**FOM 2211 PRINCIPLES OF MICROBIOLOGY AND PATHOLOGY**

**Course description**

This course introduces candidates to the principles of Microbiology and pathology. It also introduces students to immunological processes. The course involves lectures, tutorials and practicals.

**Course Objectives**

At the end of the course, students should be able to:

Explain the basic concepts and principles of laboratory medicine and laboratory management

Explain important pathological processes

Explain the principles of body response to infections and infestation

Describe the taxonomy and characteristics of bacteria

Describe the principles of disinfections and sterilization

**Course outline:**

* Laboratory Medicine: Principles and concepts of laboratory medicine in: clinical chemistry, toxicology; immunology; haematology; microbiology; parasitology; organization of laboratory services in a hospital. The concepts of life and death International code of notifiable diseases
* Inflammation: Healing and repair, Anti-inflammatory agents
* Common infectious and communicable diseases: Pathology, epidemiology; control and prevention; effect on nutritional status; nosocomial infections: chemotherapeutic agents
* Abnormal and Accumulations and Pigmentation: Amyloidosis, melanin and uric acid deposition; calcification, hyalinization, jaundice
* Immune Mediated Disorders: Classfication and immunological features of: allergic and hypersentivity reactions, autoimmune diseases; immunodeficiency disorders. Graft rejection mechanisms in clinical transplantation
* Alteration in Growth Control: responses of cells to toxic and radiation injuries. Alterations in growth control. Neoplasms. Anti-neoplastic agents
* Genetic Disorders: Metabolic, psychiatric and blood disorders of genetic origin. Chromosomal abnormalities. Genetic causes of wastages and neotal mortality. Ethical issues in genetic counseling. Genetherapy. Epidemiologyt of genetic disorders
* Investigative Procedures: Histopathological, haematological, Microbiological, biochemical, Immunological, forensic procedures and imaging techniques. Autopsy pathology

Principles of Microbiology: Parasitology, virology, bacteriology and mycology, principles of diagnosis, (Infection control, sterilization, disinfection) use of anti-microbial agents, resistance, synergism and sensitivity tests, personal hygiene practices and handling of equipment, cross infection control

Immunology: antibody dependent and independent effectors mechanisms, Immune evasion mechanisms and vaccines, immuno-diagnostic tests

**Requirements:**

**5weeks, 75 CH**

**Mode of assessment**

Progressive assessment 40%

Written summative examination 60%

**Course coordinator**

Dr. Sylivester Onzivua MBChB MMED. (MUK)

**Reading materials**

1. [Review of medical microbiology Ernest and Edward A. Adelberg](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=INITREQ&sessionid=2006101809571219106&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=4&u1=4&t1=Review%20of%20medical%20microbiology%20Ernest%20and%20Edward%20A.%20Adelberg&pos=1&prevpos=1&beginsrch=1)[Altos , Calif. : Lange Medical Publications](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=INITREQ&sessionid=2006101809571219106&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=2009&u1=2009&t1=Altos%20,%20Calif.%20%3a%20Lange%20Medical%20Publications&pos=1&prevpos=1&beginsrch=1)

2. [Basic and clinical immunology /](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=INITREQ&sessionid=2006101717302405175&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=4&u1=4&t1=Basic%20and%20clinical%20immunology%20%2f&pos=1&prevpos=1&beginsrch=1)[New York : Churchill Livingstone, c1997.](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=INITREQ&sessionid=2006101717302405175&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=2009&u1=2009&t1=New%20York%20%3a%20Churchill%20Livingstone,%20c1997.&pos=1&prevpos=1&beginsrch=1)

3. [Medical microbiology & immunology : examination & board review/](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=INITREQ&sessionid=2006101809571219106&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=4&u1=4&t1=Medical%20microbiology%20%26%20immunology%20%3a%20examination%20%26%20board%20review%2f&pos=1&prevpos=1&beginsrch=1)[New York : Lange Medical Books , c2002](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=INITREQ&sessionid=2006101809571219106&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=2009&u1=2009&t1=New%20York%20%3a%20Lange%20Medical%20Books%20,%20c2002.&pos=1&prevpos=1&beginsrch=1)