



**INTEGRAL UNIVERSITY, LUCKNOW**  
**INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH**

**DEPARTMENT OF PARAMEDICAL SCIENCES**

**BACHELOR OF SCIENCE IN ANESTHESIOLOGY  
AND INTENSIVE CARE TECHNOLOGY  
(B.Sc.AICT)**

**SYLLABUS**

**YEAR/ SEMESTER: I/I**



Integral University, Lucknow  
Department of Paramedical Sciences  
Study and Evaluation Scheme  
Program: B.Sc. AICT

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
<b>THEORIES</b>													
1	LT101	Human Anatomy- I	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	LT102	Human Physiology-I	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	LT103	Basic of Biochemistry	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	LT104	Community Health Care Issues	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	LN101	Basic Professional Communication	Core	2	1	0	40	20	60	40	100	2:1:0	3
6	CS103	Introduction to Computers	Core	2	1	0	40	20	60	40	100	2:1:0	3
<b>PRACTICAL</b>													
1	LT105	Human Anatomy- I Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
2	LT106	Human Physiology-I Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
3	LT107	Basic of Biochemistry-I Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
<b>Total</b>				<b>16</b>	<b>06</b>	<b>06</b>	<b>360</b>	<b>180</b>	<b>540</b>	<b>360</b>	<b>900</b>	<b>25</b>	<b>25</b>

Semester-I

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
<b>THEORIES</b>											
1	AT101	Human Anatomy- I	Core	√	√	√	√		√	√	3,4
2	AT102	Human Physiology-I	Core	√	√	√	√		√	√	3,4
3	AT103	Basic of Biochemistry	Core	√	√	√	√		√	√	3,4
4	AT104	Community Health Care Issues	Core	√	√	√	√		√	√	3,4
5	LN101	Basic Professional Communication	Core			√			√	√	3,4,6
6	CS103	Introduction to Computers	Core	√	√	√	√		√	√	3,4
<b>PRACTICAL</b>											
1	AT105	Human Anatomy- I Lab	Core	√	√	√	√		√	√	3,4
2	AT106	Human Physiology-I Lab	Core	√	√	√	√		√	√	3,4
3	AT107	Basic of Biochemistry-I Lab	Core	√	√	√	√		√	√	3,4

**L:** Lecture      **T:** Tutorials      **P:** Practical      **CT:** Class Test      **TA:** Teacher Assessment      **ESE:** End Semester Examination,  
AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment      **Subject Total:** Sessional Total + End Semester Examination (ESE)



## Integral University, Lucknow

<b>Effective from Session: 2022-23</b>							
<b>Course Code</b>	<b>AT101</b>	<b>Title of the Course</b>	<b>HUMAN ANATOMY- I</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>I</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	The student will be able to demonstrate knowledge in human anatomy as needed for the study and practice of medical laboratory technology.						

Course Outcomes	
<b>CO1</b>	To learn about anatomical nomenclature, position, location & their function.
<b>CO2</b>	To study about classification of bone, Ossification of bone, type of cartilage, classifications of joints.
<b>CO3</b>	To learn about classification & function about Muscles , nervous & cardiovascular system
<b>CO4</b>	To learn about superior extremity muscles & superior extremity joints.
<b>CO5</b>	To learn about inferior extremity muscles & inferior extremity joints.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>GENERAL ANATOMY</b>	a. Introduction and subdivisions of Anatomy. b. Anatomical nomenclature: Terms of Planes, Positions, Body parts and movements. c. Basic tissues of the body: Definition, location and their function.	6	CO1
2	<b>OSTEOLOGY &amp; ARTHROLOGY(Brief)</b>	a. Introduction, axial & appendicular skeleton, classification of bone based on shape and structure, structure of growing and adult long bone, ossification of bone, Types of cartilage, their characteristics features with example. b. Introduction to Arthrology: Definition and classifications of joints with example. Details of synovial joint - characteristics features, type with example, close pack and loose pack position.	7	CO2
3	<b>SYSTEMIC ANATOMY</b>	a. Brief About Myology: Classification of muscles and its characteristics features, Gross features of skeletal muscle, classification of muscle according to shape and fascicular architecture, action of muscles. b. Brief About Neurology: Subdivision of nervous system, structural organization of nervous system including types of neurons, ganglion. Introduction to spinal nerves, cranial nerves and autonomic nervous system. c. Brief About Cardiovascular System: Components of CVS, types of anastomoses, types of circulation, components of lymphatic systems and its functions.	7	CO3
4	<b>SUPERIOR EXTREMITY</b>	a. Surface landmarks and Introduction to superior extremity. b. Brief about Muscles and fascia, Pectoral region: Pectoral muscles, Scapular region and Back, Muscles of Arm, Forearm and Hand. c. Brief about Joints of superior extremity: Brief of shoulder joint, brief account of elbow joint & wrist joint and radioulnar joint.	10	CO4
5	<b>INFERIOR EXTREMITY</b>	a. Introduction and surface landmarks of lower extremity. b. Brief about Muscles and fascia: Thigh: Brief account of thigh muscles. c. Brief about Gluteal region: Muscles of gluteal region. d. Compartment of leg, name of the muscles of leg, their action and nerve supply. e. Brief about Joints: Details of Hip and Knee joint, subtalar, tibio fibular joints.	10	CO5

**Reference Books:**

- 1 B.D. Chaurasia's, Human Anatomy-Volume 1, 2, 3 CBS Publishers & Distributors.
- 2 Inderbir Singh, Textbook of Anatomy with Colour Atlas-Vol. 1, 2, 3 Jaypee Brothers.
- 3 Snell-Clinical Anatomy by regions -Lippincott.
- 4 McMinn's Last's Anatomy-Regional and applied, Churchill Livingstone.
- 5 Cunningham Manual of Practical Anatomy Vol. I, II, III, Churchill Livingstone.
- 6 Williams & Warwick, Gray's Anatomy-Churchill Livingstone.
- 7 Basic Anatomy & Physiology by Smout and McDowell

