



School of Pharmacy and Health Sciences

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| SEMESTER: | Summer 2017 |
| COURSE: | HAN 1321: Human Anatomy I |
| LECTURER : | Nyaribo Cyprian Mose |
| CLASS DAYS/TIME: | Monday/Wednesday (9:00-10:40 and 1:20-3:00pm) |
| CLASS VENUE: | SC 1, 2 and Human Anatomy Lab. |
| CREDIT UNIT: | 4.5 |
| OFFICE HOURS: | T/R 9:00AM-7:00PM |
| CONTACTS: | Mobile; 0701503745, Office; 29 E-mail; cnyaribo@usiu.ac.ke |

COURSE DESCRIPTION:

The general organization of the human body (Gross Anatomy), microscopic components of various systems of the human body (Histology) and intra-uterine development of the fetus (Embryology).

LINK TO UNIVERSITY MISSION AND PROGRAM LEARNING OUTCOMES:

1. **High order thinking:** The ability to collect, analyze and evaluate information and formulate conclusions. Students develop and demonstrate the ability to think critically, analytically and creatively.
2. **Literacy:** Competence in oral, written, quantitative, and technological skills. Students develop and demonstrate competency in oral and written communication as well as demonstrate scientific, quantitative and technological literacy.
3. **Global understanding and multicultural perspective:** Awareness, knowledge and appreciation of both the diversity and commodity of cultures. Students acquire these perspectives through formal study of languages, history, literature and the arts and through working, studying and living cooperatively in a radically, ethnically, and culturally diverse environment. Further, students acquire an understanding of economic, historical, political, geographic and environmental relationships on a global basis.
4. **Preparedness for career:** Mastery of a field of knowledge and its multi-cultural and multinational application. Such mastery is accomplished through both formal study and various experienced forms of learning such as internships and field experiences.

5. **Community service and development:** A sense of being part of a community and a desire to be of service to it. Students are given opportunities to participate in community service, citizenship, or social action projects or activities.
6. **Leadership and ethics:** As part of their growth and development, students formulate and articulate the ethical standards which will guide their professional and personal lives.

Program Learning outcomes

By the end of their training the graduates should be able to:

1. Plan, organize and control the manufacturing, compounding, packaging and quality of pharmaceutical products.
2. Plan, organize and manage the procurement, storage and distribution of pharmaceutical materials and products.
3. Interpret and uphold the laws, regulations and ethics that govern the practice of pharmacy.
4. Provide pharmacist-initiated care to patients and ensure the rational use of medicines.
5. Provide information, advice and education on disease, health, community health and medicines-related issues.
6. Participate in pharmaceutical and medical research and evaluate critically new therapies and current advances in formulation and modes of drug action to ensure the optimal selection and use of medicines.

Course Learning Outcomes:

Upon completion of this course, students should be able to:

1. Demonstrate the basic History of Human tissues and their clinical correlation.
2. Demonstrate the concept of basic Embryology and associated congenital defects
3. Define the terminologies used in Human Anatomy and explain the levels of the structural complexity of the body
4. Demonstrate the structural and gross features of the Upper Limb and its clinical application
5. Demonstrate the structural and gross features of the Lower Limb and its clinical application
6. Demonstrate the systemic histology and Embryology features of the Human body.

