

APPLIED ANATOMY

PLACEMENT: I SEMESTER

THEORY: 3 Credits(60hours)

DESCRIPTION: The course is designed to assist student to recall and further acquire the knowledge of the normal structure of human body, identify alteration in an anatomical structure with emphasis on clinical application to practice nursing.

COMPETENCIES: On completion of the course, the students will be able to

1. Describe anatomical terms.
2. Explain the general and microscopic structure of each system of the body.
3. Identify relative positions of the major body organs as well as their general anatomic locations.
4. Explore the effect of alterations in structure.
5. Apply knowledge of anatomic structures to analyze clinical situations and therapeutic applications.

COURSE OUTLINE

T–Theory

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|------|------------|---|---|---|---|
| I | 8(T) | <p>Define the terms relative to the anatomical position</p> <p>Describe the anatomical planes</p> <p>Define and describe the terms used to describe movements</p> | <p>Introduction to anatomical terms and organization of the human body</p> <ul style="list-style-type: none"> • Introduction to anatomical terms relative to position— anterior, ventral, posterior/dorsal, superior, inferior, median, lateral, proximal, distal, superficial, deep, prone, supine, palmar and plantar • Anatomical planes (axial/transverse/horizontal, sagittal/vertical plane and coronal/frontal/oblique plane) • Movements (flexion, extension, abduction, adduction, medial rotation, lateral rotation, inversion, eversion, supination, pronation, plantar flexion, dorsal flexion and circumduction • Cell structure, Cell division | <ul style="list-style-type: none"> • Lecture cum Discussion • Use of models • Video demonstration • Use of microscopic slides • Lecture cum Discussion • Video/Slides | <ul style="list-style-type: none"> • Quiz • MCQ • Short answer |

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| | | <p>Organization of human body and structure of cell, tissues, membranes and glands</p> <p>Describe the types of cartilage</p> <p>Compare and contrast the features of skeletal, smooth and cardiac muscle</p> | <ul style="list-style-type: none"> • Tissue – definition, types, characteristics, classification, location • Membrane, glands – classification and structure • Identify major surface and bony landmarks in each body region, Organization of human body • Hyaline, fibrocartilage, elastic cartilage • Features of skeletal, smooth and cardiac muscle • Application and implication in nursing | <ul style="list-style-type: none"> • Anatomical Torso | |
| II | 6(T) | <p>Describe the structure of respiratory system</p> <p>Identify the muscles of respiration and examine their contribution to the mechanism of breathing</p> | <p>The Respiratory system</p> <ul style="list-style-type: none"> • Structure of the organs of respiration • Muscles of respiration • Application and implication in nursing | <ul style="list-style-type: none"> • Lecture cum Discussion • Models • Video/Slides | <ul style="list-style-type: none"> • Short answer • Objective type |

| Unit | Time(Hrs) | Learning Outcomes | Content | Teaching/Learning Activities | Assessment Methods |
|-------------|------------------|--|--|--|--|
| III | 6(T) | Describe the structure of digestive system | The Digestive system <ul style="list-style-type: none"> • Structure of alimentary canal and accessory organs of digestion • Application and implications in nursing | <ul style="list-style-type: none"> • Lecture cum Discussion • Video/Slides • Anatomical Torso | <ul style="list-style-type: none"> • Short answer • Objective type |
| IV | 6(T) | Describe the structure of circulatory and lymphatic system. | The Circulatory and Lymphatic system <ul style="list-style-type: none"> • Structure of blood components, blood vessels – Arterial and Venous system • Position of heart relative to the associated structures • Chambers of heart, layers of heart • Heart valves, coronary arteries • Nerve and blood supply to heart • Lymphatic tissue • Veins used for IV injections • Application and implication in nursing | <ul style="list-style-type: none"> • Lecture • Models • Video/Slides | <ul style="list-style-type: none"> • Short answer • MCQ |
| V | 4(T) | Identify the major endocrine glands and describe the structure of endocrine glands | The Endocrine system <ul style="list-style-type: none"> • Structure of Hypothalamus, Pineal Gland, Pituitary gland, Thyroid, Parathyroid, Thymus, Pancreas and Adrenal glands | <ul style="list-style-type: none"> • Lecture • Models/charts | <ul style="list-style-type: none"> • Short answer • Objective type |
| VI | 4(T) | Describe the structure of various sensory organs | The Sensory organs <ul style="list-style-type: none"> • Structure of skin, eye, ear, nose and tongue • Application and implications in nursing | <ul style="list-style-type: none"> • Lecture • Explain with Video /models/charts | <ul style="list-style-type: none"> • Short answer • MCQ |