**e-Learning Source:**

1. <https://youtu.be/X5RUFXZZBH4>
2. [https://youtu.be/06o\\_XNKwuOE](https://youtu.be/06o_XNKwuOE)
3. <https://youtu.be/4Sab-2E4ZDI>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
<b>CO1</b>	1	3	1	2	-	-	-	1	2	1	-	2	2	1	2	-	3
<b>CO2</b>	2	3	2	2	-	-	-	1	3	1	-	3	2	2	1	-	2
<b>CO3</b>	1	3	1	2	-	-	-	1	2	-	-	2	2	1	2	-	3
<b>CO4</b>	2	3	1	2	-	-	-	1	3	-	-	3	2	2	3	-	3
<b>CO5</b>	1	3	1	2	-	-	-	1	2	1	-	2	2	1	2	-	3

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

**Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.
AT101	HUMAN ANATOMY-I	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	3,4
		√	√	√			√	√	



**Integral University, Lucknow**

<b>Effective from Session: 2022-23</b>							
<b>Course Code</b>	<b>AT102</b>	<b>Title of the Course</b>	<b>HUMAN PHYSIOLOGY-I</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>I</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	The student will be able to demonstrate knowledge in human physiology as needed for the study and practice of medical laboratory technology.						

<b>Course Outcomes</b>	
<b>CO1</b>	To learn about Cell and cell division, Cellular movement, Osmosis, Dialysis.
<b>CO2</b>	To study about composition of blood ,morphology of cells, Hemoglobin ,ESR,MCV,MCH,MCHC, PT, APTT, BT, CT, ABO, Cross matching, etc.
<b>CO3</b>	Introduction of Respiratory System, Respiration measures, Regulation of respiration.
<b>CO4</b>	To learn about basic physiology of heart, blood circulation, Cardiac Cycle, etc
<b>CO5</b>	To learn about introduction and physiology of digestive system.

<b>Unit No.</b>	<b>Title of the Unit</b>	<b>Content of Unit</b>	<b>Contact Hrs.</b>	<b>Mapped CO</b>
1	<b>GENERAL AND CELL PHYSIOLOGY</b>	1. Cell and cell division- Structure, Function and classification of cell. 2. Cellular Movements: Endocytosis and Exocytosis, Molecules of cell. 3. Transport across the cell membrane, Homeostasis. 4. Diffusion, Osmosis, Bonding, Filtration, Dialysis, Surface Tension, Adsorption, Colloid.	8	CO1
2	<b>BLOOD</b>	1. Introduction of blood, Composition and function of blood, Blood cells morphology and development. 2. Blood cells types and function, Composition and function of blood plasma and Blood clotting factor, Hemoglobin-structure, normal content, function, types. Erythropoiesis. 3. Erythrocyte sedimentation rate (ESR) and its significance, Hematocrit, PCV, MCV, MCH, MCHC, Blood volume, Prothrombin time, Clotting time, Bleeding time, Blood Group, ABO and Rh factor, Cross matching, Coagulation and Anticoagulants.	8	CO2
3	<b>RESPIRATION</b>	1. Respiratory System Introduction, Structure, Function and Mechanics of Breathing. 2. Respiration measures (Vital capacity, Total Volume, Reserve volume, Total lung capacity), Mechanism of respiration. 3. Regulation of respiration, pulmonary function test, physiological changes in altitude & acclimatization, hypoxia.	8	CO3
4	<b>CARDIO VASCULAR SYSTEM</b>	1. Basic Physiology of Heart, Blood circulation, Arteries and veins, properties and structure of heart muscle. 2. Cardiac Cycle and heart sounds. 3. Conductive system of heart, Blood Pressure definition, Regulation factor affecting blood Pressure.	8	CO4
5	<b>DIGESTIVE SYSTEM</b>	1. Digestive system introduction, structure and function. 2. Basic physiology of organs of digestive systems (Salivary glands, Gastric glands, Pancreas, Liver, Gallbladder). 3. Composition and function of all digestive juices, Digestion and Absorption of carbohydrate, fat and proteins.	8	CO5

<b>Reference Books:</b>							
1. Concise Medical Physiology by Chaudhuri, 4th Edition; New Central Book Agency.							
2. Human Physiology, Sembulingam; 4th ed, Jaypee Brothers.							
3. A Textbook of Practical Physiology, Ghai C L, Jaypee Brothers.							
4. Practical physiology by Vijaya Joshi; Vora Medical Publication.							
5. Human Physiology, Chatterjee. Vol: 1&2; 10th Edition; Medical & Allied Agency							
6. Textbook of Medical Physiology by Guyton & Hall, 11th Edition; Elsevier Publication							
7. Principles of Anatomy & Physiology, Tortora, 8th Edition; Harper & Row Publication							
8. Textbook of Physiology : Ganong							
<b>e-Learning Source:</b>							
1. <a href="https://youtu.be/JuhDx9hQAx8">https://youtu.be/JuhDx9hQAx8</a>							
2. <a href="https://youtu.be/Ta_vWU5rjho">https://youtu.be/Ta_vWU5rjho</a>							
3. <a href="https://youtu.be/h1qSFZ9aw94">https://youtu.be/h1qSFZ9aw94</a>							
4. <a href="https://youtu.be/uYm4l_alVV0">https://youtu.be/uYm4l_alVV0</a>							
5. <a href="https://youtu.be/VWamhZ8vTL4">https://youtu.be/VWamhZ8vTL4</a>							

<b>Course Articulation Matrix: (Mapping of COs with POs and PSOs)</b>																		
<b>PO-PSO CO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>	<b>PSO5</b>	<b>PSO6</b>
<b>CO1</b>	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-	1	-	1
<b>CO2</b>	1	3	1	3	-	-	-	1	3	-	-	3	3	2	-	2	-	1
<b>CO3</b>	1	3	1	2	-	-	-	1	2	-	-	2	3	1	-	1	-	1
<b>CO4</b>	1	3	1	2	-	-	-	1	3	-	-	3	2	1	-	1	-	1
<b>CO5</b>	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-	1	-	1

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

**Attributes & SDGs**

<b>Course Code</b>	<b>Course Title</b>	<b>Attributes</b>						<b>SDGs No.</b>
		<b>Employability</b>	<b>Entrepreneurship</b>	<b>Skill Development</b>	<b>Gender Equality</b>	<b>Environment &amp; Sustainability</b>	<b>Human Value</b>	<b>Professional Ethics</b>
AT102	HUMAN PHYSIOLOGY-I	√	√	√	√	√	√	√







## Integral University, Lucknow

<b>Effective from Session: 2022-23</b>											
<b>Course Code</b>	<b>CS103</b>	<b>Title of the Course</b>	<b>INTRODUCTION TO COMPUTERS</b>					<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>I</b>					<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>								
<b>Course Objectives</b>	The main objective of the course is to provide fundamental knowledge of computers, windows, MS word, and Power point.										

