Course specification
Kafrelsheikh University
Faculty of Medicine
اعتماد توصيف مقررات الفرقة الاولي
Semester 1

اعتمادات المجالس الحاكمة:

مجلس إدارة وحدة ضمان الجودة	جلسة رقم (٢) بتاريخ ٢٠٢٤/٩/٣٠
مجلس الكلية:	جلسة رقم (٦١) بتاريخ ٢٠٢٤/١٠/٧

الإعتمادات:

مدير وحدة ضمان الجودة

عميد الكلية

Course Specifications

ANH101

2025 /2026

1. Basic Information

Course Title	**Principles of Anatomy, Embryology, General Histology, And Cell Biology**			
Course Code	**ANH101**			
Department/s participating in delivery of the course	**Human Anatomy & embryology department** **Histology & cell biology department**			
Number of credit points of the course = 9	**Theoretical**	**Practical**	**Self-learning (Tasks/ Assignments/ incision academy**	**Total**
	3.6	1.8	3.6	9
Number of contact and non-contact hours of the course = 270	**108**	54	**108**	270
Course Type	Obligatory			
Duration	6 weeks			
Academic level at which the course is taught	first year/1th semester			
Academic Program	M.B. Ch.B. 5+2 Program (credit points)			
Faculty	Kafrelsheikh Faculty of Medicine			
University	Kafrelsheikh University			
Name of Course Coordinator	Ghada draz			
Course Specification Approval Date	7/10/2024			
Course Specification Approval **(Attach the decision/minutes of the department /committee/council ....)**				

2. Course Overview (Brief summary of scientific content)

The course aims to develop students' knowledge, skills, and attitudes in human anatomy and histology. It provides understanding of body structures and tissues, skills in identifying microscopic and gross features, and a scientific attitude emphasizing precision, observation, and respect for the human body as a foundation for clinical practice.

3. Course Learning Outcomes (CLOs)

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

	Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		**Course Learning Outcomes** **Upon completion of the course, the student will be able to:**
Code	**Text**	**Code**	**Text**
1.1	Take and record a structured, patient centered history	1.1.1	
1.2	Adopt an empathic and holistic approach to the patients and their problems	1.2.1	
1.3	Assess the mental state of the patient	1.3.1	
1.4	Perform appropriately-timed full physical examination of patients, appropriate to the age, gender, and clinical presentation of the patient while being culturally sensitive	1.4.1	
1.5	Prioritize issues to be addressed in a patient encounter	1.5.1	
1.6	Select the appropriate investigations and interpret their results taking into consideration cost/ effectiveness factors	1.6.1	
1.7	Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice	1.7.1	

1.8	Apply knowledge of the clinical and biomedical sciences relevant to the clinical problem at hand	1.8.1	Apply anatomical knowledge to interpret clinical cases, surgical approaches, and radiological findings related to different organ systems.
1.9	Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM)	1.9.1	Use library and online resources to retrieve and evaluate scientific information related to human anatomy and histology
1.10	Integrate the results of history, physical examination and laboratory test findings into a meaningful diagnostic formulation	1.10.1	
1.11	Perform diagnostic and intervention procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances	1.11.1	
1.12	Adopt strategies and apply measures that promote patient safety	1.12.1	
1.13	Establish patient-centered management plans in partnership with the patient, his/her family and other health professionals as appropriate, using Evidence Based Medicine in management decision	1.13.1	
1.14	Respect patients' rights and involve them and/or their families/carers in management decisions	1.14.1	
1.15	Provide the appropriate care in cases of emergency, including cardio-pulmonary resuscitation, immediate life support measures and basic first aid procedures	1.15.1	Apply anatomical knowledge of major organs, vessels, and surface landmarks
1.16	Apply the appropriate pharmacological and nonpharmacological approaches to alleviate pain and provide palliative care for seriously ill people, aiming to relieve their suffering and improve their quality of life	1.16.1	
1.17	Contribute to the care of patients and their families at the end of life, including management of symptoms, practical issues of law and certification	1.17.1	
2.1	Identify the basic determinants of health and principles of health improvement	2.1.1	

2.2	Recognize the economic, psychological, social, and cultural factors that interfere with wellbeing	2.2.1	
2.3	Discuss the role of nutrition and physical activity in health	2.3.1	
2.4	Identify the major health risks in his/her community, including demographic, occupational and environmental risks; endemic diseases, and prevalent chronic diseases	2.4.1	
2.5	Describe the principles of disease prevention, and empower communities, specific groups or individuals by raising their awareness and building their capacity	2.5.1	
2.6	Recognize the epidemiology of common diseases within his/her community and apply the systematic approaches useful in reducing the incidence and prevalence of those diseases	2.6.1	
2.7	Provide care for specific groups including pregnant women, newborns and infants, adolescents and the elderly	2.7.1	
2.8	Identify vulnerable individuals that may be suffering from abuse or neglect and take the proper actions to safeguard their welfare	2.8.1	
3.1	Exhibit appropriate professional behaviors and relationships in all aspects of practice, demonstrating honesty, integrity, commitment, compassion, and respect	3.1.1	Demonstrate respect for the human body and maintain professionalism and ethical conduct during dissection and lab work.
3.2	Adhere to the professional standards and laws governing the practice, and abide by the national code of ethics issued by the Egyptian Medical Syndicate	3.2.1	
3.3	Respect the different cultural beliefs and values in the community they serve	3.3.1	
3.4	Treat all patients equally, and avoid stigmatizing any category regardless of their social, cultural or ethnic backgrounds, or their disabilities	3.4.1	
3.5	Ensure confidentiality and privacy of patients' information	3.5.1	

3.6	Recognize basics of medico-legal aspects of practice, malpractice and avoid common medical errors	3.6.1	
3.7	Recognize and manage conflicts of interest	3.7.1	
3.8	Refer patients to the appropriate health facility at the appropriate stage	3.8.1	
3.9	Identify and report any unprofessional and unethical behaviors or physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients' safety	3.9.1	
4.1	Describe the normal structure of the body and its major organ systems and explain their functions	4.1.1	Describe the structure and surface landmarks of major body regions including head, neck, and limbs.
		4.1.2	Describe the organization and components of the musculoskeletal, circulatory, and nervous systems.
		4.1.3	Describe the microscopic structure of epithelial, connective, muscular, and nervous tissues.
		4.1.4	Describe histological organization of organs such as liver, kidney, and lung with their functions.
4.2	Explain the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis	4.2.1	Explain how anatomical structures support physiological functions of different systems.
		4.2.2	Relate structural variations to functional adaptations in organs and body regions.
		4.2.3	Explain how cellular and tissue organization maintains body homeostasis.
		4.2.4	Correlate histological features with biochemical and physiological activities.
4.3	Recognize and describe main developmental changes in humans and the effect of growth, development and aging on the individual and his family	4.3.1	Describe key stages of human embryonic development from fertilization to organogenesis.
		4.3.2	Recognize major developmental abnormalities and their clinical significance.
		4.3.3	Explain cytological and histological changes during growth and differentiation.
		4.3.4	Describe histological changes during the ovarian and menstrual cycles.
4.4	Explain normal human behavior and apply theoretical frameworks of psychology to interpret the varied	4.4.1	

	responses of individuals, groups and societies to disease		
4.5	Identify various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of illness/disease and explain the ways in which they operate on the body (pathogenesis)	4.5.1	
4.6	Describe altered structure and function of the body and its major organ systems that are seen in various diseases and conditions	4.6.1	
4.7	Describe drug actions: therapeutics and pharmacokinetics; side effects and interactions, including multiple treatments, long term conditions and non-prescribed medication; and effects on the population	4.7.1	
4.8	Demonstrate basic sciences specific practical skills and procedures relevant to future practice, recognizing their scientific basis, and interpret common diagnostic modalities	4.8.1	demonstrate major anatomical structures on models, specimens, and cadavers.
		4.8.2	Interpret anatomical images and radiographs to recognize normal structures and variations.
		4.8.3	Utilize the light microscope to identify basic tissues and major organs.
		4.8.4	Demonstrate the ability to distinguish normal microscopic structures from abnormal or artifact patterns in histological sections.
		4.8.5	Demonstrate the ability to Correlate microscopic findings with corresponding gross anatomical features to understand structure–function relationships.
5.1	Recognize the important role played by other health care professionals in patients' management	5.1.1	
5.2	Respect colleagues and other health care professionals and work cooperatively with them	5.2.1	Work effectively in teams during anatomy dissection and histology lab activities, showing cooperation and respect.
5.3	Implement strategies to promote understanding, manage differences, and resolve conflicts	5.3.1	
5.4	Apply leadership skills to enhance team functioning, the learning	5.4.1	

	environment, and/or the health care delivery system		
5.5	Communicate effectively using written health records, electronic medical records, or other digital technology	5.5.1	
5.6	Evaluate his / her work and that of others using constructive feedback	5.6.1	
5.7	Recognize own personal and professional limits, and seek help from colleagues and supervisors when necessary	5.7.1	
5.8	Apply fundamental knowledge of health economics to ensure the efficiency and effectiveness of the health care system	5.8.1	
5.9	Use health informatics to improve the quality of patient care	5.9.1	
		5.9.2	
5.10	Document clinical encounters in an accurate, complete, timely, and accessible manner	5.10.1	
5.11	Improve the health service provision by applying a process of continuous quality improvement	5.11.1	
5.12	Demonstrate accountability to patients, society, and the profession	5.12.1	
6.1	Regularly reflect on and assess his / her performance using various performance indicators and information sources	6.1.1	Reflect on learning progress and identify strengths and weaknesses in anatomical and histological understanding.
6.2	Develop, implement, monitor, and revise a personal learning plan to enhance professional practice	6.2.1	
6.3	Identify opportunities and use various resources for learning	6.3.1	Utilize textbooks, atlases, slides, to enhance understanding of anatomy and histology.
		6.3.2	Using Incision Academy as an independent e-learning resource.
6.4	Engage in inter-professional activities and collaborative learning	6.4.1	
6.5	Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters	6.5.1	
6.6	Effectively manage learning time and resources and set priorities	6.6.1	