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| <p>VII</p> | <p>10(T)</p> | <p>Describe anatomical position and structure of bones and joints</p> <p>Identify major bones that make up the axial and appendicular skeleton</p> <p>Classify the joints</p> <p>Identify the application and implications in nursing</p> <p>Describe the structure of muscle</p> | <p>The Musculoskeletal system:</p> <p>The Skeletal system</p> <ul style="list-style-type: none"> • Anatomical positions • Bones – types, structure, growth and ossification • Axial and appendicular skeleton • Joints – classification, major joints and structure • Application and implications in nursing | <ul style="list-style-type: none"> • Review – discussion • Lecture • Discussions • Explain using charts, skeleton and loose bones and torso • Identify in gmuscles involved in nursing procedures in lab | <ul style="list-style-type: none"> • Short answer • Objective type |
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| Unit | Time(Hrs) | Learning Outcomes | Content | Teaching/Learning Activities | Assessment Methods |
|--------------|-----------|--|---|--|---|
| | | Apply the knowledge in performing nursing procedures/skills | The Muscular system <ul style="list-style-type: none"> • Types and structure of muscles • Muscle groups – muscles of the head, neck, thorax, abdomen, pelvis, upper limb and lower limbs • Principal muscles – deltoid, biceps, triceps, respiratory, abdominal, pelvic floor, pelvic floor muscles, gluteal muscles and vastus lateralis • Major muscles involved in nursing procedures | | |
| VII I | 5(T) | Describe the structure of renal system | The Renal system <ul style="list-style-type: none"> • Structure of kidney, ureters, bladder, urethra • Application and implication in nursing | <ul style="list-style-type: none"> • Lecture • Models/charts | <ul style="list-style-type: none"> • MCQ • Short answer |
| IX | 5(T) | Describe the structure of reproductive system | The Reproductive system <ul style="list-style-type: none"> • Structure of male reproductive organs • Structure of female reproductive organs • Structure of breast | <ul style="list-style-type: none"> • Lecture • Models/charts | <ul style="list-style-type: none"> • MCQ • Short answer |
| X | 6(T) | Describe the structure of nervous system including the distribution of the nerves, nerve plexuses Describe the ventricular system | The Nervous system <ul style="list-style-type: none"> • Review Structure of neurons • CNS, ANS and PNS (Central, autonomic and peripheral) • Structure of brain, spinal cord, cranial nerves, spinal nerves, peripheral nerves, functional areas of cerebral cortex • Ventricular system – formation, circulation, and drainage • Application and implication in nursing | <ul style="list-style-type: none"> • Lecture • Explain with models • Video slides | <ul style="list-style-type: none"> • MCQ • Short answer |

DISTRIBUTION OF TEACHING HOURS

| STRATEGY | | Teaching hours | |
|--------------|----------------------------------|----------------|---------|
| Didactic | Lectures | 54 | 60 |
| | Lab Hrs | 06 | |
| | Tutorials | 03 | |
| | Integrated Teaching Program/MPBL | 06 | |
| Total | | | 60 Hrs. |

TOPICS & OUTCOMES

| Subject | Number of Themes | Number of outcomes |
|-----------------|------------------|--------------------|
| Applied Anatomy | 10 | 60 |

DISTRIBUTION OF THEORY HOURS

| S. N | Theme | Topics | Teaching hrs. |
|--------------|---|---|---------------|
| 1 | Introductiontoanatomicalterms andorganizationofthehumanbody | Introductiontoanatomicalterms andorganizationofthehumanbody | 8(T) |
| 2 | TheRespiratorysystem | TheRespiratorysystem | 6(T) |
| 3 | TheDigestivesystem | TheDigestivesystem | 6(T) |
| 4 | TheCirculatoryandLymphaticsystem | TheCirculatoryandLymphaticsystem | 6(T) |
| 5 | TheEndocrinesystem | TheEndocrinesystem | 4(T) |
| 6 | TheSensoryorgans | TheSensoryorgans | 4(T) |
| 7 | TheMusculoskeletalsystem: | TheMusculoskeletalsystem: | 10(T) |
| 8 | TheRenalsystem | TheRenalsystem | 5(T) |
| 9 | TheReproductivesystem | TheReproductivesystem | 5(T) |
| 10 | TheNervoussystem | TheNervoussystem | 6(T) |
| TOTAL | | | 60 Hours |