COURSE CONTENT

| WEEK | TOPIC | Activity and learning outcomes | READING |
|--------|---|--------------------------------|---|
| WEEK 1 | Theory <ul style="list-style-type: none"> • Introduction to Human Anatomy - Gross • Laboratory Microscopy - Histology • Cell structure and function - Histology • Basic tissues (Epithelium) - Histology | (Outcomes 1,3) | Reading: Course Text pp 1-40 (Gross) |
| | Practical <ul style="list-style-type: none"> • Lab orientation and Practical session on Light microscopy, and epithelial tissue | | Reading: Course Text pp 1-150 Histology |
| WEEK 2 | Theory - Histology <ul style="list-style-type: none"> • Histology of basic tissues; Connective tissue • Histology of basic tissues; Muscle tissue • Histology of basic tissues; Nervous tissue | (Quiz 1, Outcome 1,3) | Reading: Course Text pp 1-150 Histology |
| | Practical <ul style="list-style-type: none"> • Histology of basic tissues; Connective tissue. | | Reading: Course Text pp 1-150 Histology |
| WEEK 3 | Theory – Embryology <ul style="list-style-type: none"> • Basic Embryology; Gametogenesis • Basic Embryology; First Week of Development: Ovulation to Implantation • Basic Embryology; Second and Third Week of Development (Bilaminar and Trilaminar Germ Disc) • Basic Embryology; Third to Eighth Week: (The Embryonic Period) • Basic Embryology: Third Month to Birth: The Fetus and Placenta | (Outcome 2) | Reading: Course Text: pp 1-117 Embryology |
| | Practical <ul style="list-style-type: none"> • Histology of basic tissues; Muscle tissue and Nervous tissue | | Reading: Course Text: pp 1-150 Histology |
| WEEK 4 | Theory <ul style="list-style-type: none"> • Birth Defects and Prenatal Diagnosis - Embryology • The Breast – Gross • Osteology of Upper Limb - Gross | Quiz 2, (Outcomes 1,5) | Reading: Course Text: pp 118-149 Embryology Reading: Course Text pp 433- 440 (Gross) |

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| | Practical Gross Anatomy; Osteology of Upper Limb | | Reading: Course Text pp 1-40 (Gross) 427-432 |
| WEEK 5 | Theory <ul style="list-style-type: none"> Gross Anatomy; Pectoral girdle and shoulder joint Gross Anatomy ; Axilla and Brachial Plexus Gross Anatomy; The Arm | (Outcomes 3,4) | Reading: Course Text pp 440- 466 (Gross) |
| | Practical <ul style="list-style-type: none"> Muscles of pectoral girdle, its innervation and blood supply The axilla, Brachial Plexus, the arm. | | |
| WEEK 6 | Theory <ul style="list-style-type: none"> Gross Anatomy; Cubital Fossa and Elbow joint. Gross Anatomy ; Forearm Gross Anatomy; Wrist and Hand | (Outcomes 3,4) | Reading: Course Text pp 440- 466 (Gross) |
| | Practical Gross Anatomy; Boundary of cubital fossa, Elbow joint, Forearm, Wrist and Hand | | |
| WEEK 7 | MID-SEMESTER EXAMINATION (M.S.E) | | |
| WEEK 8 | Theory <ul style="list-style-type: none"> Gross Anatomy; Lower Limb Osteology. Gross Anatomy ; Gluteal Region Gross Anatomy; The Thigh (Anterior and Medial/Adductor compartment) | (Outcomes 3,4) | Course Text: pp 354-368 |
| | Practical Gross Anatomy; Gluteal Region, The Thigh (Anterior and Medial/Adductor compartment) | | |
| WEEK 9 | Theory <ul style="list-style-type: none"> Gross Anatomy; The Thigh (posterior compartment. Gross Anatomy; Popliteal fossa Gross Anatomy ; Hip Joint Gross Anatomy; Femoral Triangle Gross Anatomy; Knee Joint | (Outcomes 3,4) | Course Text pp 276-310 |
| | Practical Gross Anatomy; Hip Joint, Femoral Triangle, and Knee Joint | | |
| WEEK 10 | Theory <ul style="list-style-type: none"> Gross Anatomy; Anterior and Lateral Leg Gross Anatomy ; Posterior leg and Ankle Joint | Quiz 3 covering wk 8 and 9 (Outcomes 3,4) | Course Text: pp 470-528 |
| | Practical <ul style="list-style-type: none"> Gross Anatomy; Anterior and Lateral Leg Gross Anatomy ; Posterior leg and Ankle Joint | | |