6.7	Demonstrate an understanding of the scientific principles of research including its ethical aspects and scholarly inquiry and contribute to the work of a research study	6.7.1	Apply basic research and observation skills in anatomical and histological studies while maintaining ethical standards.
6.8	Critically appraise research studies and scientific papers in terms of integrity, reliability, and applicability	6.8.1	
6.9	Analyze and use numerical data including the use of basic statistical methods	6.9.1	
6.10	Summarize and present to professional and lay audiences the findings of relevant research and scholarly inquiry	6.10.1	

4. Teaching and Learning Methods

1. Interactive Lectures
2. Tutorial classes
3. practical classes
4. Directed self learning.
5. Case Discussion

Course Schedule

NO. of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected Number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/ .....)	Training Practical	Self-learning (Tasks/ Assignments/ Projects/ ...)	Others
1.	**1.** Anatomy: Terminology and Introduction	45	**3**	1.5	**18 h (Home study, tasks, assignments)**	
	2. Histology: Introduction to Cytology and the Cell		**3**	1.5		
	3. Anatomy: Gametogenesis and Fertilization		**3**	1.5		
	4. Histology: Ovarian and Menstrual Cycle		**3**	1.5		
	5. Anatomy: Early Embryonic Development (First Week)		**3**	1.5		
	6. Histology: Embryonic and Germ Layers Formation		**3**	1.5		

2.	**7.** Anatomy: Development in the Second Week	**45**	**3**	1.5	**18 h (Home study, tasks, assignments)**	
	8. Histology: Embryonic Membranes and Implantation		**3**	1.5	**18 h (Home study, tasks,**	
	9. Anatomy: Development in the Third Week (Gastrulation)		**3**	1.5		
	10. Histology: Early Tissue Differentiation		**3**	1.5		
	11. Anatomy: Fetal Membranes and Placenta		**3**	1.5		
	12. Histology: Placental Structure and Function		**3**	1.5		
3.	**13.** Anatomy: Skin and Fascia	**45**	**3**	1.5	**assignments) 18 h (Home study, tasks, assignments)**	
	14. Histology: Epithelium – Structure and Classification		**3**	1.5		
	15. Anatomy: Joints		**3**	1.5		
	16. Histology: Connective Tissue – Cartilage and Ligaments		**3**	1.5		
	17. Anatomy: Muscles		**3**	1.5		
	18. Histology: Muscle Tissue – Skeletal, Smooth, and Cardiac		**3**	1.5		
4.	**19.** Anatomy: Circulatory System	**45**	**3**	1.5	**18 h (Home study, tasks, assignments)**	
	20. Histology: Blood and Blood Vessels		**3**	1.5		
	21. Anatomy: Nervous System		**3**	1.5		
	22. Histology: Nervous Tissue – Neurons and Neuroglia		**3**	1.5		
	23. Anatomy: Scalp and Face		**3**	1.5		
	24. Histology: Connective Tissue and Skin Appendages		**3**	1.5		
5.	25. Anatomy: Teratogenicity	**45**	**3**	1.5	**18 h**	

	26. Histology: Cytogenetics – Chromosomal Abnormalities		3	1.5	(Home study, tasks, assignments)	
	27. Anatomy: Growth and Body Development		3	1.5		
	28. Histology: Bone and Cartilage Formation		3	1.5		
	29. Anatomy: Overview and Integration of Body Systems		3	1.5		
	30. Histology: Review of Major Tissues and Organs		3	1.5		
6	31. Revision	45	3	1.5	18 h (Home study, tasks, assignments)	
	32. Revision		3	1.5		
	33. Revision		3	1.5		
	34. Revision		3	1.5		
	35. Revision		3	1.5		
	36. Revision		3	1.5		
		270	108	54	108	

5. Methods of Students' Assessment

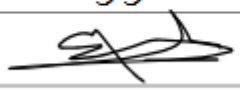
No.	Assessment Methods*	Assessment Timing (Week Number)	Marks	Percentage of Total Course Marks
1)	Quiz (Semester work)	fourth week	-	0
2)	End Module exam	Sixth Week	27	20%
3)	Final Written Exam	16-20 Week	54	40%
4)	Final practical Exam	Sixth Week	40.5	30%
5)	Assignments/Portfolio	Throughout the Module	13.5	10%
	Total		135	

6. Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The Main (Essential) Reference for the Course (must be written in full according to the scientific documentation method)	
		• Moore, K. L., Dalley, A. F., & Agur, A. M. R. (2023). Clinically Oriented Anatomy (9th ed.). Wolters Kluwer. • Ross, M. H., & Pawlina, W. (2023). Histology: A Text and Atlas: With Correlated Cell and Molecular Biology (9th ed.). Wolters Kluwer. • Sadler, T. W. (2023). Langman's Medical Embryology (15th ed.). Wolters Kluwer.

	Other References	Drake, R. L., Vogl, A. W., Mitchell, A. W. M., & Tibbitts, R. M. (2023). Gray's Anatomy for Students (5th ed.). Elsevier.
	Electronic Sources (Links must be added)	1. https://www.incision.care/academy 2. https://www.kenhub.com 3. https://teachmeanatomy.info 4. https://histologyguide.org 5. https://anatomyzone.com 6. https://www.visiblebody.com
	Learning Platforms (Links must be added)	1. **Incision Academy** – Interactive surgical and anatomical learning platform offering 3D anatomy and procedural videos. https://www.incision.care/academy 2. **Coursera** – Global online learning platform providing medical and anatomical courses from leading universities. https://www.coursera.org 3. **edX** – Offers professional and academic medical courses including anatomy, physiology, and histology. https://www.edx.org 4. **Khan Academy Medicine** – Free, high-quality lessons on anatomy, physiology, and organ systems. https://www.khanacademy.org/science/health-and-medicine 5. **Visible Body** – 3D interactive anatomy visualization and learning tool for human structure and function. https://www.visiblebody.com 6. **TeachMeAnatomy** – Comprehensive online anatomy learning resource with diagrams, clinical correlations, and quizzes. https://teachmeanatomy.info
	Other (to be mentioned)	
Supportive facilities & equipment for teaching and learning *	**Devices/Instruments**	• Anatomical models (skeleton, torso, organs) • Light and digital microscopes for histology viewing • Slide projector or smart display system • Computer with anatomy and histology software • Histology slide scanner • Incision Academy digital training tools • Specimen viewing boxes and trays
	Supplies	• Prepared histology slides (tissues and organs) • Glass slides, cover slips, and labeling materials • Cleaning supplies (lens paper, ethanol, gloves) • Laboratory coats and protective gear • Anatomical charts and wall posters
	Electronic Programs	Interactive e-learning platforms (ThinCi) and Microsoft teams.
	Skill Labs/ Simulators	
	Virtual Labs	

	Other (to be mentioned)	access to hospital clinics for hands-on clinical exposure

منسق المقرر	مدير البرنامج
غادة دراز	هاني برج
	

Course Specifications

BGE102

2025 /2026

1. Basic Information

Course Title	Principles of Biochemistry and Genetics			
Course Code	**BGE102**			
Department/s participating in delivery of the course	**Medical Biochemistry department**			
Number of credit points of the course = 9	**Theoretical**	**Practical**	**Self-learning (Tasks/ Assignments/ incision academy**	**Total**
	3.6	1.8	3.6	9
Number of contact and non-contact hours of the course = 270	**108**	54	**108**	270
Course Type	Obligatory			
Duration	6 weeks			
Academic level at which the course is taught	first year/1th semester			
Academic Program	M.B. Ch.B. 5+2 Program (credit points)			
Faculty	Kafrelsheikh Faculty of Medicine			
University	Kafrelsheikh University			
Name of Course Coordinator	Abdallah Mohammed Hafez			
Course Specification Approval Date	7/10/2024			
Course Specification Approval **(Attach the decision/minutes of the department /committee/council ....)**				

2. Course Overview (Brief summary of scientific content)

This course provides a foundational understanding of the structure and function of essential biomolecules, including carbohydrates, lipids, proteins, and nucleic acids. It explores the principles of enzyme action, kinetics, and their role in disease diagnosis. The genetics component covers DNA replication, RNA transcription, protein translation, and the mechanisms of gene regulation and mutation. Students will also learn about the biochemical basis of energy production through ATP synthesis and the electron transport chain. The module integrates practical laboratory skills with theoretical knowledge to interpret biochemical data and understand its clinical relevance. Overall, it establishes the molecular basis of health and disease, preparing students for further medical studies.

