**FOM 1212 Cardiovascular & Respiratory Systems 5 Weeks**

Course description

This course introduces students to structures, their function and the molecules involved in the processes of the cardiovascular and respiratory system. The processes and the route air takes from getting into the nose to the time of utilization in the cells. It also deals with the route and processes through which blood travels through the body. The mechanisms of control of blood flow and the development are covered in this course.

Course Objectives

1. To describe the anatomy of the chest cavity and its contents

2. To explain the physiology and biochemistry of the cardiovascular and respiratory systems

3. Explain the defensive mechanisms of the respiratory tract

4. To outline the normal radiological and laboratory findings

5. To outline measures to be taken to maintain normal cardiovascular/respiratory function

Expected outcomes

1. Demonstration of ability to identify and describe the structures of the cardiorespirtory systemincluding the chest wall.

2. Appreciation of the function of the cardiorespiratory system structures

3. Appreciation of the molecules involved in gaseous exchange and transportation.

4. Demontration of skills in determining blood gas levels and normal respiratory function tests., Course outline:

**Anatomy:** Embryology, Histology and Gross Anatomy of the chest wall and its contents, mediastinum, respiratory tract.

**Physiology/Biochemistry of cardio-respiratory system:** Mechanics of respiratory, Ventilation and lung volume, Pulmonary blood flow, Ventilation/perfusion relationships, Transport of gases, Control of respiration and respiration in unusual environment, Immunology of the cardio-respiratory system

Heamodynamics:

• Cardial cycle

• Cardiac output

• Peripheral circulation and its regulation

• Regulation of arterial blood pressure

• Lymphatic system

• Cerebral circulation

• Coronary circulation

• Circulation in the skeletal muscles

• Cutaneous circulation

• Circulatory response to exercise

• Microvascular circulation

Acid Base balance Structural barriers Chemical barriers Reflexes

Cellular (Pulmonary Aluolar Macrophages)

Investigative procedure

• X-ray

• CT scan

• Angiography

• Ultra sound

• Nuclear

• Imaging

• Echo

• Lab

• ECG

• Spirometry

• Blood gas analysis

• Sputum analysis and other respiratory tract specimens (bronchalueocla lavage, tracheal aspirates)

• Pulmonary function tests

Lifestyle

• Diet

• Habits – smoking

• Over crowding

• Occupation hazards (exposure to wood dust, cement) Health education and community mobilization

Gross Anatomy

• Blood vessels and Heart

• Lymnphatics

• Spleen/liver/thymus bone marrow lymph node

Assessment Methods:

Students shall be assessed through formative and summative means. These shall include:

a) Continuous assessment during the entire problem based learning sessions. This permits immediate feedback to every student.

b) An end of course progressive examination consisting of:

• Extended Matching Question Items

• Modified Essay Questions (MEQ)

The two assessments will be added together to contribute 40% of the final mark for the course

c) An end of the block examination (summative) consisting of:

• Extended Matching Question Items

• Modified Essay Questions (MEQ)

This will contribute 60% of the final mark for the course

Delivery Methods:

Over-view Lectures, Small Tutorial sessions with a tutor, Expert resource seminars, wrap up seminars and clinical exposures

Resources and infrastructure available

Library (in the department of Anatomy, Physiology ,Biochemistry and Albert Cook ,tutorial rooms, computer services and internet, content experts, patients and teaching hospital, competent guest lecturers.

Requirements: 5 weeks, 75 CH Teaching staff

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| Name | Qualifications | Employer | Fulltime part time |
| Prof Sam Luboga | PhD | Makerere University | Fulltime |
| Prof Gabriel Nzrubara | M.MED | Makerere University | Fulltime |
| Dr. C.Ibingira | M.MED | Makerere University | Fulltime |
| Dr. Buwembo William | M.Sc | Makerere University | Fulltime |
| Dr. Ochieng Joseph | M.Sc | Makerere University | Fulltime |
| Dr.Turyabahika Joseph | M.MED | Makerere University | Fulltime |
| Dr. H. Kiryowa | M.Sc | Makerere University | Fulltime |
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| Dr.J. Kasolo | M.Sc | Makerere University | Fulltime |
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| Dr. R. Nakiboneka | M.Sc | Makerere University | Fulltime |

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| Dr. Ebuku | M.Sc | Makerere University | Fulltime |
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