

Course Description Form

1. Course Name:	
Physiology I (Theoretical+ Practical)	
2. Course Code:	
Phpt23-212	
3. Semester / Year:	
1 st Semester/2 nd year	
4. Description Preparation Date:	
01/9/2023	
5. Available Attendance Forms:	
Students' signature on attendance Excel sheets	
6. Number of Credit Hours (Total) / Number of Units (Total)	
3 hours Theoretical + 2 hours Practical (75) /4 units	
7. Course administrator's name	
Theoretical	
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Practical	
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8. Course Objectives	
Course Objectives	Enable students to acquire basic knowledge regarding the functions of the normal body, along with the ability to assess these functions and their relationship to normal and pathological conditions. Additionally, this course aids students in understanding the importance of molecular, biochemical, and cellular mechanisms in maintaining the internal environment stability of the body.
9. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> • Lectures and Interactive Presentations • Case-Based Learning

- Interactive Workshops and Seminars
- Self-Directed Learning and Research Projects
- Assessment Strategies
- Practical laboratory demonstrations of physiological investigations and experiments in different subjects of physiology.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3+2	Acquired Medical Physiology Knowledge	Physiology of nerves: Nerve cells; excitation and conduction; Properties of mixed nerves; glia; neurotrophins; Nerve fiber types and functions	Theoretical lectures. Laboratory experiments	Paper-based exams
2	3+2	Acquired Medical Physiology Knowledge	central regulation of visceral function; the autonomic nervous system	Theoretical lectures. Laboratory demonstration.	Paper-based exams
3	3+2	Acquired Medical Physiology Knowledge	Synaptic transmission: Reflexes; cutaneous, deep and visceral sensations	Theoretical lectures. Laboratory demonstration.	Paper-based exams
4	3+2	Acquired Medical Physiology Knowledge	Motor system	Theoretical lectures. Laboratory demonstration.	Paper-based exams
5	3+2	Acquired Medical Physiology Knowledge	Alert behavior, sleep and electrical activity of the brain; control of posture and movement	Theoretical lectures. Laboratory experiments.	Paper-based exams
6	3+2	Acquired Medical Physiology Knowledge	Higher function of the nervous system	Theoretical lectures. Laboratory demonstration.	Paper-based exams
7	3+2	Acquired Medical Physiology Knowledge	Nervous system disorders can be explained in molecular terms	Theoretical lectures. Laboratory demonstration.	Paper-based exams
8	Mid-term exam				
9	3+2	Acquired Medical Physiology Knowledge	cardiac arrhythmias; electrographic findings in cardiac diseases; mechanical events of the	Theoretical lectures.	Paper-based exams

			cardiac cycle; cardiac output;	Laboratory demonstration.	
10	3+2	Acquired Medical Physiology Knowledge	cardiovascular regulatory mechanisms: Local regulatory mechanisms; systemic regulation by the nervous system; systemic regulation by hormones;	Theoretical lectures. Laboratory demonstration.	Paper-based exams
11	3+2	Acquired Medical Physiology Knowledge	Respiration: Respiratory zones; Mechanics of respiration; air volumes; respiratory muscles; compliance of the lungs and chest wall; surfactants; differences in ventilation and blood flow in different parts of the lung	Theoretical lectures. Laboratory demonstration.	Paper-based exams
12	3+2	Acquired Medical Physiology Knowledge	Dead space and uneven ventilation; Pulmonary circulation: Pressure, volume, and flow. Gas transport between the lungs and tissue; Regulation of respiration: Neural control of breathing; Respiratory centers; Regulation of respiratory activity: Chemical factors; non chemical factors	Theoretical lectures. Laboratory demonstration.	Paper-based exams
13	3+2	Acquired Medical Physiology Knowledge	Introduction; innervations of the renal vessels; renal clearance; renal blood flow; glomerular filtration rate (GFR): Measurements; factor affecting GFR; Filtration fraction; reabsorption of Na ⁺ , Cl ⁻ and glucose. Tubuloglomerular feedback and glomerulotubular balance; water excretion in: proximal tubules; loop of henle; distal tubules; collecting ducts	Theoretical lectures. Laboratory demonstration.	Paper-based exams
14	3+2	Acquired Medical Physiology Knowledge	the counter current mechanism; role of urea; water diuresis and osmotic diuresis; acidification of the urine: H ⁺ secretion; reaction with buffers; ammonia secretion; factors	Theoretical lectures. Laboratory demonstration.	Paper-based exams

			affecting acid secretion; bicarbonate excretion; regulation of Na ⁺ , K ⁺ and Cl ⁻ excretion		
15	Students' seminars				

11. Course Evaluation

- 25 M Theoretical assessment;
(paper-based mid-term exam + quiz)
- 25 M practical assessment (attendance + quiz + + seminars)
- 50 M paper-based theoretical final exam

100 M total

12. Learning and Teaching Resources

Required textbooks	<ul style="list-style-type: none"> • Textbook of Medical Physiology by Guyton AC; latest edition
Main references (sources)	<ul style="list-style-type: none"> • Vander_s Human Physiology; latest edition • Ganong's review of medical physiology; latest edition
Electronic References, Websites	<ul style="list-style-type: none"> • PubMed (https://pubmed.ncbi.nlm.nih.gov/) • Physiology Online (https://www.physiologyonline.org/) • PhysiologyWeb (https://www.physiologyweb.com/)