



**MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF PUBLIC HEALTH BIOMEDICAL SCIENCES AND TECHNOLOGY (SPHBST)**

**COURSE OUTLINE**

**Department: Medical Laboratory Sciences**

**Programme: Bachelor of Science in Medical Laboratory Sciences (Direct Entry)**

**Course Code: BML 427      Course Title: CLINICAL PHYSIOLOGY**

**Year of Study: Year 4      Academic Year: 2018/2019      Trimester: 2**

**Date: 15<sup>th</sup> MARCH 2019**

**2. Introduction: This course is concerned with providing the learner with knowledge and skills to understand mechanisms underlying disorders in various organ systems of the human body and investigative procedures used to diagnose these orders.**

**3. Learning outcomes**

By the end of the course the student should be able to:

1. Discuss disorders of the vascular system and their investigation.
2. Discuss disorders of the respiratory system and their investigation
3. Discuss disorders of the renal system and the urinary tract and their investigation.
4. Discuss disorders of the endocrine system as well as metabolic disorders and their investigation.
5. Discuss hematologic disorders and their investigation, including-the red blood cell osmotic fragility test, the full hemogram and tests of the blood coagulation system.

**4. Learning / Teaching Strategy**

Lectures, demonstrations, laboratory practicals, group discussions and class presentations.

## 5. Topic outline

WEEK	TOPIC	ACTIVITIES
1	Disorders of the cardiovascular system and their investigation.	Lectures, Group work
2	<b>Disorders of the cardiovascular system- Heart failure, myocardial infarction, atherosclerosis, hypertension</b>	Lectures, discussions
3	<b>Disorders of the cardiovascular system- as above.</b>	Lectures, demonstrations
4	<b>Disorders of the respiratory system- Bronchial asthma, Atelectasis.</b>	<b>Lectures, discussions</b>
5	<b>Disorders of the respiratory tract- Chronic obstructive pulmonary disease including chronic bronchitis, pulmonary emphysema and small airways disease</b>	Lectures, discussions
6	<b>Disorders of the respiratory tract- lung infections including pneumonia and tuberculosis</b>	
	CAT ONE	Lectures and discussions
7	<b>Disorders of the renal system and the urinary tract- Nephrotic syndrome, nephritic syndrome, asymptomatic proteinuria, painless hematuria. Urinalysis.</b>	Lectures, discussions
8	<b>Disorders of the endocrine system and metabolic disorders- Sheehan syndrome, diabetes mellitus and diabetes insipidus</b>	Lectures, discussions Presentations
9	<b>Disorders of the endocrine system- as above</b>	Lectures, Presentations
10	CAT TWO Disorders of the male and female reproductive system	Lectures, discussions
11	<b>Disorders of the male and female reproductive system- investigation of male and female infertility. Semen analysis</b>	Lectures, discussions
12	<b>Hematological disorders and their investigation. Osmotic fragility test, Full hemogram, hematocrit</b>	<b>Lectures and discussions</b>
13	<b>Hematological disorders- Bleeding time, prothrombin time, Kaolin Cephalin Clotting time.</b>	Lectures, Presentations
14	<b>CAT THREE</b>	Lectures, discussions Presentations
15	<b>End of Semester Examinations</b>	
16	<b>End of Semester Examinations</b>	

## 6. Course Requirements

### (a) Attendance

Attendance of lectures, and other scheduled classes/practical/laboratory sessions is mandatory for all students. Any absence will prohibit the student from taking CA and examinations.

### (b) Methods of Assessment (*For university wide courses; CATs 30%, Exam 70%*)

Continuous Assessment Tests (CATs):

Written CAT (At least 2 CATs, one of which has to be a sit-in)	20 %
Practical CAT (Can be sit-in or practical marked reports)	20 %
Final Examination (Written)	60 %
Pass Mark	<b>50 %</b>

## 7. Instructional Resources

### (a) Main Reference Materials for this Course

1. Arthur Guyton: A Textbook of Medical Physiology. Philadelphia, USA: W. B. Saunders.
2. Ganong F. W. A Review of Medical Physiology. California, USA: Appleton and Lange, 2000 Print.
3. Stuart I. F. Human Physiology (2<sup>nd</sup> Edition) IOWA, USA: WMC Brown Publishers, 2002 Print.
4. Muir's Textbook of Pathology (15<sup>th</sup> Edition) C. Simon Herrington, Editor. International Student Edition, 2014 Print.

## 8. Signing and Approval

### Prepared by Course Lecturer:

Name: Dr. Gabriel W. Mukoya Sign:..... Date: 15th March 2019

Contacts: Email: gmukoya2002@yahoo.com Phone: 0722 416837

### Issued by Curriculum Coordinator:

Name: Dr. G. W. Mukoya Sign:..... Date:.....

### Approved by CoD:

**Name:** Mr. Fidelis Mambo

**Sign:**..... **Date:**.....