3. Course Learning Outcomes (CLOs)

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

	Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		**Course Learning Outcomes** **Upon completion of the course, the student will be able to:**
Code	**Text**	**Code**	**Text**
1.1	Take and record a structured, patient centered history	1.1.1	
1.2	Adopt an empathic and holistic approach to the patients and their problems	1.2.1	
1.3	Assess the mental state of the patient	1.3.1	
1.4	Perform appropriately-timed full physical examination of patients, appropriate to the age, gender, and clinical presentation of the patient while being culturally sensitive	1.4.1	
1.5	Prioritize issues to be addressed in a patient encounter	1.5.1	
1.6	Select the appropriate investigations and interpret their results taking into	1.6.1	Select the appropriate laboratory investigation based on given clinical data to approach

	consideration cost/ effectiveness factors		proper case diagnosis
1.7	Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice	1.7.1	
1.8	Apply knowledge of the clinical and biomedical sciences relevant to the clinical problem at hand	1.8.1	Apply knowledge of the common clinical problems based on relevant biochemical data (clinical Biochemistry)
1.9	Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM)	1.9.1	Analyze biochemical, genetic data and current data from literature.
		1.9.2	Search for relevant information which helps him in solving clinical problems (Webbased learning, Self-learning and CBL).
1.10	Integrate the results of history, physical examination and laboratory test findings into a meaningful diagnostic formulation	1.10.1	
1.11	Perform diagnostic and intervention procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances	1.11.1	
1.12	Adopt strategies and apply measures that promote patient safety	1.12.1	
1.13	Establish patient-centered management plans in partnership with the patient, his/her family and other health professionals as appropriate, using Evidence Based Medicine in management decision	1.13.1	
1.14	Respect patients' rights and involve them and/or their families/carers in management decisions	1.14.1	
1.15	Provide the appropriate care in cases of emergency, including cardio-pulmonary resuscitation, immediate life support measures and basic first aid procedures	1.15.1	
1.16	Apply the appropriate pharmacological and nonpharmacological approaches to alleviate pain and provide palliative care for seriously ill people, aiming to	1.16.1	

	relieve their suffering and improve their quality of life		
1.17	Contribute to the care of patients and their families at the end of life, including management of symptoms, practical issues of law and certification	1.17.1	
2.1	Identify the basic determinants of health and principles of health improvement	2.1.1	
2.2	Recognize the economic, psychological, social, and cultural factors that interfere with wellbeing	2.2.1	
2.3	Discuss the role of nutrition and physical activity in health	2.3.1	Discuss the physical structure of macronutrients and their role in body welfare and structure
2.4	Identify the major health risks in his/her community, including demographic, occupational and environmental risks; endemic diseases, and prevalent chronic diseases	2.4.1	
2.5	Describe the principles of disease prevention, and empower communities, specific groups or individuals by raising their awareness and building their capacity	2.5.1	
2.6	Recognize the epidemiology of common diseases within his/her community and apply the systematic approaches useful in reducing the incidence and prevalence of those diseases	2.6.1	
2.7	Provide care for specific groups including pregnant women, newborns and infants, adolescents and the elderly	2.7.1	
2.8	Identify vulnerable individuals that may be suffering from abuse or neglect and take the proper actions to safeguard their welfare	2.8.1	
3.1	Exhibit appropriate professional behaviors and relationships in all aspects of practice, demonstrating honesty, integrity, commitment, compassion, and respect	3.1.1	Show respect and behave professionally and safely with different types of chemicals within the lab.
3.2	Adhere to the professional standards and laws governing the practice, and abide by the national code of ethics issued by the Egyptian Medical Syndicate	3.2.1	

3.3	Respect the different cultural beliefs and values in the community they serve	3.3.1	
3.4	Treat all patients equally, and avoid stigmatizing any category regardless of their social, cultural or ethnic backgrounds, or their disabilities	3.4.1	
3.5	Ensure confidentiality and privacy of patients' information	3.5.1	
3.6	Recognize basics of medico-legal aspects of practice, malpractice and avoid common medical errors	3.6.1	
3.7	Recognize and manage conflicts of interest	3.7.1	
3.8	Refer patients to the appropriate health facility at the appropriate stage	3.8.1	
3.9	Identify and report any unprofessional and unethical behaviors or physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients' safety	3.9.1	
4.1	Describe the normal structure of the body and its major organ systems and explain their functions	4.1.1	
4.2	Explain the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis	4.2.1	Explain the structure of carbohydrates, lipids, proteins, nucleotides, enzymes, and immunoglobulins and their normal functions in human body.
		4.2.2	Explain the mode of action and kinetics of enzymes and their role in the diagnosis of diseases for better management.
		4.2.3	Discuss DNA structure, replication, mutation, and repair
		4.2.4	Summarize the structure of RNA, transcription, and protein biosynthesis.
		4.2.5	Discuss the mechanisms of ATP production & electron transport chain
		4.2.6	Discuss the general structure of biological membrane and ion channel system
4.3	Recognize and describe main developmental changes in humans and the effect of growth, development and aging on the individual and his family	4.3.1	
4.4	Explain normal human behavior and apply theoretical frameworks of psychology to interpret the varied	4.4.1	

	responses of individuals, groups and societies to disease		
4.5	Identify various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of illness/disease and explain the ways in which they operate on the body (pathogenesis)	4.5.1	Recognize different defects in DNA repair systems and their role in induction of various types of cancer and gene mutations
		4.5.2	Identify the possibility of incidence of hereditary disease according to their mode of inheritance
4.6	Describe altered structure and function of the body and its major organ systems that are seen in various diseases and conditions	4.6.1	
4.7	Describe drug actions: therapeutics and pharmacokinetics; side effects and interactions, including multiple treatments, long term conditions and non-prescribed medication; and effects on the population	4.7.1	
4.8	Demonstrate basic sciences specific practical skills and procedures relevant to future practice, recognizing their scientific basis, and interpret common diagnostic modalities	4.8.1	Demonstrate the ability to Interpret the significance of high levels of different isoenzymes
		4.8.2	Demonstrate the ability to Evaluate causes of abnormal levels of both functional and non-functional plasma enzymes
5.1	Recognize the important role played by other health care professionals in patients' management	5.1.1	
5.2	Respect colleagues and other health care professionals and work cooperatively with them	5.2.1	
5.3	Implement strategies to promote understanding, manage differences, and resolve conflicts	5.3.1	Implement collaborative teamwork during small group teaching (SDL).
5.4	Apply leadership skills to enhance team functioning, the learning environment, and/or the health care delivery system	5.4.1	
5.5	Communicate effectively using written health records, electronic medical records, or other digital technology	5.5.1	

5.6	Evaluate his / her work and that of others using constructive feedback	5.6.1	
5.7	Recognize own personal and professional limits, and seek help from colleagues and supervisors when necessary	5.7.1	
5.8	Apply fundamental knowledge of health economics to ensure the efficiency and effectiveness of the health care system	5.8.1	
5.9	Use health informatics to improve the quality of patient care	5.9.1	
5.10	Document clinical encounters in an accurate, complete, timely, and accessible manner	5.10.1	
5.11	Improve the health service provision by applying a process of continuous quality improvement	5.11.1	
5.12	Demonstrate accountability to patients, society, and the profession	5.12.1	
6.1	Regularly reflect on and assess his / her performance using various performance indicators and information sources	6.1.1	
6.2	Develop, implement, monitor, and revise a personal learning plan to enhance professional practice	6.2.1	
6.3	Identify opportunities and use various resources for learning	6.3.1	Identify opportunities to Interact positively with colleagues, peers, and professors on web pages
		6.3.2	Use various resources in collecting information (Web-based learning, SDL).
6.4	Engage in inter-professional activities and collaborative learning	6.4.1	
6.5	Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters	6.5.1	
6.6	Effectively manage learning time and resources and set priorities	6.6.1	Effectively manage learning time to perform the required duties from him on time (assignments).
6.7	Demonstrate an understanding of the scientific principles of research including its ethical aspects and scholarly inquiry and contribute to the work of a research study	6.7.1	
6.8	Critically appraise research studies and scientific papers in terms of integrity, reliability, and applicability	6.8.1	

6.9	Analyze and use numerical data including the use of basic statistical methods	6.9.1	
6.10	Summarize and present to professional and lay audiences the findings of relevant research and scholarly inquiry	6.10.1	

4. Teaching and Learning Methods

6. Interactive Lectures
7. Tutorial classes
8. practical classes
9. Directed self learning.
10. Case Discussion

Course Schedule

NO. of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected Number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/ .....)	Training Practical	Self-learning (Tasks/ Assignments/ Projects/ ...)	Others
1.	**37.** Chemistry of monosaccharides and their biomedical importance	45	3	1.5	18 h (Home study, tasks, assignments)	
	38. Chemistry of disaccharides and their biomedical importance		3	1.5		
	39. Classification, chemistry, and biomedical importance of polysaccharides		3	1.5		
	40. Distribution and types of body fat		3	1.5		
	41. Structure, nomenclature, and classification of fatty acids		3	1.5		
	42. Triacylglycerol: structure, classification, physical and chemical properties		3	1.5		
2.	**43.** Waxes and their biomedical importance	45	3	1.5	18 h	

	44. Conjugated lipids and their biological significance		**3**	**1.5**	**(Home study, tasks, assignments) 18 h (Home study, tasks,**	
	45. Derived lipids and their functions		**3**	**1.5**		
	46. Biomedical importance of proteins and generalized structure and character of amino acids		**3**	**1.5**		
	47. Types and classifications of amino acids		**3**	**1.5**		
	48. Chemical properties of amino acids and peptide bond formation		**3**	**1.5**		
3.	**49.** Levels of protein structure and protein denaturation	**45**	**3**	**1.5**	**assignments) 18 h (Home study, tasks, assignments)**	
	50. Classification of proteins with examples		**3**	**1.5**		
	51. Definition and general properties of enzymes		**3**	**1.5**		
	52. Classification, nomenclature, and mechanism of enzymes		**3**	**1.5**		
	53. Factors affecting enzymatic activity and enzyme inhibitors		**3**	**1.5**		
	54. Mechanisms of regulation of enzymatic activity		**3**	**1.5**		
4.	**55.** Plasma enzymes and their diagnostic value	**45**	**3**	**1.5**	**18 h (Home study, tasks, assignments)**	
	56. Isoenzymes and their biomedical importance		**3**	**1.5**		
	57. Structure and components of nucleotides		**3**	**1.5**		
	58. DNA secondary structure and forms of DNA		**3**	**1.5**		
	59. DNA folding and the basis of nucleosome structure		**3**	**1.5**		
	60. DNA repair system and its clinical correlations		**3**	**1.5**		

