

Course Description Form

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| 1. Course Name: | |
| Physiology I(Theoretical+ Practical) | |
| 2. Course Code: | |
| Phph24-212 | |
| 3. Semester / Year: | |
| First semester/2 nd year | |
| 4. Description Preparation Date: | |
| 01/9/2024 | |
| 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 | |
| Assist. Prof Dr. Fawaz A. Alassaf Email: Fawaz.Alassaf@uomosul.edu.iq Lecturer Dr. Mohammed Abdulkareem Younes Email: mohammed-78@uomosul.edu.iq Lecturer Ahmed Hikmat Email: ahmed.alhamdany@uomosul.edu.iq Assist. Lecturer Louay Alchalaby Email: loayalchalaby@uomosul.edu.iq | |
| Practical | |
| Assist. Prof Dr. Fawaz A. Alassaf Email: Fawaz.Alassaf@uomosul.edu.iq Assist. Lecturer Shahad Aadel Bader Shahad1990@uomosul.edu.iq Assist. Lecturer Safa Mohamed Omar Safa_mohammed@uomosul.edu.iq Assist. Lecturer Ruaa Nazar Yahya Roaa_nazar@uomosul.edu.iq Assist. Lecturer Hind Sami Hind.mohammed@uomosul.edu.iq Assist. Lecturer Doaa Khalid Ibrahim Doaa.ph@uomosul.edu.iq | |
| 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 |

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| | <ul style="list-style-type: none"> Assessment Strategies Practical laboratory demonstrations of physiological investigations and experiments in different subjects of physiology. |
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| 10. Course Structure | | | | | |
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| 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 cardiac cycle; cardiac output; | Theoretical lectures. Laboratory demonstration. | Paper-based exams |

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| 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 affecting acid secretion; bicarbonate excretion; | Theoretical lectures. Laboratory demonstration. | Paper-based exams |

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| | | | regulation of Na ⁺ , K ⁺ and Cl ⁻ excretion | | |
| 15 | Students' seminars | | | | |

11. Course Evaluation

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

Total 100 M

12. Learning and Teaching Resources

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| 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/) |