Faculty of Allied Sciences
Bachelor of Science (Semester-I)
In Effect from Academic Year 2024-25

Branch Name:	B.Sc (MLT/RIT/ AT/CCT)
Program Code:	AS101/AS102/ AS103/ AS104
Course Title:	Human Anatomy-I
Course Code:	1AS1000101
Pre-requisite Course:	

Course Objectives: After successful completion of the course, student will be able to

1. To Develop a Comprehensive Understanding of Human Anatomy
2. To Correlate Anatomy with Clinical Applications
3. To Promote Practical Learning and Skill Development.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
				Theory (Marks)		Practical (Marks)		
Lecture (L)	Tutorial (T)	Practical (P)	Credit	University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	Total (Marks)
3	-	2	4	50	50	25	25	150

Course Contents:

Unit No	Topic	Total Hours
1	**Introduction** Anatomical terms organization of the human body Human Cell structure Tissues- Definition, Types, characteristics, classification, location, functions and formation Membranes and glands classification and structure Alterations in disease	**5**
2	**The Skeletal System** •Bones-type, structure, Axial & Appendicular Skeleton, •Bone formation and growth • Joints- Classification of joints with examples; details of synovial joint. • Bones & joints of upper limb, lower limb and their movements. • Axial skeleton & appendicular skeleton. • Nomenclature of Skull bones, spine & its movements, intervertebral disc	**10**
3	**The Muscular System** Types, Structure of muscles,Classification of Muscles with examples. • Nomenclature of Muscles of the upper limb, lower limb, trunk and neck. •Muscle groups Alterations in disease Applications and implications, • Sites of Intramuscular injections	**8**
4	**Circulatory and lymphatic system** • Arteries & veins, Capillaries & arterioles. • Heart- size, location, chambers, blood supply of heart, pericardium. • Systemic & pulmonary circulation. • Major blood vessels of Heart- Aorta, pulmonary artery, common carotid artery,subclavian artery, axillary artery, brachial artery, common iliac artery, femoral artery.	**10**

	• Great saphenous vein, varicose veins. • Sites of Intravenous injections& sites of pulsations • Lymph & Lymph vessels. • Structure of lymph node, names of regional lymphatic's, axillary and inguinal lymph nodes and their applied aspects. • Details of Spleen, Thymus & Palatine tonsil	
5	**The Digestive System** • Parts of GIT, structure of tongue, subdivisions of pharynx, classification of glands with salivary glands in detail. • Location & Gross structure of Oesophagus, stomach, features & parts of small and large intestine, differences between small & large gut,Gross features of liver, gall bladder& pancreas.	**12**

Practicals

Unit No	Topic	Total Hours
1	Bones and joints	**4**
2	Muscles & Upper limb	**4**
3	Muscles & Lower limb	**4**
4	Heart	**3**
5	Tongue	**2**
6	Digestive system GIT-1 (Esophagus, Stomach, Small & Large intestine)	**4**
7	Digestive system GIT-2 (Liver, Spleen & Pancreas)	**4**

Text Books:

1. Manipal manual for Allied Health Sciences by Dr. Sampath Madhyastha, (3rd edition) by CBS Publishers.
2. Handbook of General anatomy by B D Chaurasia (10th edition) by CBS Publishers.
3. Anatomy for Allied Health Sciences by Renu Chauhan (2nd Edition) by Arya Publishing Company

Reference Books:

1. Human Anatomy by B D Chaurasia (10th edition) Volumes 1– 4 by CBS Publishers.
2. Ross and Wilson Anatomy and Physiology in Health and Illness by Annie Waugh (14thedition) byElsevier - Health Sciences
3. Gray's Anatomy for Students byRichard L. Drake (5th edition) byElsevier

List of Open-Source Software/learning website:

1. **Open Anatomy Project**
   Link: https://www.openanatomy.org/
2. **Visible Body (Free Version)**
   Link: https://www.visiblebody.com/
3. **BioDigital Human**
   Link: https://www.biodigital.com/
4. **Anki (with Anatomy Decks)**
   Link: https://apps.ankiweb.net/
5. **AnatomyZone**
   Link: https://www.anatomyzone.com/
6. **TeachMeAnatomy**
   Link: https://teachmeanatomy.info/
7. **InnerBody**
   Link: https://www.innerbody.com/

Course Learning Outcomes(CLO):

Course Outcomes	Description	Bloom'sTaxonomy Level
COL1	Explaintheconceptsofcalculus.Usetheconceptsofcalculustodetermine the power series expansion of functions and evaluation of limits.	Understanding(2) Applying(3)
COL2	Use the concepts partial derivatives to solve the differential equations Appearing in Engineering fields.	Applying(3)
COL3	Use the concept of Reduction formula to find surface areas and volumes of revolution.	Applying(3)
COL4	Solve improper integrals with the help of beta and gamma functions	Applying(3)
COL5	Use the concept of double integration to solve area and volume of surfaces.	Applying(3)

Mapping of CLO with PO and PSO

Course Learning Outcomes	ProgramOutcomes (POs)												ProgramSpecific Outcomes(PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1	H	M	M		M											
CLO2	H	M			M							L				
CLO3	H	M	M		M											
CLO4	M	M	M		M							L				
CLO5	M	M										L				

H:High, M:Medium, L:Low