Course Outcomes	
<b>CO1</b>	After studying this course the students will know –The fundamentals of computers and computer systems.
<b>CO2</b>	After studying this course the students will know –Understanding the basic concepts of DOS commands.
<b>CO3</b>	After studying this course the students will know –A Basic understanding of the windows.
<b>CO4</b>	After studying this course the students will know –Understanding MS Word.
<b>CO5</b>	After studying this course the students will know –Knowledge, understanding, and basic concepts of presentation software.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>COMPUTER FUNDAMENTALS</b>	What is a computer? Components of a computer system. Classification of computers. Types of computers. A brief history of the evolution of computers and generation of computers. Computer hardware and software. Input/ Output devices.	6	CO1
2	<b>DOS</b>	Elementary knowledge of DOS commands DIR, CLS, DATE, TIME, MD, CD, RD, RENAME, DEL, BACKUP, RESTORE, COPY, SCANDISK, CHKDSK.	6	CO2
3	<b>WINDOWS</b>	Difference between windows and DOS. Basic Features - Date, Time, Time Zone, Display, Screen Saver, Fonts, Mouse, and mouse pointers. Using accessories such as a calculator, paintbrush, CD player, etc. Use of Windows Explorer for moving and copying files. Introduction to MS Office and its integrated nature.	6	CO3
4	<b>MS-WORD</b>	Starting Word, new documents, entering text, changing text, aligning, underlining, and justifying text. Use of tabs. Tables - creation, adding rows and columns, splitting, and combining cells, Borders. Saving, closing, and operating documents. Adding headers and footers. Print preview, and print a document. Mail merge: creating main document and data source. Adding and removing fields from the data source.	6	CO4
5	<b>POWERPOINT (PRESENTATION SOFTWARE)</b>	The basic concept of presentation software. Standard, Formatting, and drawing toolbars in PowerPoint and their use. Creating and opening a presentation. Creating, deleting, opening, and copying slides. Closing and saving a presentation. Use of slide sorter, adding header/footer. Use of master slides and color box. Use of animation features. Inserting pictures, resizing pictures. Inserting organization chart. Use of auto content wizard.	6	CO5

<b>Reference Books:</b>																	
1. A First Course in Computers: Saxena, Vikas Publishing House.																	
2. Fundamentals of Computer science - M. Afshar Alam.																	
3. Fundamental of Information Technology by D. S. Yadav- New age International.																	

<b>e-Learning Source:</b>																	
1. <a href="https://youtu.be/ME_F9yypzsw">https://youtu.be/ME_F9yypzsw</a>																	
2. <a href="https://youtu.be/FZqKyhfD7-E">https://youtu.be/FZqKyhfD7-E</a>																	
3. <a href="https://youtu.be/S4Zio60b8P8">https://youtu.be/S4Zio60b8P8</a>																	
4. <a href="https://youtu.be/eEo_aacpwCw">https://youtu.be/eEo_aacpwCw</a>																	

<b>Course Articulation Matrix: (Mapping of COs with POs and PSOs)</b>																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
	<b>CO1</b>	1	2	2	2	-	-	-	1	2	1	-	2	-	2	2	1
<b>CO2</b>	1	-	1	3	-	-	-	2	3	-	-	3	-	1	1	1	-
<b>CO3</b>	1	3	1	2	-	-	-	1	2	2	-	2	-	1	1	1	-
<b>CO4</b>	1	2	1	2	-	-	-	1	3	-	-	3	-	1	2	1	-
<b>CO5</b>	1	2	1	2	-	-	-	1	2	1	-	2	-	1	1	1	-

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**  
**Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
CS103	INTRODUCTION TO COMPUTERS			√					<b>3,4, 11</b>



## Integral University, Lucknow

<b>Effective from Session: 2022-23</b>							
<b>Course Code</b>	<b>LN101</b>	<b>Title of the Course</b>	<b>BASICS OF PROFESSIONAL COMMUNICATION</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>I</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	The major objective of the course is to develop professional communication skills among the students.						

Course Outcomes	
<b>CO1</b>	After studying this course the students will know –The meaning & importance of professional communication as well as effective professional communication.
<b>CO2</b>	After studying this course the students will know –Understanding the language through literature like essays and short stories.
<b>CO3</b>	After studying this course the students will know –Basic concepts and knowledge of vocabulary.
<b>CO4</b>	After studying this course the students will know –Understanding and practice of basic grammar.
<b>CO5</b>	After studying this course the students will know –Knowledge, understanding, and skills in report writing & business letter writing.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>PROFESSIONAL COMMUNICATION</b>	a. Professional Communication: Meaning & importance b. Essentials of Effective Communication c. Barriers to Effective Communication	6	CO1
2	<b>LANGUAGE THROUGH LITERATURE</b>	a. Essays: “The Effect of the Scientific Temper on Man” by Bertrand Russell “The Aims of Science and Humanities” by Moody E. Prior b. Short Stories: “The Meeting Pool” by Ruskin Bond “The Portrait of a Lady” by Khushwant Singh	6	CO2
3	<b>BASIC VOCABULARY</b>	a. Euphemism, One-word Substitution, Synonyms, Antonyms b. Homophones, Idioms and Phrases, Common mistakes c. Confusable words and expressions	6	CO3
4	<b>BASIC GRAMMAR</b>	a. Articles, Prepositions, Tenses b. Concord (Subject-Verb agreement), Verbs: kinds & uses c. Degrees of Comparison	6	CO4
5	<b>BASIC COMPOSITION</b>	a. Report writing: What is a report? Kinds and objectives of reports, writing reports b. Business Letter Writing: Introduction to business letters, types of business letters, Layout of business letters, Letter of Enquiry / Complaint	6	CO5