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| WEEK 11 | Theory <ul style="list-style-type: none"> • Histology; Integumentary System • Embryology; Integumentary System | (Outcomes 6) | Course Text: pp 532-557 |
| | Practical <ul style="list-style-type: none"> • Histology; Integumentary System • Embryology; Cardiovascular System (Pictures) | | |
| WEEK 12 | Theory <ul style="list-style-type: none"> • Histology; Cardiovascular System • Gross Anatomy; Dorsum of Foot, Plantar of Foot | (Outcomes 3,4,6) | Course Text: pp 560-585 |
| | Practical <ul style="list-style-type: none"> • Histology; Cardiovascular System • Gross Anatomy; Foot | | |
| WEEK 13 | Practical <ul style="list-style-type: none"> • Review of the foot • Review of Histology • Review of Embryology • | (Outcome 1,2,3,4,5,6) | Course Text: pp 319, 338-341, 438-466 |
| WEEK 14 | END SEMESTER EXAMINATION Monday – written (all) Wednesday – Practical and viva voce (all) | ESE (Written) | |

TEACHING METHODOLOGY:

- Lectures, using power point presentations and class discussions.
- Lectures will be given in class to explain to students various topics on the environment
- Lectures will take a participatory approach where the instructor will involve students by frequently asking them questions that are meant to keep them alert and trigger class discussions
- The instructor will also be free to answer questions from students in the course of the lectures
- Video shows on environment will be shown in class when available after the relevant topic has been covered.

COURSE EVALUATION

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| Attendance | 10% |
| CATS (minimum 2 sit in Quizzes) | 10% |
| Individual assignment | 10% |
| Group assignment | 10% |
| Mid-semester Examination | 20% |
| Practical's | 10% |
| Viva voce | 5% |
| End semester Examination | 25% |
| Total | <u>100%</u> |

Note: seven absences from class will result in an automatic **grade F**.

ASSIGNMENTS;

Individual assignment; Innervation to the upper limb is basically by the brachial plexus, highlight the clinical manifestations secondary to the terminal branches of the brachial plexus. (To be submitted after five working days)

Group assignment; Describe the common congenital anomalies of the gastrointestinal tract, highlight the environmental factors which have led to the increase of these cases. (To be submitted after five working days)

REFERENCE BOOKS

Course Text

Gross Anatomy Atlases

1. Agur, M.R.A. et al., 2005. Grants Atlas of Anatomy. Lippincott, A Wolters Kluwer. 11th edition.
2. F. H. Netter, *Atlas of Human Anatomy. Student Edition*, 4th edition, 2006, ISBN 9781416033851
3. Singh, I., 2004. Atlas of Human Anatomy. Jaypee Brothers, New Delhi.

Gross Anatomy Text Books

4. Snell, R.S., 2004. Clinical Anatomy for medical students. Lippincott Williams and Wilkins, Philadelphia. 7th edition.
5. K. L. Moore, A. F. Galley, *Clinically Oriented Anatomy*, 5th ed., Lippincott Williams & Wilkins 2005, ISBN 0781736390

Histology Texts

6. Young, B., 2000. Wheather's functional Histology. Churchill Livingstone, Edinburgh. 4th edition.
7. Bergman, R.A. et al., 1974. Atlas of Microscopic Anatomy. A companion to Histology and Neuroanatomy. W.B. Saunders Company, Philadelphia.

Embryology Texts

8. Sadler, L. 1975. Medical Embryology. The Williams and Wilkins. Baltimore. 3rd edition.
9. Snell, R.S., 1972. Clinical Embryology for Medical Students. Little Brown and company, Boston.

Dissection Manual Texts

10. BD Chaurasia's Human Anatomy Regional and Applied Dissection and Clinical: Vol. 1,2, 3:– Illustrated, Jan 2013
11. Romanes, G.J., 1986: Cunningham's Manual of Practical Anatomy. Oxford University New York. 15th edition Vol. 1, Vol. 2, and Vol. 3.

GRADING

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| A | 90-100 |
| A- | 87-89 |
| B+ | 84-86 |
| B | 80-83 |
| B- | 77-79 |
| C+ | 74-76 |
| C | 70-73 |
| C- | 67-69 |
| D+ | 64-66 |
| D | 62-63 |
| D- | 60-61 |
| F | 0-59 |