

Subject Description Form

Subject Code	SEHH2233
Subject Title	Human Biology I
Level	2
Credit Value	3
Medium of Instruction	English
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	This subject enables students to acquire a basic understanding of the body as an integrated entity from cellular level to whole body and to appreciate the interrelationships between body systems as a whole. The study of this subject contributes to the students' acquisition of a general basis for further study in areas related to human biology.
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ul style="list-style-type: none"> (a) discuss the integumentary, skeletomuscular cardiovascular and lymphatic systems of human biological science; (b) describe the integumentary, skeletomuscular cardiovascular and lymphatic systems of the human body, cell structure, and the basic metabolic processes of the organ systems studied; with appropriate terms; (c) explain the intricate complexities of the integumentary, skeletomuscular cardiovascular and lymphatic systems and function in the human body; (d) explain the basic pathological basis involving the integumentary, skeletomuscular cardiovascular and lymphatic systems; (e) evaluate the interrelationships among the integumentary, skeletomuscular, cardiovascular, lymphatic systems and physiological processes; (f) evaluate mechanisms that maintain homeostasis in biological systems.
Subject Synopsis/ Indicative Syllabus	<p>Organisation of the Human Body</p> <ul style="list-style-type: none"> • Structure and function of the cell: organelles, functions of the cells

	<ul style="list-style-type: none"> • Histology: the study of tissues, cellular features and organisation • Gross anatomy of organ systems <p>Regulation and Maintenance Cardiovascular system: basic anatomical structure of the cardiovascular system, cardiac output, cardiac cycle, blood pressure, control of heart beat, electrical activity of heart and electrocardiogram; Cardiovascular diseases; Regulation of blood flow; Nervous and endocrine control of cardiac function. Blood cells, blood composition, hemostasis, blood typing and blood transfusion. Lymphatic system and immunity: inflammation reactions, immune cells, antibodies, specific and non-specific immunity responses; Active and passive immunity; Immunological diseases.</p> <p>Support and Movement Integumentary system: structure and functions of hair, skin, nails; Disorders of the skin, burns and wound healing. Skeletal system: structures and functions of bones and cartilage, neural control of muscle contraction, growth and remodeling of bone; Calcium homeostasis, functional anatomy of the limbs and spine, articulation and movement. Muscular system: functions and support of muscle. Pathogenesis and manifestations of common neuromuscular diseases and musculoskeletal disorders.</p>																																						
<p>Teaching/Learning Methodology</p>	<p>Lectures will focus on the introduction of the anatomy followed by elaboration of the key concepts and underlying principles of physiology. Clinical applications related to the basic human biology knowledge will be discussed during lectures to enhance students' acquisition of basic concepts and their relevant applications.</p> <p>Tutorials will provide students with the opportunity to engage in more active learning. Multimedia aids such as interactive videos and CD-ROMs will be used. Virtual laboratory sessions will be designed to supplement the theoretical content taught in lectures. These learning activities are to develop students' abilities in identifying the relationship between structure and physiology, and analysing the mechanism in maintaining homeostasis.</p>																																						
<p>Assessment Methods in Alignment with Intended Learning Outcomes</p>	<p>A variety of assessment tools will be used to develop and assess students' achievement of the subject intended learning outcomes.</p> <table border="1" data-bbox="539 1664 1377 2020"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="6">Intended subject learning outcomes to be assessed</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> <th>d</th> <th>e</th> <th>f</th> </tr> </thead> <tbody> <tr> <td>Continuous Assessment*</td> <td>60</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>▪ Test</td> <td>25</td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>▪ Assignment 1</td> <td>15</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td></td> </tr> </tbody> </table>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed						a	b	c	d	e	f	Continuous Assessment*	60							▪ Test	25		✓	✓	✓			▪ Assignment 1	15	✓	✓	✓	✓		
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▪ Test	25		✓	✓	✓																																		
▪ Assignment 1	15	✓	✓	✓	✓																																		

	<ul style="list-style-type: none"> ▪ Assignment 2 	15		✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> ▪ Participation 	5	✓	✓	✓	✓	✓	✓
	Final Examination	40	✓	✓	✓	✓	✓	✓
	Total	100						
<p><i>*Continuous assessment items and/or weighting may be adjusted by the subject team subject to the approval of the College Programme Committee.</i></p> <p>To pass this subject, students are required to obtain Grade D or above in both the Continuous Assessment and Final Examination.</p>								
Student Study Effort Expected	Class contact	Hours						
	<ul style="list-style-type: none"> ▪ Lecture 	26						
	<ul style="list-style-type: none"> ▪ Tutorial/ Laboratory 	13						
	Other student study effort							
	<ul style="list-style-type: none"> ▪ Self-study 	52						
	<ul style="list-style-type: none"> ▪ Continuous Assessment 	39						
	Total student study effort	130						
Reading List and References	<p>Recommended Textbooks</p> <p>Longenbaker, S. (2017). <i>Mader's Understanding Human Anatomy & Physiology</i>. (9th ed.), McGraw-Hill.</p> <p>Martini, F.H. (2018). <i>Fundamentals of Anatomy and Physiology</i>. (11th ed.), Pearson Education Ltd.</p> <p>Starr, C. & McMillan, B. (2016). <i>Human Biology</i>. (11th ed.), Cengage Learning.</p> <p>References</p> <p>Abrahams, P.H., Hutchings, R.T., & Marks, Jr.S.C. (2019). <i>McMinn's Colour Atlas of Human Anatomy</i>. (6th ed.), Mosby Elsevier.</p> <p>Marieb, E.N. & Hoehn, K. (2019). <i>Human Anatomy and Physiology</i>. (11th ed.), Benjamin Cummings.</p> <p>Netter F.H. (2018). <i>Atlas of Human Anatomy, Professional Edition: including NetterReference.com Access with Full Downloadable Image Bank (Netter Basic Science)</i>. (7th ed.), Elsevier.</p> <p>Saladin, K.S. (2018). <i>Human Anatomy and Physiology</i>. (8th ed.),</p>							

	<p>McGraw Hill.</p> <p>Tortora, G.J. & Grabowski, S.R. (2016). <i>Principles of Anatomy and Physiology</i>. (15th ed.), John Wiley and Sons.</p> <p>Vanputte, C., Regan, J. & Russo, A. (2017). <i>Seeley's Anatomy and Physiology</i>. (11th ed.), McGraw Hill.</p> <p>Waugh, A. Grant A. (2016). <i>Ross and Wilson Anatomy and Physiology in Health and Illness</i>. (13th ed.), Churchill Livingstone.</p>
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