The Hong Kong Polytechnic University

Subject Description Form

Please read the notes at the end of the table carefully before completing the form.

Subject Code	FSN2101
Subject Title	Human Physiology and Anatomy for Food and Nutrition I
Credit Value	3
Level	2
Co-requisite	FSN1004 Fundamentals of Modern Science in Food and Nutrition
Objectives	This subject aims to provide basic concepts of the anatomical structure, physiological mechanisms and function related to the body by using an organ system-based approach.
Intended Learning Outcomes *(Note 1)*	Upon completion of the subject, students will be able to: a) Understand the basic anatomical and physiological terminology of the selected organ systems; b) Understand the function and inter-relatedness of the system studied; c) Discuss the importance of communication and homeostasis at different levels of body organization in health and nutrition; d) Obtain physiological and anatomical knowledge related to nutrition
Subject Synopsis/ Indicative Syllabus *(Note 2)*	**Introduction to Anatomy and Physiology** Role of nutrition and human development **Level of body organization from cells to systems** Homeostasis and feedback control, primary tissues; organization of organs and systems **Respiratory System** Structure of respiratory system; physical aspects of ventilation; mechanics of breathing; gas exchange; transport of blood gases; regulation of breathing; control of ventilation rate; significance of forced vital capacity and expiratory volume exchange in health assessment **Cardiovascular System** Structure and function of the heart and blood vessels; role of pacemaker; nervous and endocrine control of cardiac functions;

haemodynamics and blood flow; thrombosis and anticoagulation; cardiac cycle; cardiac output; blood composition; systemic, pulmonary and lymphatic circulations

Digestive System
Structure of digestive system; digestion and absorption; from month to stomach; small intestine; large intestine; digestive role of liver; gallbladder and pancreas; neutral and endocrine regulation of digestive process

Renal System
Structure of the renal system; structure and function of a typical nephron; basic renal processes; regulation of sodium and water balance; renal plasma clearance; renal control of electrolytes; regulation of acid-base balance; glomerular filtration

Teaching/Learning Methodology

(Note 3)

Lecture and tutorial will introduce the basic knowledge and terminology of anatomy and physiology to understand the structures, functions and relationship of different systems. Supplement information with in-class activities like discussion and multimedia learning resources will be used.

Laboratory sessions will use scientific approaches including data collection and interpretation to solve the anatomical and physiological problems. Students can apply and consolidate the knowledge gained from lectures and tutorials in this session.

Assessment Methods in Alignment with Intended Learning Outcomes

(Note 4)

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)			
		a	b	c	d
1. Tests	40 %	✓	✓	✓	✓
2. Lab Reports	10 %	✓	✓	✓	✓
3. Examination	50 %	✓	✓	✓	✓
Total	100 %				

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Test
In-class quizzes/mid-term test will be used to access fundamental principles and facts of physiological knowledge.

Lab Reports
It is used to assess students' analytical skills and writing skills

	from reports by data collection from the lab session to let students apply and consolidate the knowledge gained during lectures. **Examination** It includes multiple choice questions and short questions to assess students' ability to comprehend and apply the knowledge to the covered systems.	
Student Study Effort Expected	Class contact:	
	▪ Lectures/Tutorials	37 Hrs.
	▪ Laboratory	6 Hrs.
	Other student study effort:	
	▪ Self-study	40 Hrs.
	▪ Preparation for assessment and assignments	48 Hrs.
	Total student study effort	131 Hrs.
Reading List and References	Human Physiology (2019) 15th Ed. Fox SI. Publisher: McGraw Hill. Martini FH, Nath JL and Bartholomew EF. (2017). Fundamentals of Anatomy and Physiology (11th ed.). Pearson, ISBN 10: 0134396022. Vander's Human Physiology: The Mechanisms of Body Function (2010) 12th Ed. Widmaier EP, Raff H & Strang KT. Publisher: McGrawHill.	

Note 1: Intended Learning Outcomes
Intended learning outcomes should state what students should be able to do or attain upon subject completion. Subject outcomes are expected to contribute to the attainment of the overall programme outcomes.

Note 2: Subject Synopsis/Indicative Syllabus
The syllabus should adequately address the intended learning outcomes. At the same time, overcrowding of the syllabus should be avoided.

Note 3: Teaching/Learning Methodology
This section should include a brief description of the teaching and learning methods to be employed to facilitate learning, and a justification of how the methods are aligned with the intended learning outcomes of the subject.

Note 4: Assessment Method
This section should include the assessment method(s) to be used and its relative weighting, and indicate which of the subject intended learning outcomes that each method is intended to assess. It should also provide a brief explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes.