SEMESTER I & II
LSM3212 HUMAN PHYSIOLOGY: CARDIOPULMONARY SYSTEM

Prerequisite: LSM2211
Workload: **22 lecture hours + 6 tutorial hours + 6 practical hours + 14 hours assignments/Self-directed study**

Course description:
The heart and lungs are central to the maintenance of homeostasis in the human body by bringing essential materials to and removing wastes from the body's cells. This module covers the basic physiology of the cardiovascular and pulmonary systems using exercise to illustrate the onset of homeostatic imbalances and the body's responses to restore homeostasis. Students will be able to identify the benefits that exercise imparts to cardiorespiratory fitness and overall health.

S/N	Topics	Lecture hours	
		Semester I	Semester II
1.	**Blood** Overview and Composition and functions of blood Blood cell production and Hemostasis Blood Grouping	6 HS	6 HS
2.	**Cardiovascular System (CVS)** Overview and Composition and functions of CVS Electrophysiology of the heart and ECG Mechanical aspects of the heart function Principles of circulatory system and fluid exchange Special circulations	6 ZA	6 KM
3.	**Respiratory System (RS)** Breathing Gas Exchange, Gas Transport Control of Breathing Relevance of exercise to the RS	6 CZ	6 TSY
4.	**Exercise Physiology (ExP)** CVS in Sports: • Acute CVS responses during exercise • CVS adaptations to long term exercise training • CVS adaptations during Altitude training Respiratory system in sports: • Respiratory responses during exercise • Respiratory control during exercise • Respiratory adaptations to exercise training • Indirect calorimetry	4 IL	4 FT
	Practical		
	1. ECG and heart function 2. Blood pressure and postural hypotension 3. VO2max		
			Total Lectures: 22h **Tutorials: 6h** **Practicals: 6h** **Assignments/Self-directed study: 14h**
			Total hours: 48h

TEXT BOOK: Human Physiology: From Cells to Systems with CB CourseSmart eBook, 9th Edition Sherwood

MODE OF ASSESSMENT: 60% Continual Assessments (30% midterm test; 15% assignment, 15% practical reports),
40% Final Exam

MODULE CO-ORDINATOR:

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LECTURERS:

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