***Number of EQB themes**

**** Number of COs**

| Core competencies | | | | | Non-core competencies | | | Total Hours |
|----------------------------------|--|--|-------------------|--|---|--------------------------|---------------------|-------------|
| <i>Unit No. with total hours</i> | Objective | Topic | Code No | Competency | <i>Must know</i> | <i>Desirable to know</i> | <i>Nice to know</i> | |
| I 8(T) | At the end of unit students are able to Knowledge: Define anatomical terms and cell. Understand and describe cell division. Skill: Use this knowledge while providing nursing care in clinical settings. Attitud: Correlate with nursing practice. | Intro ducti ontoa nato mical terms andor ganiz ation ofthe huma nbod y | ANAT105 :ISEM 1.1 | Define anatomical terms relative to position– anterior,ventral,post eriordorsal,superior, inferior, median, lateral, proximal,distal, superficial, deep, prone, supine,palmarandpl antar | <ul style="list-style-type: none"> Introduction to anatomical terms relative to position– anterior,ventral, posteriordorsal, superior, inferior, median, lateral, proximal, distal, superficial, deep, prone, supine, palmar and plantar(1T) | | | 1hour |
| | | | ANAT105 :ISEM 1.2 | Describe the Anatomical planes (axial/ transverse/horizontal , sagittal/vertical plane andcoronal/frontal/obliqueplane) | <ul style="list-style-type: none"> Anatomical planes (axial/ transverse/horizo ntal, sagittal/vertical plane andcoronal/frontal/obliqueplane)(1 T) | | | 1hour |

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| | | | ANAT105: ISEM 1.3 | Describe the Movements (flexion, extension, abduction, adduction, medial rotation, lateral rotation, inversion, eversion, supination, pronation, plantar flexion, dorsal flexion and circumduction | <ul style="list-style-type: none"> • Movements (flexion, extension, abduction, adduction, medial rotation, lateral rotation, inversion, eversion, supination, pronation, plantar flexion, dorsal flexion and circumduction. (1T) | | | 1hour |
| | | | ANAT105: ISEM 1.4 | Explain the cell, tissue and its types, characteristics, classification, location and formation | <ul style="list-style-type: none"> • Cell structure, Cell division. (1T) • Tissue – definition, types, characteristics, classification, location (1T) | | | 1hour |
| | | | ANAT105: ISEM 1.5 | Classify the membranes, glands and outline the structure of membranes and glands. | <ul style="list-style-type: none"> • Membrane, glands – classification and structure | | | 1hour |

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| | | | ANAT105: ISEM 1.6 | Illustrate the major surface and bony landmarks in each body region, Organization of human body | | | | | | | 1 hour |
| | | | ANAT105 :ISEM 1.7 | Describe the Hyaline, fibrocartilage, elastic cartilage and Features of skeletal, smooth and cardiac muscle | | | | | | | 1 hour |
| | | | ANAT105 :ISEM 1.8 | Describe the Application and implication in nursing. | | | | | | Application and implication in nursing (1T) | 1 hour |
| Competency /Course outcome | Patient center care | Professional ism | Teaching and leadership | System based practice | Health informatic s and technolog y | Communi cation | Teamwor k and collaborat ion | Safet y | Quality improvement | Evidence based practice | Lifelong learner |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
| ANAT105 :ISEM 1.1- Define anatomical terms relative to position— anterior, ventral, posterior, dorsal, superior, inferior, median, lateral, proximal, distal, | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

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| superficial, deep, prone, supine, palmar and plantar | | | | | | | | | | | |
| ANAT105 :ISEM 1.2- Describe the Anatomical planes (axial/transverse/horizontal, sagittal/vertical plane and coronal/frontal/oblique plane) | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 1.3- Describe the Movements (flexion, extension, abduction, adduction, medial rotation, lateral rotation, inversion, eversion, supination, pronation, plantar flexion, dorsal flexion and circumduction) | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 1.4- Explain the cell, tissue and its types, characteristics, classification, location and formation | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

