



## Course Specifications

<b>Course Title:</b>	Cardiopulmonary Block
<b>Course Code:</b>	CVP121
<b>Program:</b>	Bachelor of Medicine, Bachelor of Surgery (MBBS)
<b>Department:</b>	NA
<b>College:</b>	College of Medicine
<b>Institution:</b>	Alfaisal University

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## A. Course Identification

<b>1. Credit hours:</b> 5 (4+2+0)
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department <input type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> Sem 2, Year 1
<b>4. Pre-requisites for this course (if any):</b> None
<b>5. Co-requisites for this course (if any):</b> None

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	80	65%
2	TBL, Labs	45	36%

### 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	80
2	Laboratory/Studio	45
3	Tutorial	
	<b>Total</b>	125

## B. Course Objectives and Learning Outcomes

### 1. Course Description

This course is an introduction to the cardiovascular and pulmonary system and its many functions. It is a multidisciplinary block integrating topics in basic and applied clinical anatomy, histology, embryology, physiology and biochemistry. The course covers the basics of the regulatory mechanisms of blood pressure and flow at different levels of the cardiovascular system. Basic concepts within the pulmonary system including respiration and gas exchange will also be covered.

### 2. Course Main Objective

At the end of the course students should have a good understanding of the basic principles of cardiac and pulmonary function, including pumping of the blood and its flow in the circulatory system, the electrical activity of the heart and the related abnormalities and cardiac defects such as ischemia and valvular disease. Students are also expected to have a good understanding of the pulmonary system, its function and regulation.

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding</b>	
1.1	Describe the molecular basis of excitation and contraction of cardiomyocytes, the pumping function of the heart and the different phases of the cardiac cycle.	PLO1,3
1.2	Outline the organization of the conduction system of the heart and the recording of its electrical activity (ECG).	PLO1,3
1.3	Recognize the basic concepts of blood flow in the vasculature and the different regulatory mechanisms of blood pressure (acute and chronic) in the human body.	PLO1
1.4	Outline the respiratory system including the mechanisms of respiration, gas exchange and regulatory mode of lung function.	PLO1
1.5	Describe the basic concepts of the development of cardiac failure, ischemic and valvular diseases.	PLO1,3
1.6	Discuss the structure of the lung/diaphragm and the upper and lower respiratory tracts. Describe the thoracic wall, the lung, pleura, and the mediastinum and discuss the nose, larynx, and trachea.	PLO1,3
2	<b>Skills :</b>	
2.1	Explain the core concepts and principles of cardiac and pulmonary functions.	PLO1
2.2	Develop efficient and effective utilization of educational resources and proficiency in acquisition and assimilation of new information and practices.	PLO1,5
3	<b>Values:</b>	
3.1	Adhere to the attendance policy.	
3.2	Maintain professional conduct with colleagues, faculty and staff.	

### C. Course Content

No	List of Topics	Contact Hours
1	The heart as a pump and cardiac rhythm	11
2	Circulation and hemodynamics	13
3	Blood pressure control	7
4	Failing heart	10
5	Cardiac stress	11
6	Pulmonary ventilation and circulation	14
7	Gas transport and exchange	10
8	Regulation of respiration	4
9	TBLs, Labs	45
<b>Total</b>		<b>125</b>

### D. Teaching and Assessment

#### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.1	Describe the molecular basis of the excitation and contraction of cardiomyocytes, the pumping function of the heart and the different phases of the cardiac cycle.	Lectures, Labs, TBLs	Formative and summative assessments
1.2	Outline the organization of the conduction system of the heart and the recording of its electrical activity (ECG).	Lectures, Labs, TBLs	Formative and summative assessments
1.3	Recognize the basic concepts of blood flow in the vasculature and the different regulatory mechanisms of blood pressure (acute and chronic) in the human body.	Lectures, Labs, TBLs	Formative and summative assessments
1.4	Describe the anatomy of the heart by identifying the interior and exterior parts of the human heart	Lectures, Labs, TBLs	Formative and summative assessments
1.5	Describe the basic concepts of the development of cardiac failure, ischemic and valvular diseases.	Lectures, Labs, TBLs	Formative and summative assessments
1.6	Discuss the structure of the lung/diaphragm and the upper and lower respiratory tracts. Describe the thoracic wall, the lung, pleura, and the mediastinum and discuss the nose, larynx, and trachea.	Lectures, Labs, TBLs	Formative and summative assessments
<b>2.0</b>	<b>Skills</b>		
2.1	Explain the core concepts and principles of cardiac and pulmonary functions.	Labs, TBLs	Formative assessment
2.2	Develop efficient and effective utilization of educational resources and proficiency in acquisition and assimilation of new information and practices.	Lectures, Labs, TBLs	Formative and summative assessments
<b>3.0</b>	<b>Values</b>		
3.1	Adhere to the attendance policy.		Continuous assessment
3.2	Maintain professional conduct with colleagues, faculty and staff.		Continuous assessment

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	TBL	Weekly	15
2	Final Exam	8	85

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

### Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

The CoM program established its own mentorship program that employs all full-time faculty as mentors. Through this program, every medical student in the program is assigned a mentor at the beginning of their first semester of studies. The program has a broad scope covering academic advising and counseling. The mentors handle all aspects related to academic advising, including academic planning, academic performance review, and advice on course drop or withdrawal, study skills, and time management.

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	<ol style="list-style-type: none"> <li>1. Textbook of Medical Physiology, Guyton &amp; Hall, Twelfth Edition, Published by Elsevier Saunders.</li> <li>2. Langman's Medical Embryology, T. W. Sadler, Twelfth Edition, Published by Lippincott Williams and Wilkins, 2011.</li> <li>3. Chapters 1-4, Histology: Ross and Pawlina, Fifth Edition, Lippincott Williams and Wilkins, 2006</li> </ol>
<b>Essential References Materials</b>	<ol style="list-style-type: none"> <li>1. Cunningham's manual of practical anatomy</li> <li>2. Color atlas by Grant's</li> </ol>
<b>Electronic Materials</b>	<ol style="list-style-type: none"> <li>1. Integrated medical curriculum: <a href="http://imc.meded.com">http://imc.meded.com</a></li> <li>2. PowerPoint presentations including suggested animations links uploaded on Alfaisal eLearning portal</li> </ol>
<b>Other Learning Materials</b>	

### 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms, Dissection Facilities, Examination Facilities
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	AV (Audio-Visual), Smartboard, Moodle (E-learning Management), Anatomage
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Microscopes

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course and Faculty Evaluation Survey	Students	Survey

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

Council / Committee	
Reference No.	
Date	