**Reference Books:**

- Lata, Pushp & Kumar, Sanjay. Communication Skills, Oxford University Press-2012
- Quintanilla, Kelly M. & Wahl, Shawn T. Business and Professional Communication, Sage Publications India Pvt. Ltd-2011
- Juneja, Om P & Mujumdar, Aarati. Business Communication: Techniques and Methods, Orient Black Swan-2010
- Arora, V. N. & Chandra, Lakshmi. Improve Your Writing: From Comprehensive to Effective Writing, Oxford University Press-2010 (For the prescribed essays- “The Effect of the Scientific Temper on Man” by Bertrand Russell & “The Aims of Science and Humanities” by Moody E. Prior)

**e-Learning Source:**

- [https://www.youtube.com/watch?v=jQx\\_jZxdCbs](https://www.youtube.com/watch?v=jQx_jZxdCbs)
- <https://www.sciencedirect.com/topics/psychology/linguistictheory#:~:text=Linguistic%20Theory%20was%20formed%20by,to%20all%20typically%20developing%20humans>
- <https://linguistics.ucla.edu/undergraduate/what-is-linguistics/>
- <https://www.thoughtco.com/noam-chomsky-4769113>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
	<b>CO1</b>	-	-	-	-	-	2	-	2	-	-	-	2	-	-	-	-
<b>CO2</b>	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-
<b>CO3</b>	-	-	-	-	-	2	-	1	-	1	-	2	-	-	-	-	-
<b>CO4</b>	-	-	-	-	-	2	2	-	-	-	-	2	-	-	-	-	-
<b>CO5</b>	-	-	-	-	-	2	1	1	-	-	1	2	-	-	-	1	1

**2- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**  
Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
LN101	BASICS OF PROFESSIONAL COMMUNICATION			√					3,4, 11





## Integral University, Lucknow

<b>Effective from Session: 2022-23</b>							
<b>Course Code</b>	<b>AT105</b>	<b>Title of the Course</b>	<b>HUMAN ANATOMY-I LAB</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>I</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	The student will be able to demonstrate knowledge in human anatomy as needed for the study and practice of physiotherapy.						

Course Outcomes	
<b>CO1</b>	To identify anatomical aspect of the level of organization of the human body practically.
<b>CO2</b>	To identify anatomical and functional aspect of muscles, bones and joints of the various regions practically.
<b>CO3</b>	To identify and practically apply various terms related to human different system of the body.
<b>CO4</b>	To identify anatomical and functional aspect of neuromusculoskeletal structure of superior extremity.
<b>CO5</b>	To identify anatomical and functional aspect of neuromusculoskeletal structure of inferior extremity.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>GENERAL ANATOMY OSTEOLOGY &amp; ARTHROLOGY (Brief)</b> <b>SYSTEMIC ANATOMY SUPERIOR EXTREMITY INFERIOR EXTREMITY</b>	1. Identification and description of all Anatomical structures.	20	CO1-5
2		2. The learning of Anatomy is by demonstration only through dummy dissected parts, slides, models, charts etc.		
3		3. Demonstration of dummy dissected parts (upper extremity, lower extremity, thoracic & abdominal viscera, face and brain).		
4		4. Demonstration of skeleton - articulated and disarticulated.		
5		5. Demo of all bones showing its parts, radiographs of normal bones & joints. Demonstration of all muscles of the body.		
6		6. Demonstration of heart and vessels in the body.		
7		7. Demonstration of parts of respiratory system, Normal radiographs of chest.		
8		8. Demonstration of all plexuses and nerves in the body.		
9		9. Demonstration of all part of brain.		

<b>Reference Books:</b>	
1	B.D. Chaurasia's, Human Anatomy-Volume 1, 2, 3 CBS Publishers & Distributors.
2	Inderbir Singh, Textbook of Anatomy with Colour Atlas-Vol. 1, 2, 3 Jaypee Brothers.
3	Snell-Clinical Anatomy by regions -Lippincott.
4	McMinn's Last's Anatomy-Regional and applied, Churchill Livingstone.
5	Cunningham Manual of Practical Anatomy Vol. I, II, III, Churchill Livingstone.
6	Williams & Warwick, Gray's Anatomy-Churchill Livingstone.
7	Extremities by Quining Wash
8	Basic Anatomy & Physiology by Smout and McDowell
<b>e-Learning Source:</b>	
1.	<a href="https://youtu.be/X5RUFXZZBH4">https://youtu.be/X5RUFXZZBH4</a>
2.	<a href="https://youtu.be/06o_XNKwuOE">https://youtu.be/06o_XNKwuOE</a>
3.	<a href="https://youtu.be/4Sab-2E4ZDI">https://youtu.be/4Sab-2E4ZDI</a>

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
	<b>CO1</b>	1	3	1	2	-	-	-	1	2	1	-	2	-	1	2	-
<b>CO2</b>	2	3	2	2	-	-	-	1	3	1	-	3	-	2	1	-	2
<b>CO3</b>	1	3	1	2	-	-	-	1	2	-	-	2	-	1	2	-	3
<b>CO4</b>	2	3	1	2	-	-	-	1	3	-	-	3	-	2	3	-	3
<b>CO5</b>	1	3	1	2	-	-	-	1	2	1	-	2	-	1	2	-	3

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**  
Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
AT105	HUMAN ANATOMY-I LAB	√	√	√	√		√	√	<b>3,4</b>







**INTEGRAL UNIVERSITY, LUCKNOW**  
INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH

**DEPARTMENT OF PARAMEDICAL SCIENCES**

**BACHELOR OF SCIENCE IN ANESTHESIOLOGY  
AND INTENSIVE CARE TECHNOLOGY  
(B.Sc.AICT)**

**SYLLABUS**

**YEAR/ SEMESTER: I/II**



Integral University, Lucknow  
Department of Paramedical Sciences  
Study and Evaluation Scheme

