**FOM 1212 DIGESTION, NUTRITION AND METABOLISM** 5 weeks

**Course description**

This course covers the anatomy and normal functioning of the digestive system. The course also cover the metabolism of the different classes of foods. The course involves tutorials, lectures, seminars and practical sessions

#### Course Objectives:

1. To describe the anatomy and function of the GIT
2. To describe the metabolism of biomolecules in the cell
3. To state the major nutrients, their sources and importance in the human body
4. To describe the functions and optional maintenance of the major nutrients
5. To describe the role of the relevant laboratory investigations

**Content outline:**

Embryology and histology of GIT, Gross Anatomy of the GIT, the Oral cavity, Pharynx, Oesophagus, Stomach, Duodenum, jejunum and Ileum (small intestine), Colon, Rectum and anal canal. Functional Anatomy of associated organs; Liver and Biliary system, Gall bladder, Pancreas

# 2. Nutrition

Nutrition; Proteins, Carbohydrates, Lipids, Micronutrients, Vitamins, Minerals/Electrolytes (Fe2+, Ca2+, Zinc, Na+, k+, Cl-, phosphates), Energy and Nitrogen balance, Dietary standards, food and food consumption, Techniques for assessing human nutritional status

Physiology; Gastro intestinal hormones, Chewing and swallowing,

Movements of the stomach, gastric emptying and anti peristaltic movement, Movements of small intestine, Movement of large intestine, Defecation and passage of flatus.

Biochemistry; Carbohydrates metabolism,

Control of glycogen metabolism. Glycogen storage disease, Lipid metabolism, Oxidation of fatty acids, Fatty acid biosynthesis, Regulation of fatty acid synthesis and breakdown, Diseases associated with lipid metabolism, Protein metabolism, Amino acid synthesis.

Thermodynamics - energy conservation and transformation.

#### Requirements:

**5 weeks, 75 CH**

**Mode of assessment**

Progressive assessment 40%

Written summative examination 40%

Practical examination 20%

**Course coordinator**

Dr. Joel Okullo MBChB, MSc (MUK)

**Reading materials**

1. [Medical embryology: human development, normal and abnormal / Jan Langman ; illustrations by Jill Leland](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=KEYWORD&function=INITREQ&SourceScreen=INITREQ&sessionid=2006101809571219106&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=2000&scant1=Medical%20Embryology&scanu1=4&u1=2000&t1=@442515&pos=1&prevpos=1&)

2. [Textbook of medical physiology](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=KEYWORD&function=INITREQ&SourceScreen=INITREQ&sessionid=2006101717302405175&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=2000&scant1=Textbook%20of%20medical%20physiology%20%2f&scanu1=4&u1=2000&t1=@23812&pos=1&prevpos=1&), [Philadelphia: Saunders, 2000](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=Philadelphia%20%3a%20Saunders,%20c2000.&pos=1&prevpos=1&beginsrch=1)

3. [Clinical anatomy for medical students/](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=NEXTPAGE&sessionid=2006101717302405175&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=4&u1=4&t1=Clinical%20anatomy%20for%20medical%20students%2f&pos=1&prevpos=41&beginsrch=1)[Phildelphia: Lippincott Williams and Wilkins, 2000](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=NEXTPAGE&sessionid=2006101717302405175&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=2009&u1=2009&t1=Phildelphia%3a%20Lippincott%20Williams%20and%20Wilkins,%202000&pos=1&prevpos=41&beginsrch=1)

4. [Gross anatomy/](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=NEXTPAGE&sessionid=2006101717302405175&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=4&u1=4&t1=Gross%20anatomy%2f&pos=1&prevpos=51&beginsrch=1)[Baltimore: Williams and Wilkins , 1995](http://81.199.17.5:8000/cgi-bin/gw_42_20a/chameleon?host=81.199.17.5%2b1111%2bDEFAULT&search=SCAN&function=INITREQ&SourceScreen=NEXTPAGE&sessionid=2006101717302405175&skin=default&conf=.%2fchameleon.conf&lng=en&itemu1=2009&u1=2009&t1=Baltimore%20%3a%20Williams%20and%20Wilkins%20,%201995&pos=1&prevpos=51&beginsrch=1)

5. [Harper's biochemistry/](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=Harper%27s%20biochemistry%2f&pos=1&prevpos=1&beginsrch=1)[New York : McGraw-hill , 2000](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%20McGraw-hill%20,%202000.&pos=1&prevpos=1&beginsrch=1)