5.	61. RNA synthesis in prokaryotes and post-transcriptional modifications in eukaryotes	45	3	1.5	18 h (Home study, tasks, assignments)	
	62. Genetic code and its characteristics		3	1.5		
	63. Translation and post-translational modifications of proteins		3	1.5		
	64. Mutations: definitions, causes, types, and effects		3	1.5		
	65. Regulation of gene expression		3	1.5		
	66. Molecular basis of inherited metabolic disorders (optional integrative topic linking genetics and biochemistry)		3	1.5		
6	67. Revision	45	3	1.5	18 h (Home study, tasks, assignments)	
	68. Revision		3	1.5		
	69. Revision		3	1.5		
	70. Revision		3	1.5		
	71. Revision		3	1.5		
	72. Revision		3	1.5		
		270	108	54	108	

5. Methods of Students' Assessment

No.	Assessment Methods*	Assessment Timing (Week Number)	Marks	Percentage of Total Course Marks
1.	Quiz (Semester work)	fourth week	-	0
2.	End Module exam	Sixth Week	27	20%
3.	Final Written Exam	16-20 Week	54	40%
4.	Final practical Exam	Sixth Week	40.5	30%
5.	Assignments/Portfolio	Throughout the Module	13.5	10%
	Total		135	

6. Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	**The Main (Essential) Reference for the Course** (must be written in full according to the scientific documentation method)	• Murray, R. K., Bender, D. A., Botham, K. M., Kennelly, P. J., Rodwell, V. W., & Weil, P. A. (2023). Harper's Illustrated Biochemistry (32nd ed.). McGraw-Hill Education. • Ferrier, D. R. (2023). Lippincott Illustrated Reviews: Biochemistry (9th ed.). Wolters Kluwer. •
	Other References	• Devlin, T. M. (2022). Textbook of Biochemistry with Clinical Correlations (8th ed.). Wiley-Liss. Lieberman, M., & Marks, A. D. (2021). Marks' Basic Medical Biochemistry: A Clinical Approach (6th ed.). Wolters Kluwer.
	Electronic Sources (Links must be added)	1. **NCBI Bookshelf – Biochemistry Resources** Free online access to textbooks and educational materials in biochemistry and molecular biology. https://www.ncbi.nlm.nih.gov/books 2. **Khan Academy – Biochemistry** Interactive lessons and videos covering biomolecules, metabolism, enzymes, and genetics. https://www.khanacademy.org/science/biology/biochemistry 3. **MedlinePlus – Biochemical Topics** Trusted biomedical information from the U.S. National Library of Medicine related to biochemical diseases and metabolism. https://medlineplus.gov 4. **Biochemistry Online Learning (LibreTexts)** Comprehensive, peer-reviewed biochemistry learning modules and visual resources. https://bio.libretexts.org/Bookshelves/Biochemistry
	Learning Platforms (Links must be added)	1. **Coursera – Biochemistry: Biomolecules, Methods, and Mechanisms (University of Tokyo)** Comprehensive online course exploring the chemical principles of biomolecules and metabolism. https://www.coursera.org/learn/biochemistry 2. **edX – Principles of Biochemistry (Harvard University)** Free online course introducing biochemical structure, function, and regulation. https://www.edx.org/course/principles-of-biochemistry 3. **FutureLearn – Introduction to Biochemistry** Interactive learning modules linking biochemical concepts with medical and health sciences. https://www.futurelearn.com/subjects/science-engineering-and-maths-courses/biochemistry 4. **OpenLearn – Understanding Biochemistry (The Open University)** Free academic platform offering biochemistry topics such as proteins, enzymes, and genetics.

		https://www.open.edu/openlearn/science-maths-technology/understanding-biochemistry
	Other (to be mentioned)	
Supportive facilities & equipment for teaching and learning *	**Devices/Instruments**	• spectrophotometer • pH meter • Centrifuge • Water bath • Micropipettes and tips • Analytical balance • Vortex mixer • Colorimeter • Incubator
	Supplies	• Biochemical reagents and buffers • Distilled and deionized water • Filter papers and cuvettes • Gloves, lab coats, and safety goggles • Labels, markers, and sample tubes • Cleaning solutions and disinfectants • Waste disposal containers
	Electronic Programs	Interactive e-learning platforms (ThinCi) and Microsoft teams.
	Skill Labs/ Simulators	
	Virtual Labs	
	Other (to be mentioned)	access to hospital clinics for hands-on clinical exposure

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Course Specifications

PHY103

2025 /2026

1. Basic Information

Course Title	**Principles of physiology**			
Course Code	**PHY103**			
Department/s participating in delivery of the course	**medical physiology department**			
Number of credit points of the course = 6	**Theoretical**	**Clinical**	**Self-learning (Tasks/ Assignments/ incision academy**	**Total**
	2.4	1.2	2.4	6
Number of contact and non-contact hours of the course = 180	**72**	**36**	**72**	180
Course Type	Obligatory			
Duration	4 weeks			
Academic level at which the course is taught	first year/1st semester			
Academic Program	M.B. Ch.B. 5+2 Program (credit points)			
Faculty	Kafrelsheikh Faculty of Medicine			
University	Kafrelsheikh University			
Name of Course Coordinator	الشيماء عبد الواحد			
Course Specification Approval Date	7/10/2024			

Course Specification Approval **(Attach the decision/minutes of the department /committee/council ....)**	

2. Course Overview (Brief summary of scientific content)

By the end of the course, students will be able to demonstrate a comprehensive understanding of the functional principles of cells, tissues, and organ systems, with particular emphasis on the autonomic and neuromuscular systems and their roles in maintaining homeostasis. The course also aims to develop students' abilities to apply physiological knowledge in analyzing and solving clinical problems, while fostering a positive attitude toward lifelong learning, self-directed inquiry, and continuous professional development.

3. Course Learning Outcomes (CLOs)

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

	Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		**Course Learning Outcomes** **Upon completion of the course, the student will be able to:**
Code	**Text**	**Code**	**Text**
1.1	Take and record a structured, patient centered history	1.1.1	
1.2	Adopt an empathic and holistic approach to the patients and their problems	1.2.1	
1.3	Assess the mental state of the patient	1.3.1	
1.4	Perform appropriately-timed full physical examination of patients, appropriate to the age, gender, and clinical presentation of the patient while being culturally sensitive	1.4.1	
1.5	Prioritize issues to be addressed in a patient encounter	1.5.1	

1.6	Select the appropriate investigations and interpret their results taking into consideration cost/ effectiveness factors	1.6.1	Select the appropriate physiological investigations (e.g., blood pressure, reflex testing) i*n relation* with underlying neural and homeostatic mechanisms
1.7	Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice	1.7.1	
1.8	Apply knowledge of the clinical and biomedical sciences relevant to the clinical problem at hand	1.8.1	Apply knowledge of nerve, muscle, and autonomic physiology to interpret basic clinical conditions such as syncope, hypotension, and fatigue.
1.9	Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM)	1.9.1	Use credible scientific sources to support explanations of physiological mechanisms demonstrated in class or lab
1.10	Integrate the results of history, physical examination and laboratory test findings into a meaningful diagnostic formulation	1.10.1	Integrate theoretical and experimental physiological data to explain the functional basis of normal and altered body responses.
.11	Perform diagnostic and intervention procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances	1.11.1	
1.12	Adopt strategies and apply measures that promote patient safety	1.12.1	
1.13	Establish patient-centered management plans in partnership with the patient, his/her family and other health professionals as appropriate, using Evidence Based Medicine in management decision	1.13.1	
1.14	Respect patients' rights and involve them and/or their families/carers in management decisions	1.14.1	
		1.14.2	
1.15	Provide the appropriate care in cases of emergency, including cardio-pulmonary resuscitation, immediate life support measures and basic first aid procedures	1.15.1	
1.16	Apply the appropriate pharmacological and nonpharmacological approaches to alleviate pain and provide palliative care for seriously ill people, aiming to relieve their suffering and improve their quality of life	1.16.1	

1.17	Contribute to the care of patients and their families at the end of life, including management of symptoms, practical issues of law and certification	1.17.1	
		1.17.2	
2.1	Identify the basic determinants of health and principles of health improvement	2.1.1	
2.2	Recognize the economic, psychological, social, and cultural factors that interfere with wellbeing	2.2.1	
2.3	Discuss the role of nutrition and physical activity in health	2.3.1	
2.4	Identify the major health risks in his/her community, including demographic, occupational and environmental risks; endemic diseases, and prevalent chronic diseases	2.4.1	Identify physiological responses to environmental and occupational stressors such as heat, dehydration, and hypoxia.
2.5	Describe the principles of disease prevention, and empower communities, specific groups or individuals by raising their awareness and building their capacity	2.5.1	
2.6	Recognize the epidemiology of common diseases within his/her community and apply the systematic approaches useful in reducing the incidence and prevalence of those diseases	2.6.1	Recognize physiological basis of diseases (e.g., hypertension, diabetes) i*n relation* to their prevalence in the community.
2.7	Provide care for specific groups including pregnant women, newborns and infants, adolescents and the elderly	2.7.1	
2.8	Identify vulnerable individuals that may be suffering from abuse or neglect and take proper actions to safeguard their welfare	2.8.1	
3.1	Exhibit appropriate professional behaviors and relationships in all aspects of practice, demonstrating honesty, integrity, commitment, compassion, and respect	3.1.1	
3.2	Adhere to the professional standards and laws governing the practice, and abide by the national code of ethics issued by the Egyptian Medical Syndicate	3.2.1	
		3.2.2	