Program: B.Sc.AICT

Semester-II

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
<b>THEORIES</b>													
1	AT108	Human Anatomy-II	Core	2	1	0	40	20	60	40	100	2:1:0	3
2	AT109	Human Physiology-II	Core	2	1	0	40	20	60	40	100	2:1:0	3
3	AT110	Medical Biochemistry-I	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	AT111	Basic Anesthesia Technology	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	AT112	Medical Law & Ethics	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	LN131	Effective Communication and Media Studies in English	Core	2	1	0	40	20	60	40	100	2:1:0	3
<b>PRACTICAL</b>													
1	AT113	Human Anatomy-II - Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
2	AT114	Human Physiology-II - Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
3	AT115	Medical Biochemistry-I - Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
4	AT116	Basic Anesthesia Technology Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
<b>Total</b>				<b>16</b>	<b>06</b>	<b>08</b>	<b>400</b>	<b>200</b>	<b>600</b>	<b>400</b>	<b>1000</b>	<b>25</b>	<b>25</b>

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
<b>THEORIES</b>											
1	AT108	Human Anatomy-II	Core	√	√	√	√		√	√	3,4
2	AT109	Human Physiology-II	Core	√	√	√	√		√	√	3,4
3	AT110	Medical Biochemistry-I	Core	√	√	√	√		√	√	3,4
4	AT111	Basic Anesthesia Technology	Core	√	√	√	√		√	√	3,4
5	AT112	Medical Law & Ethics	Core					√			6,13,14,& 15
6	LN131	Effective Communication and Media Studies in English	Core								
<b>PRACTICAL</b>											
1	AT113	Human Anatomy-II - Lab	Core	√	√	√	√		√	√	3,4
2	AT114	Human Physiology-II - Lab	Core	√	√	√	√		√	√	3,4
3	AT115	Medical Biochemistry-I - Lab	Core	√	√	√	√		√	√	3,4
4	AT116	Basic Anesthesia Technology Lab	Core	√	√	√	√		√	√	3,4

**L:** Lecture    **T:** Tutorials    **P:** Practical    **CT:** Class Test    **TA:** Teacher Assessment    **ESE:** End Semester Examination,  
**AE=** Ability enhancement, **DSE-** Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment    **Subject Total:** Sessional Total + End Semester Examination (ESE)













## Integral University, Lucknow

<b>Effective from Session: 2015-16</b>										
<b>Course Code</b>	<b>AT112</b>	<b>Title of the Course</b>	<b>MEDICAL LAW &amp; ETHICS</b>				<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>I</b>				<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>							
<b>Course Objectives</b>	Legal and ethical considerations are firmly believed to be an integral part of medical practice in planning patient care. Advances in medical sciences, growing sophistication of the modern society's legal framework, increasing awareness of human rights and changing moral principles of the community at large, now result in frequent occurrences of healthcare professionals being caught in dilemmas over aspects arising from daily practice.									

<b>Course Outcomes</b>	
<b>CO1</b>	To learn about basic principles of medical ethics.
<b>CO2</b>	To learn about right of patients Care.
<b>CO3</b>	To learn about medico legal aspects.
<b>CO4</b>	To learn about development of standardized protocol.
<b>CO5</b>	To learn about emergency care and life support skill.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>Medical Ethics</b>	1. Medical ethics, Definition, Goal, Scope. 2. Introduction to Code of conduct. 3. Basic principles of medical ethics, Confidentiality. 4. Malpractice and negligence, Rational and irrational drug therapy.	8	CO1
2	<b>Right of Patients Care</b>	1. Autonomy and informed consent. 2. Right of patients Care of the terminally. 3. Euthanasia Organ transplantation, ethics and law.	8	CO2
3	<b>Medico Legal Aspects and Medical Records</b>	1. Medico legal aspects of medical records, Medico legal case and type. 2. Records and document related to MLC ownership of medical records. 3. Confidentiality Privilege communication, Release of medical information. 4. Unauthorized disclosure, retention of medical records, other various aspects.	8	CO3
4	<b>Standard Protocol</b>	1. Professional Indemnity insurance policy. 2. Development of standardized protocol to avoid near miss or sentinel events obtaining an informed consent.	8	CO4
5	<b>Emergency and Life Care Support.</b>	1. Basics of emergency care and life support skill. 2. Vital signs and primary assessment, Basic emergency care, first aid and triage. 3. Ventilations including use of bag-valve-masks (BVMs), Choking, rescue breathing methods. 4. One and Two rescuer CPR, Using an AED (Automated external defibrillator), Managing an emergency including moving a patient.	8	CO5

**Reference Books:**

- Kennedy I, Grubb A. Medical law. London: Butterworths; 2000.
- Jackson E. Medical law: text, cases, and materials. Oxford University Press.
- Recent Trends in Medical Imaging ( CT, MRI and USG).
- Bontrager KL, Lampignano J. Bontrager's Handbook of Radiographic Positioning and Techniques-E-BOOK. Elsevier Health Sciences; 2017 Feb 10

**e-Learning Source:**

- <https://www.themedicportal.com/application-guide/medical-school-interview/medical-ethics/>
- <https://www.slideshare.net/RameezShah5/medico-legal-aspect-of-medical-records>
- <https://www.slideshare.net/imangalal/basic-life-support-33344827>

<b>Course Articulation Matrix: (Mapping of COs with POs and PSOs)</b>																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
	<b>CO1</b>	-	-	-	-	-	2	-	2	-	-	-	2	-	-	-	-
<b>CO2</b>	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-
<b>CO3</b>	-	-	-	-	-	2	-	1	-	1	-	2	-	-	-	-	-
<b>CO4</b>	-	-	-	-	-	2	2	-	-	-	-	2	-	-	-	-	-
<b>CO5</b>	-	-	-	-	-	2	1	1	-	-	1	2	-	-	-	1	1

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

Course Code	Course Title	Attributes & SDGs							SDGs No.
		Attributes							
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
AT112	MEDICAL LAW & ETHICS			√					<b>3,4,6</b>



