

Course Description Form

1. Course Name	
Exercise Physiology	
2. Course Code	
SESS26F3051	
3. Semester/Year	
2025-2026	
4. Date of preparation of this description	
February/ 2026	
5. Available Attendance Forms	
In-person/theoretical	
6. Number of credit hours (total) / number of units (total)	
2 hours per week / 4 units	
7. Course administrator's name (if more than one name is mentioned)	
Assistant Professor Dr. Nashwan Ibrahim	dr_nashwan@uomosul.edu.iq
Assistant Professor Dr. Mazen Sami Hassan	mazensamie@uomosul.edu.iq
Assistant Lecture Amjad Hatem Ahmed	Amjad.hatem89@uomosul.edu.iq
Assistant Lecture Rayan Khalid Abd-Almaged	rayan.khalid@uomosul.edu.iq
8. Course Objectives	
Course Objectives	- Students learn the basic principles of physiology and the physiology of sports training. - Knowing the concepts of theoretical sports training physiology. - The possibility of teaching students the required theoretical lessons after their graduation from the college. This is the main goal of the college to graduate physical education teachers, as it will teach students various teaching skills. - Developing and upgrading administrative, teaching and psychological skills and qualities that enhance the ability to focus, think and observe. - Employing the science of training physiology in all sports events to enhance the training and teaching process to achieve the technique with the least possible effort according to the physiological variables of the skill.
9. Teaching and learning strategies	

Strategy	1– Lecture method	1– Partial method
	2– Advanced Lecture Method	2– The total method
	3– Blended learning method	3– Trial and error method
	4– E-learning method	4– Learning method for mastery

10. Course Structure

The week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 hours	Physiology, its divisions, and the organic organization of the human body	Physiology and cell physiology	The lecture	Group evaluation
2	2 hours	The importance of studying physiology in the sports field		The lecture	Group evaluation
3	2 hours	The cell and its components		The lecture	Group evaluation
4	2 hours	Energy, its definition, types, transformations, units of measurement, and the biological cycle of energy	Energy	The lecture	Group evaluation
5	2 hours	Energy production systems, their features and practical applications in the sports field	Energy	Advanced Lecture	Group evaluation
6	2 hours	Interaction of energy systems, energy balance, and basal metabolic rate	Energy	Advanced Lecture	Group evaluation
7	2 hours	First exam of the first semester			
8	2 hours	The nervous system, its components and functions	Nervous system	Advanced Lecture	Group evaluation
9	2 hours	Nerve cell and parts of the nervous system	Nervous system	Advanced Lecture	Group evaluation
10	2 hours	Reflex arc, autonomic nervous system and its functions	Nervous system	Blended learning	Group evaluation
11	2 hours	Muscular system, types of muscles in the body, and muscle cell proteins	musculature	Advanced Lecture	Group evaluation
12	2 hours	Types of muscle fibers and the mechanism of muscle contraction	musculature	Advanced Lecture	Group evaluation

13	2 hours	Fatigue, its causes and the difference between stress, exhaustion and fatigue + motor unit and neuromuscular connection	musculature	Blended learning	Group evaluation
14	2 hours	Functional changes associated with strength and endurance training in skeletal muscle	musculature	Blended learning	Individual assessment
15	2 hours	Second exam for the first semester / practical exam for the first semester of the kinetic chains			
16	2 hours	Respiratory system, its components and breathing mechanism	Respiratory system	The lecture	Group evaluation
17	2 hours	Lung volumes, capacities and partial pressures of gases	Respiratory system	Advanced Lecture	Group evaluation
18	2 hours	Gas exchange and regulation of respiration	Respiratory system	Advanced Lecture	Group evaluation
19	2 hours	Physiological changes in the respiratory system resulting from exercise training	Respiratory system	Advanced Lecture	Group evaluation
20	2 hours	Changes in pulmonary ventilation before, during and after physical exertion + ventilation of the pulmonary alveoli	Respiratory system	Advanced Lecture	Group evaluation
21	2 hours	Body fluids + Effect of physical exertion on body fluids	Body fluids	Advanced Lecture	Group evaluation
22	2 hours	Blood components and functions	Body fluids	The lecture	Group evaluation
23	2 hours	Mechanism of regulation of red blood cell formation and life span + platelets	Body fluids	Blended learning	Group evaluation
24	2 hours	White blood cells, their types, functions, and life span + the effect of training on red and white blood cells	Body fluids	Blended learning	Group evaluation
25	2 hours	First exam of the second semester			
26	2 hours	Acid-base balance and regulation mechanism	acid-base balance	Blended learning	Group evaluation
27	2 hours	Cardiovascular system (heart and blood vessels)	Cardiovascular system	Blended learning	Group evaluation

28	2 hours	Cardiac output, its components, and the effect of physical effort on it + blood pressure and factors affecting it	Cardiovascular system	Blended learning	Group evaluation
29	2 hours	Endocrine glands, hormones and hormone function during physical exertion	Endocrine glands and hormones	Blended learning	Group evaluation
30	2 hours	Second exam for the second semester			

11. Course Evaluation

The grade is distributed as follows:

1. The first semester exam, worth (25) points.
2. The second semester exam, worth (25) points.
3. The end-of-year exam, worth (50) points.

12. Learning and Teaching Resources

Required textbooks (methodology, if any)	A book on the exercise physiology prepared by Assistant Professor Dr. Nashwan Ibrahim Abdullah. Some foreign books related to the physiology of exercise or training The athlete.
Key references (sources)	
Recommended supporting books and references (scientific journals, reports...)	
Electronic references, websites	

Name and signature of the course holder

Assistant Professor Dr. Nashwan Ibrahim

Assistant Professor Dr. Mazen Sami Hassan

Assistant Lecture Amjad Hatem Ahmed

Assistant Lecture Rayan Khalid Abd-Almaged



Name and signature of the head of the department or branch

Prof. Dr. Nawfal Fadel Rashid