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| ANAT105:ISEM 1.5- Classify the membranes, glands and outline the structure of membranes and glands. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 1.6- Illustrate the major surface and bony landmarks in each body region, Organization of human body | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 1.7- Describe the Hyaline, fibrocartilage, elastic cartilage and Features of skeletal, smooth and cardiac muscle | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 1.8- Describe the Application and implication in nursing | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| II (6 T) | At the end of unit students are able to Knowledge: Understand and | The Respiratory system (6 T) | ANAT105: ISEM 2.1 | Describe the Structure of the organs of respiration. | • Structure of the organs of respiration (2T) | | | | | | 2 hour |
| | | | ANAT105: ISEM 2.2 | Explain about the muscles used in | • Muscles of respiration (2T) | | | | | | 2 hour |

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| | describe respiratory system. Skill: Identify patient's condition and render comprehensive care. Attitude: Contribute in improving the quality of nursing practice. | | | respiration. | | | | | | | |
| | | | ANAT105: ISEM 2.3 | Describe the Application and implication in nursing | | | | | | Application and implication in nursing (2T) | 2hour |
| Competency /Course outcome | Patient center care | Professionalism | Teaching and leadership | System based practice | Health informatics and technology | Communication | Teamwork and collaboration | Safety | Quality improvement | Evidence based practice | Lifelong learner |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
| ANAT105:ISEM 2.1- Describe the Structure of the organs of respiration | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 2.2- Explain about the muscles used in respiration. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 2.3- Describe the Application and impli | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

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| cationinnursing | | | | | | | | | | | |
| III (6 T) | At the end of unit students are able to Knowledge: Understand and describe Digestivesystem. Skill: Utilize this knowledge in rendering nursing care. | The Digestive system (6 T) | ANAT105: ISEM 3.1 | Describe the Structureofalimentarycanalandaccessoryorgansof digestion | | • Structureofalimentarycanaland accessoryorgan sof digestion(4T) | | | | | 2 hour |
| | | | ANAT105 :ISEM 3.2 | Describe the structure of alimentary tract and the accessory organs of digestion | | | | | 1hour | | |
| | | | ANAT105 :ISEM 3.3 | List down alteration in disease of alimentary tract. | | | | | 1 hour | | |
| | | | ANAT105 :ISEM 3.4 | Applicationandimplicationsin nursing | | | | • Appli catio nandi mplic ation sin nursi ng(2 T) | 2 hour | | |
| Competency /Course outcome | Patient center care | Professionalism | Teaching and leadership | System based practice | Health informatics and technology | Communication | Teamwork and collaboration | Safety | Quality improvement | Evidence based practice | Lifelong learner |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |

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| ANAT105:ISEM 3.1- Describe the Structure of alimentary canal and accessory organs of digestion | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 3.2- Describe the structure of alimentary tract and the accessory organs of digestion | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 3.3- List down alteration in disease of alimentary tract. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 3.4- Application and implications in nursing | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| IV (6 T) | At the end of unit students are able to Knowledge: Acquire the knowledge on Circulatory and Lymphatic system Skill: Apply this knowledge in nursing practice. Attitude: Contribute in | The Circulatory and Lymphatic system (6 T) | ANAT105: ISEM 4.1 | Explain the Structure of blood components, blood vessels | <ul style="list-style-type: none"> Structure of blood components, blood vessels (1T) –Arterial and Venous system | | | | | 1hour | |
| | | | ANAT105: ISEM 4.2 | Describe the Position of heart relative to the associated structures | <ul style="list-style-type: none"> Position of heart relative to the associated structures (1T) | | | | 1 hour | | |
| | | | ANAT105: | Illustrate the | | | | 1hour | | | |

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| | improving quality of nursing care. | | ISEM 4.3 | Chambers of heart, layers of heart | • Chambers of heart, layers of heart(1T) | | | | | | |
| | | | ANAT105: ISEM 4.4 | Describe the Heart valves, coronary arteries. Nerve and blood supply to heart . | • Heart valves, coronary arteries • Nerve and blood supply to heart(1T) | | | | | | 1hour |
| | | | ANAT105: ISEM 4.5 | Explain about the Lymphatic tissue | | | • Lymphatic tissue(1T) | | | | 1 hour |
| | | | ANAT105: ISEM 4.6 | Identify the Veins used for IV injections | | | • Veins used for I Vinjections | | | | ½ hour |
| | | | ANAT105: ISEM 4.7 | Application and implication in nursing | | | | | | Application and implication in nursing(1T) | ½ hour |
| Competency /Course outcome | Patient center care | Professionalism | Teaching and leadership | System based practice | Health informatics and technology | Communication | Teamwork and collaboration | Safety | Quality improvement | Evidence based practice | Lifelong learner |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
| ANAT105: ISEM 4.1- Explain the Structure of blood components, blood vessels | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