## Integral University, Lucknow

Effective from Session:2023-2024							
Course Code	LN131	Title of the Course	Effective Communication and Media Studies in English	L	T	P	C
Year	I	Semester	II	2	1	0	3
Pre-Requisite	10+2	Co-requisite	UG				
<b>Course Objectives</b>	The students will be able to:						
	<ul style="list-style-type: none"> <li>Developing the art of communication and learning basic skills of conversation.</li> <li>Knowledge of Professional and Media Skill Development, Career enhancement tips and goal oriented learning.</li> <li>Basic concept of Phonetics, Voice and Accent.</li> <li>Students will learn academic learning and descriptive writing.</li> </ul>						
<b>Course Outcomes</b>							
CO1	Students will be able to develop Formal and Informal Spoken skills, learn career development skills and learn to have clear idea of goal setting.						
CO2	Students will learn about the importance and usage of mass media and ways to develop their media skills.						
CO3	Academic Writing will help students to format and structure the content they create which will help them to be professional writers and bloggers.						
CO4	The unit will help students to learn and develop better conversation skills in formal and informal setup. They will learn the proper usage and pronunciation in various accent enabling them to converse in competitive environment.						
CO5	The unit enables students to put all the theoretical knowledge to practice, assuring complete learning and implementation.						

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>Communication in Practice</b>	Do's and Don'ts of Formal and Informal Communication Tips on Career Management- Setting Clear Goals, Skill Development, Network Building and Professional Relationship Etiquette, Knowing Aptitude and Values. Classroom Practice- JAM (Just A Minute) Extempore, Rebuttal, Forum, Role Play.	7hrs	CO1
2	<b>Mass Communication and Journalism</b>	Introduction to Mass Communication. Types of Mass Communication/ Mass Media Impact of Globalization on Mass Media Socio Political Impact of Digital Media Advertisement- Ethical and Unethical Advertisement, Jingles, Tag Lines, Punch Lines, Media Writing	7hrs	CO2
3	<b>Fundamentals of Academic Writing</b>	The four main types of academic writing- Descriptive, Analytical, Persuasive and Critical. Writing Book Review, Introduction to Descriptive Writing Techniques and Features of Descriptive Writing - Character, Place and Travel Description, Event, Movie and Food description.	7hrs	CO3
4	<b>Conversation Skills</b>	Phonetics- Learning Speech Mechanism (Voice and Accent) • Introduction- Self and Other-Guest Speaker / Colleague • Polite Conversational Etiquette • Varieties of English Language; their difference in terms of Pronunciation, Vocabulary and Spelling: - British -American	7hrs	CO4
5	<b>Academic Project</b>	<ul style="list-style-type: none"> <li>Creating News Bytes</li> <li>Writing News Report</li> <li>Creating Jingles and Tag Lines for Famous Brands.</li> <li>Writing Editorial on a Topical Subject</li> <li>Writing Film Reviews</li> <li>Travelogue</li> </ul>	4hrs	CO5

### Reference Books:

1. Kumar, Sanjay and Pushp Lata. *Communication Skills*. Oxford University Press, Oxford 2011.
2. Raman, Meenakshi, and Sangeeta Sharma. *Technical Communication: Principals and Practice*. Second Edition, Oxford University Press, 2012.
3. Raina, Roshan Lal, Iftikhar Alam, and Faizia Siddiqui. *Professional Communication*. Himalaya Publication House 2012.
4. Agarwal, Malti. *Professional Communication*. Krishna's Educational Publishers. 2016.
5. Carnegie, Dale. *How to Win Friends and Influence People in the Digital Age*. Simon and Schuster. 2012.
6. Covey, Stephen R. *The Seven Habits of Highly Successful People*. Free Press. 1989.
7. Verma, KC. *The Art of Communication*. Kalpaz. 2013.
8. Alred, G. J., Brusaw, C. T., & Oliu, W. E. (2011). *Handbook of Technical Writing*, Tenth Edition (10th ed.). St. Martin's Press
9. Sherman, Barbara. (2014). *Skimming and Scanning Techniques*. Liberty University Press.
10. Barker, Alan. (2011). *Improve Your Communication Skills*. Kogan Page Pub. [later edited version to be added if any]
11. Seely, John. (1998). *The Oxford Guide to Effective Writing and Speaking*. Oxford UP.

### e-Learning Source:

1. <http://www.uptunotes.com/notes-professional-communication-unit-i-nas-104...>
2. <https://www.doccity.com/en/subjects/professional-communication/>
3. <https://lecturenotes.in/download/note/22690-note-for-communication-skills-for-profession...>
4. [https://www.files.ethz.ch/isn/125396/1154\\_trystnehr.pdf](https://www.files.ethz.ch/isn/125396/1154_trystnehr.pdf)
5. <https://kr.usembassy.gov/martin-luther-king-jr-dream-speech-1963/#:~:text=I%20have%20a%20dream%20that,skin%20but%20by%20their%20>

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5	PSO6	PSO7
CO1	3	1	1	2	2	1	2	3	3	1	2	2	3	2	2	3	2	3
CO2	3	3	2	2	2	2	2	1	2	2	2	3	2	2	3	3	3	3
CO3	3	2	2	3	2	3	3	2	2	3	2	3	2	3	3	3	3	3
CO4	2	3	1	2	3	1	2	2	3	3	3	3	3	3	2	2	2	2
CO5	3	2	2	1	2	3	3	3	2	3	2	2	3	2	2	3	3	2

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation  
Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.
LN131	Effective Communication and Media Studies in English	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	3,4, 6
		√	√	√				√	



<b>Effective from Session: 2022-23</b>							
<b>Course Code</b>	<b>AT113</b>	<b>Title of the Course</b>	<b>HUMAN ANATOMY- II LAB</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>II</b>	0	0	2	1
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	The curriculum aims to prepare students in basic understanding of Human anatomy of practical aspects.						

