

**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND
TECHNOLOGY**

UNIVERSITY EXAMINATIONS 2013/2014

SCHOOL OF HEALTH SCIENCES - KISII LEARNING CENTRE

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR DIPLOMA
AND CERTIFICATE IN COMMUNITY HEALTH AND DEVELOPMENT**

**COURSE TITLE: INTRODUCTION TO HUMAN PHYSIOLOGY AND
ANATOMY**

COURSE CODE: HDC 2125

TIME: 1.30 HOURS

INSTRUCTIONS

- 1. This paper contains two (2) sections.**
- 2. Answer ALL questions in section A and ONLY TWO in section B.**
- 3. Illustrate your answers with well labeled diagrams where appropriate.**
- 4. Write your answers in the separate answer booklet provided**

SECTION A (30 MARKS)

1. Briefly describe the levels of structural organization within the human body (5marks)
2. Give an account of the classes of joints in the human body (3 marks)
3. a. Describe briefly the three groups of blood cells (3 marks)
b. Describe the three types of blood vessels (3 marks)
4. Briefly discuss the functions of lymph in the human body (3 marks)
5. Briefly describe the bones of the thoracic cage of man (4 marks)
6. Discuss briefly the skeletal muscles of the human body, citing two examples and location where each is found (5 marks)
7. Discuss briefly the two anatomical divisions of the nervous system (4 marks)

SECTION B (30 MARKS)

- 1 a) Discuss the structure and function of the human skin (15 marks)
- 2) a) Discuss the cycle of breathing in the human body (10 marks)
b) Briefly explain the physiological variables affecting breathing (5 marks)
- 3) Discuss the nephron as the functional unit of the human kidney (15 marks)
- 4) a) Briefly discuss the digestive functions of the stomach (5 marks)
b) Discuss absorption of nutrients in the small intestine (10 marks)

Jaramogi Oginga Odinga University of Agriculture and Technology
School of Health Sciences
Human Physiology and Anatomy Course Outline
September – December Semester 2013

HDC 2125 Human Physiology and Anatomy

CONTACT HOURS: 42

LECTURE: 28

PRACTICALS: 14

Purpose: In this course we will study the structure of the human body and the physical relationships between body systems, how body systems work and the way their integrated activities maintain life and health of the individual.

Learning Outcomes: Upon successful completion of the course, learners should be able to:

1. Define the precise and logical descriptive words used to identify body parts and directional terms.
2. Describe how the integumentary system, skeletal system and muscular system each function in protection, support and movement.
3. Describe how the cardiovascular system, lymphatic system, respiratory system, digestive system, and immune system each function in the distribution of materials and contribute to the maintenance of body balance.
4. Describe how the nervous system (central, peripheral & autonomic), organs of sensation and endocrine system each contribute to the regulatory control, integrative communication and systemic coordination within the human.

Course Outline

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| Lesson 1 | Introduction to regional and surface anatomy of man |
| Lesson 2 | Skin, subcutaneous tissues, deep fascia, tendons, raphes, cartilage, muscle, bone, joint, mucous membranes, Blood vessels, Lymphatic and lymphoid tissues |
| Lesson 3 | Nervous system, Neurons and nerves, general principles of nerve supply. Nerve supply to abdominal wall and limbs. Segment innervations of skin and muscle |
| Lesson 4 | Upper limb, lower limb, thorax, abdomen, head, neck, and spine, Osteology of the intact skull, skull bones and hyaloids bone. |
| Lesson 5 | Assessment |

Lesson 6	Central Nervous system, spinal reflexes, sense organs, Autonomic nervous system
Lesson 7	Water and osmotic regulations, Renal function, lung function, Blood volume, blood pressure
Lesson 8	Digestive and associated glands, Food and energy
Lesson 9	Neuroendocrine control of physiological processes, Reproductive and exercise physiology
Lesson 10	Assessment
Lesson 12	Physiological base of aging process, Approaches in measurement of physiological parameters in man in health and diseases
Lesson 13	Regional and surface anatomy in relation to medical imaging techniques for disease diagnosis and other purposes

Teaching methods: The course is based on lectures, tutorials and discussions.

Instructional material and Equipment : Chalk/ whiteboard markers and board, handouts

Assessment: End of semester examination – 70%, Continuous Assessment Tests- 20%, Assignments-10%

CORE TEXTBOOK

Waugh, A. & Grant, A. (2012); *Ross and Wilson Anatomy and Physiology in Health and Illness (11th Ed)*. Churchill Livingstone Elsevier Publishers. ISBN: 9780702032288

FURTHER READING

Marieb, Elaine N. (2010); *Essentials of Human Anatomy and Physiology 10th ED*. Boston: Benjamin Cummings. ISBN: 978932767431

Shier, David, Jackie Butler, and Ricki Lewis.(1999); *Hole's Human Anatomy and Physiology*. New York: McGraw-Hill.

Tortora, Gerard J.(1997); *Introduction to the Human Body: The Essentials of Anatomy and Physiology*. New York: Biological Sciences Textbooks, Inc.

N/B: Most information is now available on the internet via Google. Students can do specific "Googling" for more information on certain areas. Other reference will be given to you as the class continues.