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| ANAT105:ISEM 4.2- Describe the Position of heart relative to the associated structures | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 4.3- Illustrate the Chambers of heart, layers of heart | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 4.4- Describe the Heart valves, coronary arteries. Nerve and blood supply to heart . | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 4.5- Explain about the Lymphatic tissue | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 4.6- Identify the Veins used for IV injections | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 4.7- Application and implication in nursing | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

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| V (4 T) | At the end of unit students are able to Knowledge: Acquire the knowledge on Endocrinesystem. Skill: Assess the patient with sensory alteration. Attitude: Incorporate this knowledge in nursing practice. | The Endocrine system (4 T) | ANAT105 :ISEM 5.1 | Explain the Structure of Hypothalamus, Pineal Gland, Pituitary gland, Thyroid. | • Structure of Hypothalamus, Pineal Gland, Pituitary gland, Thyroid, Parathyroid, Thy mus, Pancreas and Adrenal glands(2T) | | | | | | 1 hour |
| | | | ANAT105 :ISEM 5.2 | Describe the structure of Parathyroid, Thymus, Pancreas and Adrenal glands | | | | | 1 hour | | |
| | | | ANAT105 :ISEM 5.3 | Illustrate the alterative disorders of endocrine glands. | | | | | 1 hour | | |
| | | | ANAT105: ISEM 5.4 | Describe its application in clinical practice. | | • Application and implications in nursing(2T) | | | 1 hour | | |
| Competency /Course outcome | Patient center care | Professionalism | Teaching and leadership | System based practice | Health informatics and technology | Communication | Teamwork and collaboration | Safety | Quality improvement | Evidence based practice | Lifelong learner |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
| ANAT105 :ISEM 5.1- Explain the Structure of Hypothalamus, Pineal Gland, Pituitary gland, Thyroid. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

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| ANAT105 :ISEM 5.2- Describe the structure of Parathyroid,Thymus, PancreasandAdrenal glands | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 5.3- Illustrate the alterative disorders of endocrine glands. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 |
| ANAT105:ISEM 5.4- Describe its application in clinical practice. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 |
| VI 4(T) | At the end of unit students are able to Knowledge: Acquire knowledge about structure of Sensoryorgans Acquire knowledge and describe regarding types of circulation. Understand and explain the | The Sensory organs 4(T) | ANAT105: ISEM 6.1 | Describe the structure of skin,eye. | The Sensory organs • Structure of skin,eye,ear,nose and tongue(2T) | | | | | 1 hour | |
| | | | ANAT105 :ISEM 6.2 | Describe the Structure of ear, nose and tongue | | | | | | 1 hour | |
| | | | ANAT105: ISEM 6.3 | Enumerate the taste buds and papillae (Tongue). | | | | | | ½ hour | |
| | | | ANAT105 :ISEM 6.4 | Explain the alterations in disease related to skin, eye, ear, nose | | | | | | 1 hour | |

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| | structure and function of lymphatic system. Skill: Perform nursing care effectively in cardiac unit. Identify of Sensoryorgans and various disease conditions. Attitude: Incorporate knowledge in practice. | | ANAT105: ISEM 6.5 | Describe application of it in clinical practice. | | | | | | | ½ hour |
| Competency /Course outcome | Patient center care | Professionalism | Teaching and leadership | System based practice | Health informatics and technology | Communication | Teamwork and collaboration | Safety | Quality improvement | Evidence based practice | Lifelong learner |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
| ANAT105:ISEM 6.1- Describe the structure of skin,eye. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 6.2- Describe the Structure of ear, nose and tongue | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

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| ANAT105:ISEM 6.3- Enumerate the taste buds and papillae (Tongue). | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 6.4- Explain the alterations in disease related to skin, eye, ear, nose | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT1 Describe application of it in clinical practice. 05:ISEM 6.5- | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| VII 10(T) | At the end of unit students are able to Knowledge: Acquire knowledge of Musculoskeletal system . Skill: Render quality nursing care to patients with Musculoskeletal system disorders. | VII The Musculoskeletal system: 10(T) | ANAT105: ISEM 7.1 | Describe the Anatomical positions. | • Anatomical positions(1T) | | | | | 1 hour | |
| | | | ANAT105: ISEM 7.2 | Describe the Bones– types,structure,growth and ossification | • Bones– types, structure, growth and ossification (2 T) | | | | 1 hour | | |
| | | | ANAT105 :ISEM 7.3 | Classify the skeleton is divided into axial and appendicular divisions. | • Axial and appendicular skeleton(1T) | | | | 1 hour | | |
| | | | ANAT105: ISEM 7.4 | Outline the structure of 206 bones with diagram. | | | | | 1 hour | | |
| | | | ANAT105: ISEM 7.5 | Classify the major Joints and structure. | • Joints– classificati | | | | 1 hour | | |