3.3	Respect the different cultural beliefs and values in the community they serve	3.3.1	
3.4	Treat all patients equally, and avoid stigmatizing any category regardless of their social, cultural or ethnic backgrounds, or their disabilities	3.4.1	
3.5	Ensure confidentiality and privacy of patients' information	3.5.1	
3.6	Recognize basics of medico-legal aspects of practice, malpractice and avoid common medical errors	3.6.1	Recognize the importance of accuracy, confidentiality, and safety when recording and reporting physiological data
3.7	Recognize and manage conflicts of interest	3.7.1	
3.8	Refer patients to the appropriate health facility at the appropriate stage	3.8.1	
3.9	Identify and report any unprofessional and unethical behaviors or physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients' safety	3.9.1	
4.1	Describe the normal structure of the body and its major organ systems and explain their functions	4.1.1	Describe the autonomic nervous system according to its origin, relay pathways, neurotransmitters, and overall functional roles.
		4.1.2	Describe the effects of sympathetic and parasympathetic divisions on various body organs and systems, highlighting their integration in maintaining physiological balance.
		4.1.3	Explain the biophysical properties of membrane potentials and their role as the basis for excitability in nerve and muscle cells.
		4.1.4	Analyze the ionic mechanisms and factors influencing the generation and propagation of action potentials, including mechanisms of conduction and nerve block.
		4.1.5	Analyze the physiological, factors involved in neuromuscular transmission and synaptic integration.
		4.1.6	Summarize the types of reflex actions, components of the reflex arc, and the functional role of autonomic ganglia in reflex regulation.
		4.1.7	Describe the structure, function, and pharmacological modulation of cholinergic and adrenergic receptors and their clinical significance

		4.1.8	Correlate muscle physiology concepts (simple muscle twitch, fatigue, excitability) with nerve stimulation and synaptic transmission principles.
4.2	Explain the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis	4.2.1	Discuss the concept of homeostasis and the mechanisms of positive and negative feedback control in maintaining internal stability.
			Describe the distribution and composition of body fluids and explain the mechanisms of transport across cellular membranes.
			Explain quantitative methods to calculate osmolarity and the volumes of different body fluid compartments.
			Explain nerve and muscle physiology in normal and altered physiological responses.
			Explain how the autonomic nervous system contributes to the regulation of visceral functions.
4.3	Recognize and describe main developmental changes in humans and the effect of growth, development and aging on the individual and his family	4.3.1	
4.4	Explain normal human behavior and apply theoretical frameworks of psychology to interpret the varied responses of individuals, groups and societies to disease	4.4.1	
4.5	Identify various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of illness/disease and explain the ways in which they operate on the body (pathogenesis)	4.5.1	
4.6	Describe altered structure and function of the body and its major organ systems that are seen in various diseases and conditions	4.6.1	
4.7	Describe drug actions: therapeutics and pharmacokinetics; side effects and interactions, including multiple treatments, long term conditions and non-prescribed medication; and effects on the population	4.7.1	
4.8	Demonstrate basic sciences specific practical skills and procedures relevant to future practice, recognizing their	4.8.1	Demonstrate accurate measurement of basic physiological

	scientific basis, and interpret common diagnostic modalities		
		4.8.2	Measure basic vital signs under resting and stress conditions.
		4.8.3	Perform experiments to demonstrate excitability, fatigue, and properties of muscle contraction.
		4.8.4	Show body fluid volumes and osmolarity measuring using standard laboratory methods and calculations.
		4.8.5	Demonstrate safe and ethical handling of laboratory instruments, specimens, and experimental models.
		4.8.6	Record, interpret, and present experimental findings related to neurophysiological and homeostatic mechanisms.
		4.8.7	interpret basic vital signs under resting and stress conditions.
5.1	Recognize the important role played by other health care professionals in patients' management	5.1.1	
5.2	Respect colleagues and other health care professionals and work cooperatively with them	5.2.1	
5.3	Implement strategies to promote understanding, manage differences, and resolve conflicts	5.3.1	Practice collaborative learning, effective communication, and mutual respect during self-directed learning (SDL), laboratory, and group discussions.
		5.3.1	Demonstrate professional conduct, responsibility, and self-directed inquiry in both theoretical and practical sessions.
		5.3.2	Show commitment to lifelong learning and continuous professional growth in physiology and related disciplines.
5.4	Apply leadership skills to enhance team functioning, the learning environment, and/or the health care delivery system	5.4.1	
5.5	Communicate effectively using written health records, electronic medical records, or other digital technology	5.5.1	
5.6	Evaluate his / her work and that of others using constructive feedback	5.6.1	Provide and accept constructive feedback to improve understanding and performance in laboratory and discussion sessions
5.7	Recognize own personal and professional limits, and seek help from	5.7.1	

	colleagues and supervisors when necessary		
5.8	Apply fundamental knowledge of health economics to ensure the efficiency and effectiveness of the health care system	5.8.1	
5.9	Use health informatics to improve the quality of patient care	5.9.1	
5.10	Document clinical encounters in an accurate, complete, timely, and accessible manner	5.10.1	
5.11	Improve the health service provision by applying a process of continuous quality improvement	5.11.1	
5.12	Demonstrate accountability to patients, society, and the profession	5.12.1	
6.1	Regularly reflect on and assess his / her performance using various performance indicators and information sources	6.1.1	
6.2	Develop, implement, monitor, and revise a personal learning plan to enhance professional practice	6.2.1	
6.3	Identify opportunities and use various resources for learning	6.3.1	
6.4	Engage in inter-professional activities and collaborative learning	6.4.1	
6.5	Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters	6.5.1	
6.6	Effectively manage learning time and resources and set priorities	6.6.1	
6.7	Demonstrate an understanding of the scientific principles of research including its ethical aspects and scholarly inquiry and contribute to the work of a research study	6.7.1	
6.8	Critically appraise research studies and scientific papers in terms of integrity, reliability, and applicability	6.8.1	
6.9	Analyze and use numerical data including the use of basic statistical methods	6.9.1	

6.10	Summarize and present to professional and lay audiences the findings of relevant research and scholarly inquiry	6.10.1	Present summarized physiological findings effectively in oral or written form to peers and instructors

4. Teaching and Learning Methods

11. Interactive Lectures
12. Tutorial classes
13. Practical classes
14. Directed self learning.
15. Case Discussion

Course Schedule

NO. of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected Number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/ .....)	Training (Clinical Rounds)	Self-learning (Tasks/ Assignments/ Projects/ ...)	Others
1.	**73.** Methods of transport	45	3	1.5	18 h (Home study, tasks, assignments)	
	74. Body fluids		3	1.5		
	75. Homeostasis		3	1.5		
	76. Resting membrane potential		3	1.5		
	77. Action potential (definition / ionic bases)		3	1.5		
	78. Propagation of action potential		3	1.5		
2.	**79.** Factors affecting nerve excitability and nerve block	45	3	1.5	18 h (Home study, tasks, assignments)	
	80. Ion channels		3	1.5		
	81. Refractory period		3	1.5	18 h (Home study, tasks,	
	82. Excitability changes		3	1.5		
	83. Simple muscle twitch		3	1.5		
	84. Effect of fatigue on muscle contraction		3	1.5		
3.	**85.** Neuromuscular transmission	45	3	1.5	assignments) 18 h (Home study, tasks, assignments)	
	86. Reflex action and reflex arc		3	1.5		
	87. Autonomic ganglia		3	1.5		
	88. Cholinergic agonists and antagonists		3	1.5		
	89. Adrenergic agonists and antagonists		3	1.5		

	90. Sympathetic nervous system		**3**	**1.5**		
4.	**91.** Parasympathetic nervous system	**45**	**3**	**1.5**	**18 h (Home study, tasks, assignments)**	
	92. Chemical transmitters		**3**	**1.5**		
	93. Revision		**3**	**1.5**		
	94. Revision		**3**	**1.5**		
	95. Revision		**3**	**1.5**		
	96. Revision		**3**	**1.5**		
		180	**72**	**36**	**72**	

5. Methods of Students' Assessment

No.	Assessment Methods*	Assessment Timing (Week Number)	Marks	Percentage of Total Course Marks
1.	Quiz (Semester work)	second week	-	0
2.	End Module exam	Fourth Week	**18**	**20%**
3.	Final Written Exam	16-20 Week	**36**	**40%**
4.	Final practical Exam	Fourth Week	**27**	**30%**
5	Assignments/logbook	Throughout the Module	**9**	**10%**
	Total		**90**	**100%**

6. Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	**The Main (Essential) Reference for the Course** (must be written in full according to the scientific documentation method)	• Hall, J. E., & Hall, M. E. (2020). Guyton and Hall Textbook of Medical Physiology (14th ed.). Philadelphia, PA: Elsevier. ISBN: 978-0-323-59712-8
	Other References	Boron, W. F., & Boulpaep, E. L. (2022). Medical Physiology (4th ed.). Philadelphia, PA: Elsevier. ISBN: 978-0-323-59717-3 Costanzo, L. S. (2023). Physiology (7th ed.). Philadelphia, PA: Elsevier. ISBN: 978-0-323-86597-5
	Electronic Sources (Links must be added)	1. National Center for Biotechnology Information (NCBI). (n.d.). *Physiology textbooks and articles*. U.S. National Library of Medicine. Retrieved from https://www.ncbi.nlm.nih.gov 2. OpenStax. (2023). *Anatomy and Physiology (2nd ed.)*. OpenStax, Rice University. Retrieved from https://openstax.org/books/anatomy-and-physiology-2e/pages/1-introduction

