Chitkara College of Pharmacy
Chitkara University, Rajpura, Punjab
Chandigarh–Patiala National Highway, Punjab – 140 401, India

Institute/School Name	Chitkara College of Pharmacy		
Department Name	Pharmacy		
Programme Name	B.Pharmacy		
Course Name	Human Anatomy and Physiology I	**Session**	July-Dec 25
Course Code	BP101T	**Semester/Batch**	1st /2025
L-T (Per Week)	3-1	**Course Credits**	4
Pre-requisite	Biology	**NHEQF Level**	5.5
Course Coordinator	Dr. Sushma Devi		
SDG	SDG 3: Good Health and Well-being SDG 4: Quality Education		

Objectives of the Course:
The objective of the course Human Anatomy and Physiology is to provide fundamental knowledge of the structure and functions of various organs and systems of the human body. It also aims to correlate normal physiology with pathological conditions to support understanding of disease mechanisms and therapeutic interventions.

Course Outcomes (COs)

Students should be able to:

	COs	**Program Outcomes (PO)**	**NHEQF Level Descriptor**	**No. of Lectures**
CO01	Describe the human body's structural organization, cell communication, and homeostatic regulation.	PO 1 PO 4 PO 11	Q1, Q2	**15**
CO02	Explain the structure and function of the skin, bones, muscles, and joints in body movement.	PO 4	Q2	**10**
CO03	Discuss the composition, formation, and function of blood and lymph and their related disorders.	PO 3 PO 4	Q1	**10**
CO04	Illustrate the structure and function of the peripheral nervous system and special sensory organs.	PO 1 PO 11	Q4	**5**
CO05	Explain the anatomy and physiology of the cardiovascular system, blood circulation, and heart regulation mechanisms.	PO 4	Q4	**5**
Total Contact Hours				**45**

CO-PO Mapping

CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**Type of Assessment's**
CO01	3			2							2	Summative/formative
CO02				2								Summative/formative
CO03			3	3								Summative/formative
CO04	3										3	Summative/formative

CO05				3								Summative/formative

3=High, 2=Medium, 1=Low

Recommended Books:

B01: Waugh, A., & Grant, A. (2018). Ross and Wilson anatomy and physiology in health and illness (13th ed.). Elsevier.
B02: Tortora, G. J., & Derrickson, B. H. (2017). Principles of anatomy and physiology (15th ed.). Wiley.
B03: Marieb, E. N., & Hoehn, K. (2018). Human anatomy & physiology (11th ed.). Pearson.
B4: Chaurasia, B. D. (2013). Human anatomy (Vols. 1–4, 7th ed.). CBS Publishers & Distributors.

Other readings and relevant websites:

Serial No	Link of Journals, Magazines, websites and Research Papers
1.	https://www.longdom.org/anatomy-physiology-current-research.html
2.	https://www.visiblebody.com
3.	https://www.scientificamerican.com/human-body/
4.	https://www.innerbody.com
5.	The Physiologist Magazine
6.	https://www.longdom.org/anatomy-physiology-current-research.html

Lecture Plan

Lect. No.	Topics	Book No, CH No, Page No	TLM[1]	ALM[2]	Web References	Audio - Video
1-2	Introduction to human body Definition and scope of anatomy and physiology, levels of structural organization and body systems, basic life processes, homeostasis, basic anatomical terminology.	B01, CH 1 Page no 1-10	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.innerbody.com https://teachmeanatomy.info	
3-4	Cellular level of organization Structure and functions of cell, transport across cell membrane, cell division, cell junctions.	B01, CH 2 Page no 11-20	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.innerbody.com https://teachmeanatomy.info	
5-6	General principles of cell communication, intracellular signaling pathway activation by extracellular signal molecule, Forms of intracellular signaling: a) Contact-dependent b) Paracrine c) Synaptic d) Endocrine	B01, CH 2 Page no 21-34	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.innerbody.com https://teachmeanatomy.info	
7	Tissue level of organization Classification of tissues,	B01, CH 3 Page no 35-39	Lecture, Active	Discussion, Questioning	https://www.innerbody.com	

	structure, location and functions of epithelial		learning, Discussion, Inductive teaching			
8-9	Classification of tissues, structure, location and functions of muscular	B01, CH 3 Page no 40-42	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.innerbody.com	
10-11	Classification of tissues, structure, location and functions of nervous	B01, CH 3 Page no 162-170	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.innerbody.com	
12-13	Classification of tissues, structure, location and functions of connective tissues.	B01, CH 3 Page no 159-162	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.innerbody.com	
14-15	Integumentary system Structure and functions of skin • Skeletal system Divisions of skeletal system	B01, CH 8, CH 16 Page no 213-220 432-435	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.innerbody.com	
16-18	Types of bone, salient features and functions of bones of axial and appendicular skeletal system	B01, CH 16 Page no 433-440	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.kenhub.com	
19	Organization of skeletal muscle, physiology of muscle contraction, neuromuscular junction	B01, CH 16 Page no 460-465	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.kenhub.com	
19-20	Joints Structural and functional classification, types of joints movements and its articulation	B01, CH 16 Page no 456-458	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.kenhub.com https://teachmeanatomy.info	
21-22	Joints Structural and functional classification, types of joints movements and its articulation	B01, CH 16 Page no	Lecture, Active learning,	Discussion, Questioning	https://www.kenhub.com	

		456-458	Discussion, Inductive teaching		https://teachmeanatomy.info	
23-24	Body fluids and blood • Body fluids, composition and functions of blood, hemopoeisis, formation of hemoglobin, anemia,	B01, CH 4 Page no 65-70	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.kenhub.com	
25-26	Mechanisms of coagulation, blood grouping, Rh factors, transfusion, its significance and disorders of blood, Reticulo endothelial system	B01, CH 4 Page no 70-75	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.kenhub.com	
27-28	Lymphatic system Lymphatic organs and tissues, lymphatic vessels,	B01, CH 6 Page no 147-157	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.kenhub.com	
29-30	Lymph circulation and functions of lymphatic system	B01, CH 6 Page no 147-157	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.kenhub.com	
31-33	Classification of peripheral nervous system: Structure and functions of sympathetic and parasympathetic nervous system	B01, CH 7 Page no 148-200	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://www.kenhub.com	
34-35	Origin and functions of spinal and cranial nerves	B01, CH 7 Page no 200-210	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://teachmeanatomy.info	
36-38	Structure and functions of eye, ear, nose and tongue and their disorders.	B01, CH 8 Page no 213-220	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://teachmeanatomy.info	
39-40	Heart – anatomy of heart, blood circulation, blood vessels, structure and functions of artery, vein and capillaries	B01, CH 5 Page no 85-90	Lecture, Active learning, Discussion,	Discussion, Questioning	https://teachmeanatomy.info	

			Inductive teaching			
41-42	Elements of conduction system of heart and heart beat, its regulation by autonomic nervous system,	B01, CH 5 Page no 90-100	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://teachmeanatomy.info	
43-45	Cardiac output, Cardiac cycle, Regulation of blood pressure, pulse, electrocardiogra	B01, CH 5 Page no 100-140	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning	https://teachmeanatomy.info	
46	disorders of cardiovascular system	B01, CH 5 Page no 100-140	Lecture, Active learning, Discussion, Inductive teaching	Discussion, Questioning		

Teacher in-charge Assistant Dean Dean