<b>Course Outcomes</b>	
<b>CO1</b>	Students are able to learn about human thorax.
<b>CO2</b>	Students are able to learn about human Abdomen.
<b>CO3</b>	Students are able to learn about human Urinary system.
<b>CO4</b>	Student's are able to learn about human Head.
<b>CO5</b>	Student's are able to learn about human Practical aspect of Visceral Anatomy

<b>Unit No.</b>	<b>Title of the Unit</b>	<b>Content of Unit</b>	<b>Contact Hrs.</b>	<b>Mapped CO</b>
1	<b>RESPIRATORY SYSTEM DIGESTIVE SYSTEM URINARY SYSTEM ENDOCRINE GLAND LYMPHATIC SYSTEM</b>	1. Sternum 2. Ribs 3. Vertebrae 4. Demonstration of Lungs 5. Demonstration of Chest X-ray	20	CO1-CO5
2		1. Lumbar vertebrae 2. Stomach 3. Liver, Gall bladder and Pancreas 4. Intestine		
3		1. Sacrum 2. Articulated Pelvis 3. Kidney & Urinary bladder		
4		1. Pituitary gland- location, parts. 2. Thyroid gland- location, parts, features & blood supply. 3. Parathyroid gland - location 4. Adrenal gland locations, shape.		
5		1. Lymph nodes- structure 2. Spleen - location, surfaces, borders, poles, hilum. 3. Thymus - location, structure. 4. Tonsil – types according to location.		

<b>Reference Books:</b>	
1.	Ross & Wilson,(2014),Anatomy & Physiology in health & illness,11th edition, Elsevier Publications
2.	Chaurasia B D, (2016), Human Anatomy, 7th edition, CBS publishers
3.	Gerard J. Tortora and Bryan H. Derrickson, (Principles of Anatomy and Physiology,14 <sup>th</sup> edition, Wiley publications.
<b>e-Learning Source:</b>	
1.	<a href="https://youtu.be/X5RUFXZZBH4">https://youtu.be/X5RUFXZZBH4</a>
2.	<a href="https://youtu.be/06o_XNKwuOE">https://youtu.be/06o_XNKwuOE</a>
3.	<a href="https://youtu.be/4Sab-2E4ZDI">https://youtu.be/4Sab-2E4ZDI</a>

<b>Course Articulation Matrix: (Mapping of COs with POs and PSOs)</b>																	
<b>PO-PSO CO</b>	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
<b>CO1</b>	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-	1	1
<b>CO2</b>	1	3	1	3	-	-	-	1	3	-	-	3	3	2	-	1	1
<b>CO3</b>	1	3	1	2	-	-	-	1	2	-	-	2	3	1	-	1	1
<b>CO4</b>	1	3	1	2	-	-	-	1	3	-	-	3	2	1	-	1	1
<b>CO5</b>	1	3	1	2	-	-	-	1	2	-	-	2	2	1	-	1	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

<b>Course Code</b>	<b>Course Title</b>	<b>Attributes</b>						<b>SDGs No.</b>
AT113	HUMAN ANATOMY- II LAB	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics
		√	√	√	√	√	√	√



**Integral University, Lucknow**

<b>Course Code</b>	<b>AT114</b>	<b>Title of the Course</b>	<b>HUMAN PHYSIOLOGY- II LAB</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>II</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>
<b>Pre-Requisite</b>	<b>Nil</b>	<b>Co-requisite</b>	<b>Nil</b>				
<b>Course Objectives</b>	The curriculum aims to prepare students in basic understanding of Human Physiology of practical aspects.						

**Course Outcomes:** After the successful course completion, learners will develop following attributes:

<b>CO1</b>	To learn about patient history, pulse rate, blood pressure.
<b>CO2</b>	To learn about respiratory sound
<b>CO3</b>	To learn about IUD
<b>CO4</b>	To learn about body temperature.
<b>CO5</b>	To learn about nutritional balance

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>DIGESTIVE SYSTEM CENTRAL NERVOUS SYSTEM ENDOCRINE GLAND REPRODUCTIVE SYSTEM EXCRETORY SYSTEM</b>	1. History taking and general examination.	20	CO1- CO5
2		2. Examination of Pulse.		
3		3. Measurement of Blood Pressure.		
4		4. Auscultation for heart sounds and normal respiratory sounds.		
5		5. To study about intrauterine contraceptive devices.		
6		6. To measure temperature.		
7		7. Calculation & evaluation of daily energy & nutrient intake.		

**Reference Books:**

1. Guyton and Hall, (2011) Textbook of Medical Physiology, 12<sup>th</sup> Edition, Saunder/Elsevier.
2. Sujit Chaudhury, (2011), Concise Medical Physiology, 6th edition, NCBA.
3. Sembulingam k, (2012), Essentials of Medical Physiology, 6th edition, Jaypee Publications.
4. Gerard J. Tortora and Bryan H. Derrickson, (Principles of Anatomy and Physiology, 14<sup>th</sup> edition, Wiley publications.
5. Sujit Chaudhury, (2011), Concise Medical Physiology, 6th edition, NCBA.

**e-Learning Source:**

1. <https://youtu.be/JuhDx9hQAx8>
2. [https://youtu.be/Ta\\_vWUsrjho](https://youtu.be/Ta_vWUsrjho)
3. <https://youtu.be/h1qSFZ9aw94>

**Course Articulation Matrix: (Mapping of COs with POs and PSOs)**

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
<b>CO1</b>	2	3	-	2	1	-	-	-	1	1	-	1	2	1	3	2	1
<b>CO2</b>	1	3	-	2	-	-	-	-	1	-	-	1	2	1	3	2	1
<b>CO3</b>	2	3	-	2	-	-	-	-	1	1	-	1	2	1	3	2	1
<b>CO4</b>	1	3	-	1	-	-	-	-	1	-	-	1	2	1	3	2	1
<b>CO5</b>	2	3	-	1	-	-	-	-	1	-	-	1	2	1	3	2	1

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

**Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
AT114	<b>HUMAN PHYSIOLOGY- II LAB</b>	√	√	√	√	√	√	√	3,4



**Integral University, Lucknow**

**Effective from Session: 2022-23**

<b>Course Code</b>	<b>AT115</b>	<b>Title of the Course</b>	<b>MEDICAL BIOCHEMISTRY - I LAB</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
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<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>II</b>	0	0	2	1
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	The curriculum aims to prepare students in basic understanding of medical biochemistry of practical aspects.						

