



## Course Descriptor APSC381- Human Anatomy and Physiology Lab

<b>Proposed Academic Year</b>	2021-22	<b>Last Reviewed Academic Year</b>	2019-20
<b>Course Code</b>	APSC381	<b>Course Title</b>	Human Anatomy and Physiology Lab
<b>Credit hours</b>	3	<b>Level of study</b>	Undergraduate
<b>College / Centre</b>	CAHS	<b>Department</b>	
<b>Co-requisites</b>	APSC310	<b>Pre-requisites</b>	BIOL181

### 1. COURSE OUTLINE

[The course is designed to provide the students applied scientific disciplines with knowledge about the normal function and mechanism of various physiological and systems basis on the anatomical and histological correlation, including: cells physiology and body fluid, membranes physiology, nerves and muscles, contractions of skeletal muscles, excitation contraction coupling, Neuromuscular transmission, Autonomic nervous system, Sensory nervous system, Cardiovascular system, Digestive system, Respiratory system, Reproductive system, and finally Endocrine system.

### 2. AIMS

The aim of this module is to familiarize the student with the anatomical structure and physiological function of normal tissues in the body. The modules will introduce students to: the function of various body systems, the normal secretion of the cells such as hormones, enzymes and chemotactic substances, the body fluid & hemodynamic, the body thermal regulation, and the nerve impulses.

### 3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS

<b>Learning Outcomes (Definitive)</b>	<b>Teaching and Learning methods (Indicative)</b>	<b>Assessment (Indicative)</b>
Upon successful completion of this course, students will be able to:		
1. Identify the anatomical and histological structure of selected body Tissue / Organ.	Lectures and presentations	In-lab tests, quizzes
2. Relate the function of the tissue to its structure o the students can understand the concentrations of electrolytes in body fluid and the way of hemodynamic.	Lectures and presentations	In-lab tests, quizzes
3. Recognize the importance of keeping normal physiological activities of various body tissues.	Lectures and presentations	In-lab tests, quizzes



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4. Evaluate the physiological concepts and Interpret the effect of hormones on the body tissues	Lectures and presentations	In-lab tests, quizzes
5. Apply technological advancement / modern equipment and techniques for physiological measurements and thus relate the concepts of anatomy & physiology to the advancement in science and technology.	Demonstration and presentations	Quiz and written examination

### 4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Quizzes	20%
Mid-term Exam	20%
Lab Reports	20%
Final Examination	40%
<b>TOTAL</b>	<b>100%</b>

### 5. ACHIEVING A PASS

Students will achieve **03** credit hours for this course by passing **ALL** of the course assessments [*alternatively, list the compulsory pass assessments\**] and achieving a **minimum overall score of 50%**

**NB \*Ensure that ALL learning outcomes are taken into account**

### 6. COURSE CONTENT (Indicative)

Introduction to the course. Laboratory Safety guidelines.

The human body: An Orientation. Using the microscope for histological Examination.

Preparing tissues for histological microscopic examination: Epithelial tissues, glandular epithelia, connective tissue, muscle tissue & nervous tissue.

Blood collection, examination & RBC count.

WBC count. Blood platelets.

Coagulation test & blood grouping.

Physiology of circulation. Electrocardiography.



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Monitoring blood pressure & Pulse.	
Body temperature	
Renal function: Mechanisms of urine formation.	
Urine analysis: Its physical characteristics & chemical compositions.	
Use of Power Lab for monitoring Blood pressure Pulse	
<b>TOTAL HOURS</b>	<b>45</b>
Plus <b>RECOMMENDED INDEPENDENT STUDY HOURS</b>	<b>15</b>
<b>TOTAL COURSE HOURS</b>	<b>60</b>

**7. RECOMMENDED REFERENCES**

**Core text/s:**

- Gerard J. Tortora & Bryan H. Derrickson (2015). Principles of Anatomy & Physiology,

Volume 1 & 2, 13th eds. John Wiley & Sons.

- Human Anatomy and Physiology Lab Manual. ASU

**Recommended Reading:**

1. Kapit, W. & Elson, L. (2002). The Anatomy Coloring book, 3rd edition, Benjamin Cummings.
2. Young, B. & Heath J. W. (2006). Wheater's Functional Histology: A Text and Color Atlas. 5th Edition, Churchill Livingstone, London

**Library + online resources:**

**Open Educational Resources:**



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