

1.	Name of Course/Module	Physiology and Anatomy of Major Organ Systems	
2.	Course Code	HAP 1019	
3.	Status of Subject	Core for B. Sc Medical information technology	
4.	MQF Level/Stage	Bachelor Degree – MQF Level 6	
5.	Version (state the date of the last Senate approval)	August 2011	
6.	Requirement for Registration	NONE	
7.	Name(s) of academic/teaching staff	A/Prof Dr H Lee Seldon Dr Margaret A Seldon Ms Ong Chia Sui	
8.	Semester and Year offered	Trimester 2 (Beta level)	
9.	Objective of the course/module in the programme :		
	<ol style="list-style-type: none"> <li>1. To describe the structure and function of major organ systems.</li> <li>2. To teach the fundamentals of physiological processes of these systems.</li> <li>3. To relate structure to function.</li> </ol>		
10.	Learning Outcomes :		
	<p>At the completion of the subject, students should be able to:</p> <ol style="list-style-type: none"> <li>1. Describe the basic organization (macroscopic level) of the human body and major organ systems. (cognitive, level 2)</li> <li>2. Explain functions of major organ systems in the human body. (cognitive, level 4)</li> <li>3. Understand interrelationships between different organ systems. (cognitive, level 5)</li> <li>4. Describe control mechanisms operating in the human body. (cognitive, level 4)</li> </ol>		
11.	Synopsis:		
	<p>The course will cover the anatomy and physiology of the cardiovascular system, the respiratory system, the gastrointestinal system, the urinary system, the reproductive system, and the endocrine system. For each system, the structural characteristics and its relationship to its function will be looked at. The course will focus on how structure relates to function and vice versa, and explore the interrelationship and interdependency of the various systems.</p>		
	<p>Kursus ini merangkumi anatomi dan fisiologi bagi sistem kardiovaskular, sistem pernafasan, sistem pencernaan, sistem urinari, sistem pembiakan and sistem endokrin. Bagi setiap sistem, ciri-ciri struktur dan fungsinya akan dibincang. Kursus ini menekankan kepada hubungan antara struktur dengan fungsinya dan sebaliknya. Kursus ini juga menyelidik hubungan dan kait rapat antara pelbagai sistem.</p>		
12.	Mapping of Subject to Programme Outcomes :		
	Programme Outcomes		<b>% of Contribution</b>
	PO1: Apply soft skills in work and career related activities		50
	PO2: Demonstrate knowledge and understanding of fundamental concepts, principles and best practices		50
13.	Assessment Methods and Types :		
	Method and Type	Description/Details	Percentage
	Test		20%

	Assignment	Report & Presentation	10%
	Final Exam		50%
	Quiz		10%
	Lab reports		10%
14.	Details of Subject		
	Topics	Mode of Delivery	
		Lecture	Laboratory
	<b>1. Organization of the body</b>	2	2
	i. Introduction to body organization ii. The Tissue level of organization		
	<b>2. The Cardiovascular System</b>	4	3
	Anatomy i. The Heart <ul style="list-style-type: none"> <li>• Structure – chambers and valves</li> <li>• Conduction system</li> <li>• Great vessels of the heart</li> <li>• Blood supply of the heart</li> </ul> ii. The Circulatory System <ul style="list-style-type: none"> <li>• Types of blood vessels</li> <li>• Major arteries and veins</li> <li>• The pulmonary and systemic circulation</li> </ul> Physiology i. Physiology of the Heart <ul style="list-style-type: none"> <li>• Electrical properties and conduction</li> <li>• Control of the heart – neural and endocrine</li> <li>• Regulation of cardiac output</li> </ul> ii. Physiology of Circulation <ul style="list-style-type: none"> <li>• Principles of blood flow and pressure</li> <li>• Regulation of blood flow</li> </ul> Regulation of blood pressure		
	<b>3. The Respiratory System</b>	4	3
	Anatomy i. The Respiratory Tract ii. The Structure of the Lungs Physiology i. Respiration and Control of Breathing ii. Gas Transport & Exchange iii. Adjustment during Exercise and at High Altitudes		