		3. Guyton and Hall Physiology Textbook Online Companion. (n.d.). *Elsevier Student Resources*. Retrieved from https://www.elsevier.com/books-and-journals/book-companions/guyton-and-hall 4. Khan Academy. (n.d.). *Human Physiology and Homeostasis Modules*. Retrieved from https://www.khanacademy.org/science/health-and-medicine 5. Physiopedia. (n.d.). *Physiology Section*. Retrieved from https://www.physio-pedia.com/Category:Physiology 6. LibreTexts. (2024). *Physiology*. University of California, Davis. Retrieved from https://bio.libretexts.org/Bookshelves/Human_Biology/Physiology 7. MedlinePlus. (n.d.). *Health Topics – Body Systems and Functions*. Retrieved from https://medlineplus.gov/bodyfunctions.html
	Learning Platforms (Links must be added)	1. Elsevier ClinicalKey Student. (n.d.). *Interactive physiology learning modules and multimedia resources*. Retrieved from https://www.clinicalkeystudent.com 2. Coursera. (n.d.). *Physiology and related biomedical sciences online courses*. Retrieved from https://www.coursera.org/browse/health/physiology 3. EdX. (n.d.). *Human physiology and anatomy online courses*. Retrieved from https://www.edx.org/learn/human-physiology 4. Khan Academy. (n.d.). *Health and medicine: Human physiology lessons*. Retrieved from https://www.khanacademy.org/science/health-and-medicine 5. Osmosis. (n.d.). *Comprehensive medical and physiology video library*. Retrieved from https://www.osmosis.org 6. Visible Body. (n.d.). *3D human anatomy and physiology interactive models*. Retrieved from https://www.visiblebody.com 7. FreeCME. (n.d.). *Continuing medical education and clinical physiology updates*. Retrieved from https://www.freecme.com
	Other (to be mentioned)	
Supportive facilities & equipment for teaching and learning *	**Devices/Instruments**	• Sphygmomanometer (manual/digital) • Electrodiagnostic instruments: • Neurological examination tools: Reflex hammer, tuning forks (128 Hz, 512 Hz), penlight, ophthalmoscope, stethoscope.
	Supplies	• library facilities & online access with updated pediatric textbooks and journals • sterile gloves, syringes, , disposable diagnostic materials
	Electronic Programs	Interactive e-learning platforms (ThinCi) and Microsoft teams.
	Skill Labs/ Simulators	
	Virtual Labs	

	Other (to be mentioned)	access to hospital clinics for hands-on clinical exposure

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Course Specifications

MED105

2025 /2026

1. Basic Information

Course Title	**Quality and medical education**			
Course Code	MED105			
Department/s participating in delivery of the course	• **Medical parasitology** • **Forensic and toxicology**			
Number of credit points of the course = 1.5	**Theoretical**	**Practical**	**Self-learning (Tasks/ Assignments/ incision academy**	**Total**
	0.9		0.6	1.5
	24	--	**21**	45
Course Type	Obligatory/ university requirement			
Academic level at which the course is taught	First year/1st semester			
Academic Program	M.B. Ch.B. 5+2 Program (credit points)			
Faculty	Kafrelsheikh Faculty of Medicine			
University	Kafrelsheikh University			
Name of Course Coordinator	اسراء بدر			
Course Specification Approval Date	7/10/2024			
Course Specification Approval **(Attach the decision/minutes of the department /committee/council ....)**				

2. Course Overview (Brief summary of scientific content)

The course aims to enhance students' competency to meet the evolving needs and expectations of society by developing their communication, ethical, and professional skills. It prepares future physicians to adapt to rapid advances in medical science and technology, embrace lifelong learning, and effectively utilize modern information technologies to deliver high-quality patient care..

3. Course Learning Outcomes (CLOs)

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

	Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		**Course Learning Outcomes Upon completion of the course, the student will be able to:**
Code	**Text**	**Code**	
1.1	Take and record a structured, patient centered history	1.1.1	
1.2	Adopt an empathic and holistic approach to the patients and their problems	1.2.1	
1.3	Assess the mental state of the patient	1.3.1	
1.4	Perform appropriately-timed full physical examination of patients, appropriate to the age, gender, and clinical presentation of the patient while being culturally sensitive	1.4.1	
1.5	Prioritize issues to be addressed in a patient encounter	1.5.1	
1.6	Select the appropriate investigations and interpret their results taking into consideration cost/ effectiveness factors	1.6.1	
1.7	Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice	1.7.1	

1.8	Apply knowledge of the clinical and biomedical sciences relevant to the clinical problem at hand	1.8.1	Apply the principles of competency-based medical education and curriculum design to align teaching with learning outcomes.
1.9	Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM)	1.9.1	Retrieve educational literature and quality standards to support evidence-based teaching and curriculum improvement
1.10	Integrate the results of history, physical examination and laboratory test findings into a meaningful diagnostic formulation	1.10.1	
1.11	Perform diagnostic and intervention procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances	1.11.1	
1.12	Adopt strategies and apply measures that promote patient safety	1.12.1	
1.13	Establish patient-centered management plans in partnership with the patient, his/her family and other health professionals as appropriate, using Evidence Based Medicine in management decision	1.13.1	
1.14	Respect patients' rights and involve them and/or their families/carers in management decisions	1.14.1	
		1.14.2	
1.15	Provide the appropriate care in cases of emergency, including cardio-pulmonary resuscitation, immediate life support measures and basic first aid procedures	1.15.1	
1.16	Apply the appropriate pharmacological and nonpharmacological approaches to alleviate pain and provide palliative care for seriously ill people, aiming to relieve their suffering and improve their quality of life	1.16.1	
1.17	Contribute to the care of patients and their families at the end of life, including management of symptoms, practical issues of law and certification	1.17.1	
		1.17.2	
2.1	Identify the basic determinants of health and principles of health improvement	2.1.1	
2.2	Recognize the economic, psychological, social, and cultural factors that interfere with wellbeing	2.2.1	

2.3	Discuss the role of nutrition and physical activity in health	2.3.1	
2.4	Identify the major health risks in his/her community, including demographic, occupational and environmental risks; endemic diseases, and prevalent chronic diseases	2.4.1	
2.5	Describe the principles of disease prevention, and empower communities, specific groups or individuals by raising their awareness and building their capacity	2.5.1	
2.6	Recognize the epidemiology of common diseases within his/her community and apply the systematic approaches useful in reducing the incidence and prevalence of those diseases	2.6.1	
2.7	Provide care for specific groups including pregnant women, newborns and infants, adolescents and the elderly	2.7.1	
2.8	Identify vulnerable individuals that may be suffering from abuse or neglect and take the proper actions to safeguard their welfare	2.8.1	
3.1	Exhibit appropriate professional behaviors and relationships in all aspects of practice, demonstrating honesty, integrity, commitment, compassion, and respect	3.1.1	Demonstrate professionalism, integrity, and respect while participating in educational discussions, teamwork, and peer evaluation.
3.2	Adhere to the professional standards and laws governing the practice, and abide by the national code of ethics issued by the Egyptian Medical Syndicate	3.2.1	
3.3	Respect the different cultural beliefs and values in the community they serve	3.3.1	
		3.3.2	
		3.3.3	
3.4	Treat all patients equally, and avoid stigmatizing any category regardless of their social, cultural or ethnic backgrounds, or their disabilities	3.4.1	
3.5	Ensure confidentiality and privacy of patients' information	3.5.1	
3.6	Recognize basics of medico-legal aspects of practice, malpractice and avoid common medical errors	3.6.1	
3.7	Recognize and manage conflicts of interest	3.7.1	

3.8	Refer patients to the appropriate health facility at the appropriate stage	3.8.1	
3.9	Identify and report any unprofessional and unethical behaviors or physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients' safety	3.9.1	
4.1	Describe the normal structure of the body and its major organ systems and explain their functions	4.1.1	
4.2	Explain the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis	4.2.1	
4.3	Recognize and describe main developmental changes in humans and the effect of growth, development and aging on the individual and his family	4.3.1	
4.4	Explain normal human behavior and apply theoretical frameworks of psychology to interpret the varied responses of individuals, groups and societies to disease	4.4.1	
4.5	Identify various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of illness/disease and explain the ways in which they operate on the body (pathogenesis)	4.5.1	
4.6	Describe altered structure and function of the body and its major organ systems that are seen in various diseases and conditions	4.6.1	
4.7	Describe drug actions: therapeutics and pharmacokinetics; side effects and interactions, including multiple treatments, long term conditions and non-prescribed medication; and effects on the population	4.7.1	
4.8	Demonstrate basic sciences specific practical skills and procedures relevant to future practice, recognizing their scientific basis, and interpret common diagnostic modalities	4.8.1	
5.1	Recognize the important role played by other health care professionals in patients' management	5.1.1	
5.2	Respect colleagues and other health care professionals and work cooperatively with them	5.2.1	Collaborate effectively in small and large group teaching sessions and peer learning activities.
5.3	Implement strategies to promote understanding, manage differences, and resolve conflicts	5.3.1	