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| | | | | | on, major joints and structure(1T) | | | |
| | | | ANAT105: ISEM 7.6 | Illustrate the Types and structure of muscles | <ul style="list-style-type: none"> Types and structure of muscles(1T) | | | 1 hour |
| | | | ANAT105: ISEM 7.7 | Explain the Muscle groups–muscles of the head,neck,thorax, abdomen. | <ul style="list-style-type: none"> Muscle groups–muscles of the head,neck,thorax, abdomen, pelvis, upper limb and lower limbs(1T) | | | 1/2 hour |
| | | | ANAT105: ISEM 7.8 | Describe the Muscle group’s pelvis, upper limb and lower limbs. | | | | 1/2 hour |
| | | | ANAT105: ISEM 7.9 | Describe the Principalmuscles–deltoid,biceps,triceps,and respiratory, abdominal, pelvic floor. | <ul style="list-style-type: none"> Principalmuscles–deltoid,biceps,triceps,respriatory, abdominal, pelvic floor, pelvicfloor muscles, gluteal muscles and | | | 1/2 hour |

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| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
| ANAT105:ISEM 7.1- Describe the Anatomical positions. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 7.2- Describe the Bones– types,structure,growth and ossification | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 7.3- Classify the skeleton is divided into axial and appendicular divisions. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 7.4- Outline the structure of 206 bones with diagram. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 7.5- Classify the major Joints and structure. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 7.6- Illustrate the Types and structure of muscles | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 7.7- Explain the | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

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|--|---|---|---|---|---|---|---|---|---|---|---|
| Muscle groups– muscles of the head,neck,thorax, abdomen. | | | | | | | | | | | |
| ANAT105:ISEM 7.8- Describe the Muscle group’s pelvis, upper limb and lower limbs. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 7.9- Describe the Principalmuscles– deltoid,biceps,triceps ,and respiratory, abdominal, pelvic floor. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 7.10- Describe the Principal muscles pelvicfloor muscles, gluteal muscles and vastusla teralis | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 7.11- Describe the Major muscles involved in nursing procedures. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 7.12- Illustrate the movements of musclesin producing body movements | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

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|---|---|---------------------------------|-------------------------|---|--|-----------------|-----------------------------|--|----------------------|-------------------------|------------------|
| 7.13- Application and implications in nursing | | | | | | | | | | | |
| VIII 5(T) | At the end of unit students are able to Knowledge: Enlist organs participating in the Renalsystem and describe their structures. Skill : Render quality nursing care to the patients with problem of Renalsystem | The Renal system 5(T) | ANAT105 :ISEM 8.1 | Explain the structure of organs of urinary system: kidneys, ureters, urinary bladder and urethra. | • Structure of kidney, ureters, bladder, urethra(4T) | | | | | | 2 hour |
| | | | ANAT105: ISEM 8.2 | Describe the structure of the nephron | | | | | 1 hour | | |
| | | | ANAT105: ISEM 8.3 | Identify the alternation of disease related to kidneys, ureters, urinary bladder and urethra | | | | | 1 hour | | |
| | | | ANAT105 :ISEM 8.4 | Describe the application in clinical practice. | | | | • Appli catio n and impli catio ninnu rsing(1T) | 1 hour | | |
| Competency /Course outcome | Patient center care | Professional ism | Teaching and leadership | System based practice | Health informatics and technology | Comm unicati on | Teamwork and collaborati on | Safety | Quality improve ment | Evidence based practice | Lifelong learner |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |

| | | | | | | | | | | | |
|---|---|--|-------------------|--|---|---|---|---|---|---|--------|
| ANAT105 :ISEM 8.1 Explain the structure of organs of urinary system: kidneys, ureters, urinary bladder and urethra.- | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 8.2- Describe the structure of the nephron | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 8.3- Identify the alternation of disease related to kidneys, ureters, urinary bladder and urethra | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 8.4- Describe the application in clinical practice. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| IX 5(T) | At the end of unit students are able to Knowledge: Acquire knowledge regarding structure of Reproductivesystem. Skill: | The Reproductive system 5(T) | ANAT105: ISEM 9.1 | Explain the structure of female reproductive organs. | • Structure of female reproductive organs(2T) | | | | | | 1 hour |
| | | | ANAT105 :ISEM 9.2 | Describe the structure of male reproductive organs. | • Structure of male reproductive organs(2 T) | | | | | | 1 hour |
| | | | ANAT105 :ISEM 9.3 | Identify the alternation of disease related to | | | | | | | 1 hour |