<p><b>4. The Gastrointestinal System</b></p> <p>Anatomy</p> <p>i. Anatomy of the</p> <ul style="list-style-type: none"> <li>• Pharynx and oesophagus</li> <li>• Stomach</li> <li>• Small and large intestine</li> <li>• Liver and pancreas</li> </ul> <p>Physiology</p> <p>i. Digestion and absorption</p> <p>ii. Functions of the liver</p>	4	2
<p><b>5. The Urinary System</b></p> <p>Anatomy</p> <p>i. Anatomy of the Kidney</p> <p>ii. The Nephron</p> <p>iii. Accessory Excretory Structures</p> <p>Physiology</p> <p>i. Physiology of the Kidneys</p> <ul style="list-style-type: none"> <li>• Glomerular filtration</li> <li>• Tubular secretion and reabsorption</li> <li>• The countercurrent mechanism</li> <li>• Plasma clearance</li> </ul>	4	2
<p><b>6. The Reproductive Systems</b></p> <p>Anatomy</p> <p>i. Female Reproductive System</p> <ul style="list-style-type: none"> <li>• Ovary and uterus</li> <li>• Breast</li> </ul> <p>ii. Male Reproductive System</p> <ul style="list-style-type: none"> <li>• Testis and accessory structures</li> </ul> <p>iii. Development of the Reproductive Systems</p> <p>Physiology</p> <p>i. Spermatogenesis and Oogenesis</p> <p>ii. The Ovarian and Uterine Cycle</p> <p>iii. Physiology of Pregnancy</p> <p>iv. Changes at Puberty and Menopause</p>	4	3
<p><b>7. The Endocrine System</b></p> <p>i. Anatomy of major Endocrine System</p> <p>ii. Physiology</p> <ul style="list-style-type: none"> <li>• Chemistry of Hormone</li> <li>• Mechanisms of Hormone Action</li> <li>• Control of Hormone Release</li> <li>• The Hypothalamic-Pituitary Axis</li> <li>• Actions of Major Target Hormones</li> </ul>	6	3
<p><b>Total</b></p>	<b>28</b>	<b>18</b>

15.	Tutorials		
	<ul style="list-style-type: none"> <li>• Cardiovascular System</li> <li>• Respiration</li> <li>• Gastrointestinal System</li> <li>• Renal System</li> <li>• Reproductive Systems</li> <li>• Endocrine System</li> </ul>		
16.	Total Student Learning Time (SLT)	Face to Face (Hour)	Total Guided and Independent Learning
	Lecture	28	28
	Tutorials	5	5
	Laboratory/Practical	18	9
	Presentation	1	
	Assignment		10
	Mid Term Test	1	5
	Final Exam	2	20
	Quiz	1	1
	Sub Total	56	78
	Total SLT	$134/40 = 3.35 \Rightarrow 3$	
17.	Credit Value	3	
18.	Reading Materials :		
	Textbook	Reference Materials	
	<ol style="list-style-type: none"> <li>1. <i>Essentials of Human Anatomy and Physiology</i>. 8<sup>th</sup> Edition. Elaine N. Marieb. Pearson Benjamin Cummings. 2007.</li> <li>2. <i>Learning Human Anatomy. A Laboratory Text and Workbook</i>. 3<sup>rd</sup> Edition. Julia F. Guy. 2005.</li> <li>3. <i>PhysioEx™ 6.0 for Human Physiology: Laboratory Simulations in Physiology (Version 6.0)</i>. Peter Zao, Timothy Stabler, Greta Peterson and Lori Smith. Pearson Benjamin Cummings. 2006.</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Human Anatomy and Physiology (Pearson International Edition)</i>. 7<sup>th</sup> Edition. Elaine N. Marieb and Katja Hoehn. Pearson Benjamin Cummings, 2007.</li> <li>2. <i>Principle of Anatomy &amp; Physiology</i>. 10<sup>th</sup> Edition. Gerard J Tortora, Sandra Grabowski. Wiley International, 2003.</li> </ol>	
19.	Appendix (to be compiled when submitting the complete syllabus for the programme) :		
	<ol style="list-style-type: none"> <li>1. Mission and Vision of the University and Faculty</li> <li>2. Mapping of Programme Objectives to Vision and Mission of Faculty and University</li> <li>3. Mapping of Programme Outcome to Programme Objectives</li> <li>4. Programme Objective and Outcomes (Measurement and Descriptions)</li> </ol>		