5.4	Apply leadership skills to enhance team functioning, the learning environment, and/or the health care delivery system	5.4.1	Apply basic leadership principles to manage group learning, facilitate discussion, and contribute to quality improvement in education
5.5	Communicate effectively using written health records, electronic medical records, or other digital technology	5.5.1	
5.6	Evaluate his / her work and that of others using constructive feedback	5.6.1	Provide constructive feedback in peer and group activities to enhance teaching and learning.
5.7	Recognize own personal and professional limits, and seek help from colleagues and supervisors when necessary	5.7.1	
5.8	Apply fundamental knowledge of health economics to ensure the efficiency and effectiveness of the health care system	5.8.1	Relate the principles of Total Quality Management (TQM) and accreditation standards to improving institutional performance and resource use.
5.9	Use health informatics to improve the quality of patient care	5.9.1	Utilize e-learning platforms and digital educational tools to enhance learning outcomes and quality assurance.
5.10	Document clinical encounters in an accurate, complete, timely, and accessible manner	5.10.1	
5.11	Improve the health service provision by applying a process of continuous quality improvement	5.11.1	Apply quality assurance processes and accreditation standards to improve educational and institutional performance.
5.12	Demonstrate accountability to patients, society, and the profession	5.12.1	
6.1	Regularly reflect on and assess his / her performance using various performance indicators and information sources	6.1.1	
6.2	Develop, implement, monitor, and revise a personal learning plan to enhance professional practice	6.2.1	Develop a reflective personal learning plan to improve educational and professional competencies.
6.3	Identify opportunities and use various resources for learning	6.3.1	Identify and effectively use diverse learning platforms, including online and self-directed learning resources.
6.4	Engage in inter-professional activities and collaborative learning	6.4.1	
6.5	Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters and generate focused questions that address them.	6.5.1	
6.6	Effectively manage learning time and resources and set priorities	6.6.1	
6.7	Demonstrate an understanding of the scientific principles of research including its ethical aspects and scholarly inquiry and contribute to the work of a research study	6.7.1	

6.8	Critically appraise research studies and scientific papers in terms of integrity, reliability, and applicability	6.8.1	
6.9	Analyze and use numerical data including the use of basic statistical methods	6.9.1	
6.10	Summarize and present to professional and lay audiences the findings of relevant research and scholarly inquiry	6.10.1	

4. Teaching and Learning Methods

16. Interactive Lectures
17. Directed self learning.

Course Schedule

NO. of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Theoretical teaching (lectures/discussion groups/ .....)	Self-learning (Tasks/ Assignments/ Projects/ ...)	Others
1.	1. Introduction to Medical Education. Competency-based education	45	4	21h (Home study, tasks, assignments)	
	2. Curriculum, Teaching in a large group		4		
	3. Teaching in small group E-learning		4		
	4. Assessment What is accreditation?		4		
	5. Accreditation standard Benefits of TQM		4		
	6. Dimensions of quality Quality assurance process		4		
	Total	**45**	**24**	**21**	

5. Methods of Students' Assessment

No.	Assessment Methods*	Assessment Timing (Week Number)	Marks	Percentage of Total Course Marks
1)	Quiz (Semester work)	Seventh week	-	0

2)	Final Written Exam	16-20 Week	**15**	**60%**
3)	Continuous assessment	Throughout the Module	**10**	**40%**

6. Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	**The Main (Essential) Reference for the Course** (must be written in full according to the scientific documentation method)	• Levinson, W., & Pizzo, P. A. (2011). *Patient–Physician Communication: It's About Time*. *JAMA*, 305(17), 1802–1803.
	Other References	• Cruess, R. L., Cruess, S. R., & Steinert, Y. (2016). *Teaching Medical Professionalism: Supporting the Development of a Professional Identity* (2nd ed.). Cambridge University Press.
	Electronic Sources (Links must be added)	1. Harden RM, Laidlaw JM. *Essential Skills for a Medical Teacher: An Introduction to Teaching and Learning in Medicine*. Elsevier Health Sciences. https://www.elsevier.com/books/essential-skills-for-a-medical-teacher/9780702085303 2. World Federation for Medical Education (WFME) – *Global Standards for Quality Improvement in Medical Education* https://wfme.org/standards 3. AMEE (Association for Medical Education in Europe) – *Guidelines and Resources for Health Professions Education* https://amee.org 4. WHO – *Transforming and Scaling Up Health Professionals' Education and Training* https://www.who.int/publications/i/item/transforming-and-scaling-up-health-professionals-education-and-training 5. MedEdPORTAL – *Teaching and Learning Resources in Medical Education* https://www.mededportal.org 6. National Authority for Quality Assurance and Accreditation of Education (NAQAAE) – Egypt https://naqaae.eg
	Learning Platforms (Links must be added)	1. **Coursera – Medical Education Courses** https://www.coursera.org/browse/health/medical-education 2. **edX – Teaching and Learning in Medicine Programs** https://www.edx.org 3. **Khan Academy – Health and Medicine Education** https://www.khanacademy.org/science/health-and-medicine

		4. **FutureLearn – Teaching and Learning for Health Professionals** https://www.futurelearn.com 5. **OpenWHO – WHO's Online Learning Platform** https://openwho.org 6. **Harvard Medical School Online Learning (HMX)** https://onlinelearning.hms.harvard.edu
	Other (to be mentioned)	• Case studies scenarios prepared by the department. • Role-play scripts and reflective journal templates.
Supportive facilities & equipment for teaching and learning *	**Devices/Instruments**	• desktop or laptop computers with stable internet access • projector and screen (for group teaching, case discussions, and presentations) Student handouts, case sheets, feedback forms, and reflection logs. •
	Supplies	• library facilities & online access with updated textbooks and journals • Whiteboard and markers for discussion summaries. printers / scanners
	Electronic Programs	Interactive e-learning platforms (ThinCi) and Microsoft teams.
	Skill Labs/ Simulators	
	Virtual Labs	
	Other (to be mentioned)	

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Course Specifications

CPE104

2025 /2026

1. Basic Information

Course Title	**Communication & ethics and professionalism**			
Course Code	CPE104			
Department/s participating in delivery of the course	• **Human anatomy and embryology** • **Medical parasitology** • **Forensic and toxicology**			
	Theoretical	**Clinical**	**Self-learning (Tasks/ Assignments/ incision academy**	**Total**
Number of credit points of the course = 3	1.2	0.6	1.2	3
Number of contact and non-contact hours of the course =90	**36**	**18**	**36**	90
Course Type	Obligatory			
Duration	2 weeks			
Academic level at which the course is taught	First year/1st semester			
Academic Program	M.B. Ch.B. 5+2 Program (credit points)			
Faculty	Kafrelsheikh Faculty of Medicine			
University	Kafrelsheikh University			
Name of Course Coordinator	نورهان طارق			

Course Specification Approval Date	7/10/2024
Course Specification Approval **(Attach the decision/minutes of the department /committee/council ....)**	

2. Course Overview (Brief summary of scientific content)

This course introduces the principles of effective communication, medical ethics, and professionalism. It focuses on developing clinical communication skills, managing difficult conversations, understanding ethical decision-making, patient rights, and medico-legal responsibilities, while fostering integrity, empathy, teamwork, and accountability essential for safe, ethical, and professional medical practice.

3. Course Learning Outcomes (CLOs)

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

	Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		**Course Learning Outcomes** **Upon completion of the course, the student will be able to:**
Code	**Text**	**Code**	
1.1	Take and record a structured, patient centered history	1.1.1	
1.2	Adopt an empathic and holistic approach to the patients and their problems	1.2.1	Demonstrate empathy and active listening while communicating with patients and colleagues.
1.3	Assess the mental state of the patient	1.3.1	
1.4	Perform appropriately-timed full physical examination of patients, appropriate to the age, gender, and clinical presentation of the patient while being culturally sensitive	1.4.1	
1.5	Prioritize issues to be addressed in a patient encounter	1.5.1	Prioritize issues to be addressed in a patient encounter while communicating with patients.
1.6	Select the appropriate investigations and interpret their results taking into consideration cost/ effectiveness factors	1.6.1	
1.7	Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice	1.7.1	

1.8	Apply knowledge of the clinical and biomedical sciences relevant to the clinical problem at hand	1.8.1	
1.9	Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM)	1.9.1	
1.10	Integrate the results of history, physical examination and laboratory test findings into a meaningful diagnostic formulation	1.10.1	
1.11	Perform diagnostic and intervention procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances	1.11.1	
1.12	Adopt strategies and apply measures that promote patient safety	1.12.1	
1.13	Establish patient-centered management plans in partnership with the patient, his/her family and other health professionals as appropriate, using Evidence Based Medicine in management decision	1.13.1	
1.14	Respect patients' rights and involve them and/or their families/carers in management decisions	1.14.1	Show respect to patient rights and informed consent principles during communication and clinical encounters.
1.15	Provide the appropriate care in cases of emergency, including cardio-pulmonary resuscitation, immediate life support measures and basic first aid procedures	1.15.1	
1.16	Apply the appropriate pharmacological and nonpharmacological approaches to alleviate pain and provide palliative care for seriously ill people, aiming to relieve their suffering and improve their quality of life	1.16.1	
1.17	Contribute to the care of patients and their families at the end of life, including management of symptoms, practical issues of law and certification	1.17.1	
2.1	Identify the basic determinants of health and principles of health improvement	2.1.1	
2.2	Recognize the economic, psychological, social, and cultural factors that interfere with wellbeing	2.2.1	
2.3	Discuss the role of nutrition and physical activity in health	2.3.1	
2.4	Identify the major health risks in his/her community, including	2.4.1	

