	<p>Interactive CD series on physiology of different body systems. Computer simulation of general physiology.</p>

## 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	There is a need of big lecture rooms to accommodate large number of students as well as enough furniture (chairs, tables etc.) & projector control system, especially in view of COVID-19 to keep sufficient distance.
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	Most students have their own laptops, a good number of desktops connected to the internet should be available in the library. There is a need of an efficient network system for online teaching.
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	For at- campus teaching in the present pandemic situation there is a need of essential materials to follow the COP (e.g. hand sanitizers, masks gloves etc.).

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
<b>Question / Answer Sessions</b>	Course Incharge	Incentive to mark students' attendance
<b>Class room presentations</b>	Students/ peer reviewer	Marks can be given

**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

<b>Council / Committee</b>	
<b>Reference No.</b>	
<b>Date</b>	