**Course Outcomes:** After the successful course completion, learners will develop following attributes:

<b>CO1</b>	Students are able to learn about lab safety rules, lab apparatus & colorimeter.
<b>CO2</b>	Students are able to learn about spectrophotometer, pH meter & incubator.
<b>CO3</b>	Students are able to learn about centrifuge machine, weight machine & blood collection
<b>CO4</b>	Students are able to learn about sample separation, solution preparation of different cons.
<b>CO5</b>	Students are able to learn about normal and abnormal constituents of urine.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>Introduction of clinical biochemistry Instrument &amp; apparatus use in biochemistry. Preparation of solution and reagent. Specimen collection and processing. Urine Analysis</b>	1. To Study General Laboratory Safety Rules.	20	CO1- CO5
2		2. To Demonstrate Glass wares, Apparatus and Plastic wares used in Laboratory.		
3		3. Demonstration of Working of Colorimeter.		
4		4. Demonstration of Working of Spectrophotometer.		
5		5. Demonstration of Working of pH meter.		
6		6. Demonstration of Working of Incubator.		
7		7. Demonstration of Working of Cyclo mixer.		
8		8. Demonstration of Working of Centrifuge, Weight Balance.		
9		9. Collection of Blood sample.		
10		10. Deproteinization of Blood sample.		
11		11. To separate Serum and Plasma.		
12		12. Preparation of Saturated solutions, Percent solutions, Buffer solutions.		
13		13. Preparation of Normal and Molar solutions (0.1N NaOH, 0.2 N HCl, 0.1 M H <sub>2</sub> SO <sub>4</sub> ).		
14		14. Analysis of Normal Constituents of Urine.		
15		15. Analysis of Abnormal Constituents of Urine.		

**Reference Books:**

1. Bishop, Fody and Schoeff, Clinical Chemistry, techniques, principles and correlations.
2. Dr Ramnik Sood, Medical Laboratory Technology: Methods and Interpretations.
3. Singh & Sahni, Introductory Practical Biochemistry.
4. Praful B. Godkar, Darshan P. Godkar, Textbook of Medical Laboratory Technology.
5. Ranjna Chawla, Practical Clinical Biochemistry: Methods and Interpretations.

**e-Learning Source:**

1. <https://youtu.be/t5DvF5Ovr1Y>
2. <https://youtu.be/gggC9vctvBQ>
3. <https://youtu.be/ufvZ8bYtyO8>

**Course Articulation Matrix: (Mapping of COs with POs and PSOs)**

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
<b>CO1</b>	2	3	-	2	1	-	-	-	1	1	-	1	2	1	3	2	1
<b>CO2</b>	1	3	-	2	-	-	-	-	1	-	-	1	2	1	3	2	1
<b>CO3</b>	2	3	-	2	-	-	-	-	1	1	-	1	2	1	3	2	1
<b>CO4</b>	1	3	-	1	-	-	-	-	1	-	-	1	2	1	3	2	1
<b>CO5</b>	2	3	-	1	-	-	-	-	1	-	-	1	2	1	3	2	1

**2- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

**Attributes & SDGs**

Course Code	Course Title	Attributes							SDGs No.
AT115	MEDICAL BIOCHEMISTRY - I LAB	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	3,4
		√	√	√	√		√	√	



**Integral University, Lucknow**

**Effective from Session: 2022-23**

<b>Course Code</b>	AT116	<b>Title of the Course</b>	<b>BASIC ANESTHESIA TECHNOLOGY LAB</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Year</b>	<b>I</b>	<b>Semester</b>	<b>II</b>	0	0	2	1
<b>Pre-Requisite</b>	Nil	<b>Co-requisite</b>	Nil				
<b>Course Objectives</b>	The aim and objective of this course is to know about introduction of basic science of Anesthesia & Anesthetic Equipments						

**Course Outcomes: At the end of the course, the student will be able to**

<b>CO1</b>	Know About Basic Science of Anaesthesia
<b>CO2</b>	Understanding the Various Equipments involved in Anaesthesia
<b>CO3</b>	Examine the Anaesthesia Basics & Equipment Functioning
<b>CO4</b>	Knowabout various Drugs & Techniques used in Anaesthesia
<b>CO5</b>	Understand the working & use of Boyle's Apparatus & Other Equipments in Daily Anaesthetic Use.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	<b>Basic Science of Anesthesia Equipments involved in Anesthesia Artificial airways(oral and Nasal endo-tracheal tubes, Tracheostomy tubes) Monitoring Devices Suction Apparatus</b>	Observation & Demonstration o Preparation of Anaesthetic equipments.	4	CO1-5
2		Anesthesia Machine.	4	
3		Face Masks	4	
4		AMBU Bag	4	
5		Spinal & Epidural Needles	4	

**Reference Books:**

1. G. Smith & A. R. Aitkenhead's Text book of Anaesthesia ELSEVIER
2. AjayYadav Short Text book of Anaesthesia J P Brothers.
3. Anshul Jain Essentials of Anesthesia & Critical Care JAYPEE
4. Arun Kumar Paul Drugs & Equipments in Anaesthetic Practice Elsevier

**e-Learning Source:**

4. <https://www.youtube.com/watch?v=hodJNgmUKJU>
5. <https://www.youtube.com/watch?v=-5RkQ5egjZ0>
6. <https://www.youtube.com/watch?v=o4LkJsMgpg>

**Course Articulation Matrix: (Mapping of COs with POs and PSOs)**

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
<b>CO1</b>	2	3	-	2	1	-	-	-	1	1	-	1	2	1	3	2	1
<b>CO2</b>	1	3	-	2	-	-	-	-	1	-	-	1	2	1	3	2	1
<b>CO3</b>	2	3	-	2	-	-	-	-	1	1	-	1	2	1	3	2	1
<b>CO4</b>	1	3	-	1	-	-	-	-	1	-	-	1	2	1	3	2	1
<b>CO5</b>	2	3	-	1	-	-	-	-	1	-	-	1	2	1	3	2	1

**3- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**  
Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
AT116	INTRODUCTION TO PATHOLOGY, HEMATOLOGY & CLINICAL PATHOLOGY- I LAB	√	√	√	√		√	√	3,4