	demographic, occupational and environmental risks; endemic diseases, and prevalent chronic diseases		
2.5	Describe the principles of disease prevention, and empower communities, specific groups or individuals by raising their awareness and building their capacity	2.5.1	
2.6	Recognize the epidemiology of common diseases within his/her community and apply the systematic approaches useful in reducing the incidence and prevalence of those diseases	2.6.1	
2.7	Provide care for specific groups including pregnant women, newborns and infants, adolescents and the elderly	2.7.1	
2.8	Identify vulnerable individuals that may be suffering from abuse or neglect and take the proper actions to safeguard their welfare	2.8.1	
3.1	Exhibit appropriate professional behaviors and relationships in all aspects of practice, demonstrating honesty, integrity, commitment, compassion, and respect	3.1.1	Demonstrate integrity, accountability, and respect in professional interactions.
3.2	Adhere to the professional standards and laws governing the practice, and abide by the national code of ethics issued by the Egyptian Medical Syndicate	3.2.1	Adhere to ethical principles (autonomy, beneficence, justice, non-maleficence) in clinical and professional situations.
3.3	Respect the different cultural beliefs and values in the community they serve	3.3.1	Show respect in Communicating with culturally diverse patients and colleagues.
3.4	Treat all patients equally, and avoid stigmatizing any category regardless of their social, cultural or ethnic backgrounds, or their disabilities	3.4.1	Demonstrate fairness, equality, and non-judgmental attitudes in communication.
3.5	Ensure confidentiality and privacy of patients' information	3.5.1	Maintain confidentiality and privacy in all forms of communication and documentation.
3.6	Recognize basics of medico-legal aspects of practice, malpractice and avoid common medical errors	3.6.1	Identify medico-legal responsibilities and ethical boundaries in communication and consent.
3.7	Recognize and manage conflicts of interest	3.7.1	Recognize situations that may create conflicts of interest in professional practice
3.8	Refer patients to the appropriate health facility at the appropriate stage	3.8.1	
3.9	Identify and report any unprofessional and unethical behaviors or physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients' safety	3.9.1	Identify any unprofessional, unethical behaviors

4.1	Describe the normal structure of the body and its major organ systems and explain their functions	4.1.1	
4.2	Explain the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis	4.2.1	
4.3	Recognize and describe main developmental changes in humans and the effect of growth, development and aging on the individual and his family	4.3.1	
4.4	Explain normal human behavior and apply theoretical frameworks of psychology to interpret the varied responses of individuals, groups and societies to disease	4.4.1	
4.5	Identify various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of illness/disease and explain the ways in which they operate on the body (pathogenesis)	4.5.1	
4.6	Describe altered structure and function of the body and its major organ systems that are seen in various diseases and conditions	4.6.1	
4.7	Describe drug actions: therapeutics and pharmacokinetics; side effects and interactions, including multiple treatments, long term conditions and non-prescribed medication; and effects on the population	4.7.1	
4.8	Demonstrate basic sciences specific practical skills and procedures relevant to future practice, recognizing their scientific basis, and interpret common diagnostic modalities	4.8.1	
5.1	Recognize the important role played by other health care professionals in patients' management	5.1.1	Recognize the important of communicating with other health care professionals within a multidisciplinary team to achieve patient-centered care
5.2	Respect colleagues and other health care professionals and work cooperatively with them	5.2.1	Respect colleagues in clinical and academic settings.
5.3	Implement strategies to promote understanding, manage differences, and resolve conflicts	5.3.1	Implement effective strategies to promote mutual understanding, manage differences, and resolve conflicts constructively to enhance teamwork and collaborative practice
5.4	Apply leadership skills to enhance team functioning, the learning environment, and/or the health care delivery system	5.4.1	Demonstrate leadership and decision-making styles appropriate to professional practice.

5.5	Communicate effectively using written health records, electronic medical records, or other digital technology	5.5.1	Communicate effectively and accurately using written health records, electronic medical records, and other digital technologies to ensure continuity and quality of patient care
5.6	Evaluate his / her work and that of others using constructive feedback	5.6.1	Evaluate one's communication skills and professional behavior, as well as those of peers, using constructive feedback during discussions, role plays, and clinical simulations.
5.7	Recognize own personal and professional limits, and seek help from colleagues and supervisors when necessary	5.7.1	Recognize personal limitations in communication or ethical decision-making and seek guidance from instructors, mentors, or colleagues to enhance professionalism and ensure ethical practice.
5.8	Apply fundamental knowledge of health economics to ensure the efficiency and effectiveness of the health care system	5.8.1	
5.9	Use health informatics to improve the quality of patient care	5.9.1	
5.10	Document clinical encounters in an accurate, complete, timely, and accessible manner	5.10.1	Document clinical encounters accurately, clearly, and promptly using appropriate medical terminology and ethical standards, ensuring confidentiality and professionalism in all written and electronic communications
5.11	Improve the health service provision by applying a process of continuous quality improvement	5.11.1	
5.12	Demonstrate accountability to patients, society, and the profession	5.12.1	Demonstrate accountability through ethical decision-making, honest communication, and responsible professional behavior toward patients, colleagues, and society, reflecting the values of medical professionalism
6.1	Regularly reflect on and assess his / her performance using various performance indicators and information sources	6.1.1	
6.2	Develop, implement, monitor, and revise a personal learning plan to enhance professional practice	6.2.1	Develop updates in personal learning and reflection plan to improve communication skills, ethical awareness, and professional behavior in medical practice
6.3	Identify opportunities and use various resources for learning	6.3.1	Identify opportunities and use various resources for learning to improve communication and professionalism.
6.4	Engage in inter-professional activities and collaborative learning	6.4.1	
6.5	Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters and generate focused questions that address them.	6.5.1	
6.6	Effectively manage learning time and resources and set priorities	6.6.1	Effectively manage time to maintain academic and professional resilience

6.7	Demonstrate an understanding of the scientific principles of research including its ethical aspects and scholarly inquiry and contribute to the work of a research study	6.7.1	
6.8	Critically appraise research studies and scientific papers in terms of integrity, reliability, and applicability	6.8.1	
6.9	Analyze and use numerical data including the use of basic statistical methods	6.9.1	
6.10	Summarize and present to professional and lay audiences the findings of relevant research and scholarly inquiry	6.10.1	

4. Teaching and Learning Methods

18. Interactive Lectures
19. Tutorial classes
20. **Patient simulated classes**
21. **practical**
22. Role play classes
23. Directed self learning.

Course Schedule

NO. of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected Number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/ .....)	practical Training Simulated patient/ role play Case discussion	Self-learning (Tasks/ Assignments/ Projects/ ...)	Others
1.	7. Introduction to Human Communication	45	3	2	18 h (Home study, tasks, assignments)	
	8. Types and Channels of Communication in Healthcare		3	2		
	9. Clinical Communication Skills		3	2		
	10. Handling Difficult Conversations and Breaking Bad News		3	2		
	11. Leadership, Personality, and Professional Communication		3	1		
	12. Introduction to Medical Ethics		3	-		
2.	13. Ethical Decision-Making and Problem Solving	45	3	2	18 h (Home study, tasks, assignments)	
	14. Patient Rights and Responsibilities		3	2		

	15. Medico-Legal Responsibilities of the Physician		**3**	**2**	**18 h (Home study, tasks,**	
	16. Ethical and Legal Aspects of Organ Transplantation		**3**	**2**		
	17. Foundations of Medical Professionalism		**3**	**1**		
	18. Professionalism in Practice		**3**	**-**		
		90	**36**	**18**	**36**	

5. Methods of Students' Assessment

No.	Assessment Methods*	Assessment Timing (Week Number)	Marks	Percentage of Total Course Marks
1.	Quiz (Semester work)	Seventh week	-	0
2.	End Module exam	16-20 Week	**12**	**20%**
3.	Final Written Exam	16-20 Week	**24**	**40%**
4.	Final practical Exam	16-20 Week	**18**	**30%**
	Assignments/Portfolio	Throughout the Module	**6**	**10%**

6. Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	**The Main (Essential) Reference for the Course** (must be written in full according to the scientific documentation method)	• Gillon, R. (2018). *Medical Ethics: Four Principles Plus Attention to Scope*. BMJ, 309(6948), 184–188. • Levinson, W., & Pizzo, P. A. (2011). *Patient–Physician Communication: It's About Time*. *JAMA*, 305(17), 1802–1803.
	Other References	• Cruess, R. L., Cruess, S. R., & Steinert, Y. (2016). *Teaching Medical Professionalism: Supporting the Development of a Professional Identity* (2nd ed.). Cambridge University Press.
	Electronic Sources (Links must be added)	• World Health Organization – Ethics and Health • American Medical Association – Code of Medical Ethics • Medscape – Medical Ethics Cases • BMJ Learning – Communication Skills Modules
	Learning Platforms (Links must be added)	• Coursera – Communication Skills for Health Professionals • FutureLearn – Medical Ethics and Law

		• edX – Professionalism in Healthcare
	Other (to be mentioned)	• Case studies and ethical dilemma scenarios prepared by the department. • Role-play scripts and reflective journal templates.
Supportive facilities & equipment for teaching and learning *	**Devices/Instruments**	• desktop or laptop computers with stable internet access • projector and screen (for group teaching, case discussions, and presentations) Student handouts, case sheets, feedback forms, and reflection logs. •
	Supplies	• library facilities & online access with updated textbooks and journals • Whiteboard and markers for discussion summaries. printers / scanners
	Electronic Programs	Interactive e-learning platforms (ThinCi) and Microsoft teams.
	Skill Labs/ Simulators	
	Virtual Labs	
	Other (to be mentioned)	

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