| | | | | | | | | | | | | | | | |
|---|---|-----------------|-------------------------|--------------------------------------|---|---------------|----------------------------|--------|---------------------|-------------------------|------------------|---|--|----------------------------|--------|
| | Contribute as member of health team in providing nursing care to the patients With Reproductives system disorders. Attitude: Contribute in improving quality of care of patients in CKD. | | | female and male reproductive organs. | | | | | | | | | | | |
| | | | | ANAT105: ISEM 9.4 | Describe the Structure of breast. | | | | | | | | | • Structure of breast (1T) | 1 hour |
| | | | | ANAT105 :ISEM 9.5 | Illustrate the application in clinical practice | | | | | | | | | | 1 hour |
| Competency /Course outcome | Patient center care | Professionalism | Teaching and leadership | System based practice | Health informatics and technology | Communication | Teamwork and collaboration | Safety | Quality improvement | Evidence based practice | Lifelong learner | | | | |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | | | | |
| ANAT105:ISEM 9.1- Explain the structure of female reproductive organs | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | | | |
| ANAT105 :ISEM 9.2- Describe the structure of male reproductive organs. | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | | | |
| Identify the alternation of disease related to female and male reproductive | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | | | |

| | | | | | | | | | | | |
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| organs. ANAT105 :ISEM 9.3- | | | | | | | | | | | |
| ANAT105:ISEM 9.4- Describe the Structure of breast | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 9.5- Illustrate the application in clinical practice | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| X 6(T) | At the end of unit students are able to Knowledge: Describe the structure of endocrine glands. Skill: Provides nursing care for patients with Nervoussystem . Attitude: Contribute in improving quality of care of patients. | The Nervous system 6(T) | ANAT105: ISEM 10.1 | List the structures of the nervous system and explain the Structure of neurons | TheNervoussystem • Review Structure of neurons(1T) | | | | | | 1 hour |
| | | | ANAT105: ISEM 10.2 | Describe the CNS,ANS and PNS(Central,autono mic and peripheral) | • CNS,ANSandPN S(Central,autono micandperiphera l)(1T) | | | | 1 hour | | |
| | | | ANAT105 :ISEM 10.3 | Explain the Structure of brain, spinal cord, cranial nerves, spinal nerves, | • Structureofbrain, spinalcord,crania lnerves,spinal nerves, peripheral nerves, functionalareasof cerebral cortex(2 T) | | | | 1 hour | | |
| | | | ANAT105 :ISEM 10.3 | Describe the peripheral nerves, functional areas of cerebral cortex | | | | | 1 hour | | |

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|-------------------------------|------------------------|---------------------|-------------------------------|---|---|-----------------------|--------------------------------------|--------|--|---|---------------------|-----------|
| | | | ANAT105: ISEM 10.4 | Describe Ventricular system – formation, circulation, and drainage | | | | | • Ventricular system – formation, circulation, a nd drainage(1 T) | | | 1/2 hour |
| | | | ANAT105 :ISEM 10.5 | Explain the structure and location autonomic nervous system : sympathetic and parasympathetic | | | | | | | | 1 /2 hour |
| | | | ANAT105 :ISEM 10.6 | Relate the alterations in disease related to structure of nervous system and application of it in clinical practice. | | | | | | | | 1 /2 hour |
| | | | ANAT105 :ISEM 10.7 | Application and implication in nursing | | | | | | • Appl icati on an dim plica tion i n nur sing(1T) | | 1 /2 hour |
| Competency /Course outcome | Patient center care | Professional ism | Teaching and leadership | System based practice | Health informati cs and technolog y | Com munic ation | Teamwork and collaboratio n | Safety | Quality improve ment | Evidence based practice | Lifelong learner | |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | |

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|--|---|---|---|---|---|---|---|---|---|---|---|
| ANAT105:ISEM 10.1- List the structures of the nervous system and explain the Structure of neurons | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 10.2- Describe the CNS,ANS and PNS(Central,autonomic and peripheral) | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 10.3- Explain the Structure of brain, spinal cord, cranial nerves, spinal nerves, | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105:ISEM 10.4- Describe Ventricular system – formation, circulation, and drainage | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 10.5- Explain the structure and location autonomic nervous system : sympathetic and parasympathetic | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |
| ANAT105 :ISEM 10.6- Relate the alterations in disease related to structure | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| of nervous system and application of it in clinical practice. | | | | | | | | | | | |
| ANAT105 :ISEM 10.7- Application and implication in nursing | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 |

TEACHING STRATEGY:

Total Hours: 60

Theory Hours: 60

Theory**Continuous Assessment: 10Mark**

| Sr. No | Assignments | Percentage of Attendance | Allotted marks | Total Marks for attendance |
|--------|---|--------------------------|----------------|----------------------------|
| 1 | Attendance | 95-100% | 2 | 2 marks |
| | | 90-94% | 1.5 | |
| | | 85-89% | 1 | |
| | | 80-84% | 0.5 | |
| | | <80% | 0 | |
| | | Number assignments | Marks | Total Marks |
| 2 | Written Assignments | 2 | 2X10 | 10 |
| 3 | Seminar/Microteaching/Individual presentation | 2 | 2X6 | 12 |
| 4 | Group work/Work/Report | 1 | 1X6 | 6 |
| | | | Total | 30/3=10Marks |

Note: If there is mandatory module in that semester, marks obtained by student out of 10 can be added to 30 totaling 40 marks

Total=40/4=10marks

Modified Tutorials (3 Hours)

| Sr. No | Comp. no | TOPIC | Domain | T-L Method | Teaching Hrs |
|--------------|-------------------|--|--------|------------|----------------|
| 1. | ANAT105:ISEM 7.6 | Explain the structure of muscles and muscle groups. | K,S | Tutorials | 1 Hour |
| 2. | ANAT105 :ISEM 2.1 | Describe the Structure of the organs of respiration. | K,S | Tutorials | 1 Hour |
| 3. | ANAT105:ISEM 10.1 | List the structures of the nervous system and explain the Structure of neurons | K,S | Tutorials | 1 Hour |
| TOTAL | | | | | 3 Hours |

Integration/MPBL- 06 hrs

| Sr. No | Comp. no | TOPIC | Domain | T-L Method | Teaching Hrs |
|--------|----------------------|---|--------|------------------------|--------------|
| 1 | ANAT105 :ISEM 8.1 | Explain the structure of organs of urinary system: kidneys, ureters, urinary bladder and urethra. | K | Lecture cum discussion | 06 Hours |

Formative Assessment**1. Sessional Examinations: Theory: I**

| Sr. No. | Question paper – Theory | Total |
|---------------|-------------------------|-------|
| Maximum marks | 30 | 30 |

2. Sessional Examinations: Theory: II

| Sr. No. | | Total |
|---------------|----|-------|
| Maximum marks | 30 | 30 |

Note: Sessional II exam will be replication of university exam and it will converted into 30 marks

| Type of questions | Number of questions | Marks allotted |
|----------------------|---------------------|----------------|
| MCQ | 4×1=4 | 4 Marks |
| Essay/situation type | 1×10=10 | 10 Marks |
| Short | 2×5=10 | 10 Marks |
| Very short | 3×2=6 | 06Marks |
| | Total | 30 marks |

2. Calculation of Internal Assessment (IA): Theory

- Total marks of two sessional examinations along with continuous assessment
 $30\text{marks} \times 2 = 60 / 4 = 15$
- $10 + 15 = 25$ Marks
- Minimum required - 50 %

THEORY

3. Summative Assessment

a. Theory:

| Type of questions | Number of questions | Marks allotted |
|----------------------|---------------------|----------------|
| MCQ | $6 \times 1 = 6$ | 6 Marks |
| Essay/situation type | $1 \times 10 = 10$ | 10 Marks |
| Short | $3 \times 5 = 15$ | 15 Marks |
| Very short | $3 \times 2 = 6$ | 06Marks |
| | Total | 37 marks |

LIST OF RECOMMENDED BOOKS:

- Chakravorthy N. Chakravorthy D. Fundamentals of Human Anatomy
- Chaurasia B.D, Human anatomy.
- Jackson seiles, Anatomy and physiology for nurses.
- April E. N., Anatomy pre-test
- Tortora, J. Gerard and Anagnostakos P Nicholas Principles of anatomy and physiology

