	Universitas Negeri Surabaya Faculty of Sports and Health Sciences, Sports Education Masters Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Exercise Physiology	8510103003	Compulsory Study Program Subjects	T=3	P=0	ECTS=6.72	2	July 18, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Dr. Taufiq Hidayat, S.Pd., M.Kes.

Learning model	**Case Studies**
Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**
	Program Objectives (PO)
	PLO-PO Matrix

	P.O

PO Matrix at the end of each learning stage (Sub-PO)

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Short Course Description	Mastering the study of basic concepts, functions and structure of human body organs; includes the organization of cells and tissues, skeletal system, muscle system, nervous system, five senses, cardiovascular system, blood, respiratory system, digestive system, uranary system, lymphatic and immunological systems, endocrine and reproductive systems through explanation and discussion so that students can explain again function of the body‘s organ systems.
References	**Main :**
	1. Handout Ilmu Faal [2] Ganong William F.,2005. Review of Medical Physiology. The McGraw-Hills Companies [3] Guyton Arthur C, Hall John E., 2006. Text Book of Medical Physiology. 7th Edition. Elseviers Health Science Right Departement [4] Kent M, Van de Graaf, Rhees W., 2001. Human Anatomy and Physiology. The McGraw-Hills Companies [5] Sloane E.,1994., Anatomy and Physiology : An Easy Leaner. Jones and Bartlett Publisher [6] Medical Physiology. 7th Edition. Elseviers Health Science Right Departement
	Supporters:
Supporting lecturer	Dr. dr. Endang Sri Wahjuni, M.Kes.

Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)
		Indicator	Criteria & Form	Offline (*offline*)	Online (*online*)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

1	Understand the organization of cells and tissues	· Mention the parts of a cell · Explain the function of cell components · Mention the classification of tissues · Mention the location and explain the function of tissues · Explain the mechanism of material transport through the cell membrane · Explain the process of cell division Explain the process of protein synthesis	**Criteria:** 1. The assessment is carried out on the following aspects: 2. 1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3. 2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4. 3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5. 4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6. The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%

2	Understanding human genetics	· Explain genetic terminology · Explain the laws of Mendelian genetics · Explain human inheritance. Explain chromosome abnormalities	**Criteria:** 1. The assessment is carried out on the following aspects: 2. 1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3. 2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4. 3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5. 4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6. The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%
3	Understand the physiology of the integumentary system	· Explain the physiology of the skin · Explain the regulation of body temperature · Explain the physiology of the skin Explain the regulation of body temperature	**Criteria:** 1. The assessment is carried out on the following aspects: 2. 1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3. 2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4. 3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5. 4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6. The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%

4	Understand the physiology of the musculoskeletal system	· State the composition of bone tissue · Explain the function of the skeletal system · Explain the function of the muscular system · Explain the mechanism of muscle contraction microscopically and chemically State the source of energy for contraction Explain the development of bones · Mention the types of muscles · Explain the function of the muscular system · Explain the mechanism of muscle contraction microscopically and chemistry Mention the energy source for contraction	**Criteria:** 1.The assessment is carried out on the following aspects: 2.1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3.2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4.3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5.4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6.The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%
5	Understand the physiology of the nervous system	· Explain the division of the nervous system based on anatomy and function · Name the parts of neurons · Explain the mechanism of nerve impulses and reflexes · Explain the circulation of cerebrospinal fluid · Explain the function of the central nervous system · Explain the function of the peripheral nervous system Mention the types of sensory receptors	**Criteria:** 1.The assessment is carried out on the following aspects: 2.1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3.2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4.3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5.4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6.The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%

6	Understand the physiology of the endocrine system	· Identify the characteristics of endocrine glands · Name the types of glands in the endocrine system and the hormones they secrete · Explain the mechanism of action of hormones · Explain the physiological effects of GH, TSH, ACTH, FSH, LH, Prolactin, ADH, oxytocin · Explain the physiological effects of thyroid hormones · Explain the effects Physiological PTH · Explain the physiological effects of epinephrine, cortisol, aldosterone · Explain the physiological effects of the hormones insulin and glucagon Explain the physiological effects of the hormones melatonin and thymosin	**Criteria:** 1.The assessment is carried out on the following aspects: 2.1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3.2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4.3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5.4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6.The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%
7	Understand the physiology of the circulatory system	· Mention the components of the circulatory system · Explain the function of the circulatory system · Mention the types of blood cells and their functions · Explain the classification of blood groups · Mention the parts of the heart · Explain the physiology of the heart · Explain about blood pressure · Explain the circulatory pathways Explain about capillary exchange and pathways lymphatic	**Criteria:** 1.The assessment is carried out on the following aspects: 2.1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3.2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4.3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5.4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6.The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%

8	Understand nonspecific defense and the immune system	· Explain the definition of nonspecific defense · Explain the barrier against infectious agents · Explain inflammation · Explain the definition of the immune system · Explain the components of the immune system · Explain the types of immunity · Explain the cells involved in the immune system Explain the damaging effects of the immune system	**Criteria:** 1. The assessment is carried out on the following aspects: 2. 1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3. 2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4. 3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5. 4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6. The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%
9	UTS			3 X 50			0%

10	Understand the physiology of the respiratory system	· Explain the function of the respiratory system · Explain pulmonary ventilation · Explain lung volume and capacity · Explain gas exchange · Explain gas transport through the blood Explain the control of respiration	**Criteria:** 1. The assessment is carried out on the following aspects: 2. 1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3. 2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4. 3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5. 4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6. The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%
11	Understand the physiology of the digestive system	· Explain the function of the digestive system · Explain the control of nerves in the digestive tract · Explain the function of saliva, esophagus and stomach · Explain the function of the small intestine · Explain absorption in the small intestine · Explain the function of the pancreas, liver and gallbladder Explain the function of the large intestine	**Criteria:** 1. The assessment is carried out on the following aspects: 2. 1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3. 2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4. 3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5. 4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6. The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%

12	Understand the regulation of metabolism, nutrition, and body temperature	· Explain the processes of anabolism and catabolism · Explain carbohydrate metabolism · Explain carbohydrate metabolism · Explain protein metabolism · Explain energy balance and its relationship with body weight Explain temperature regulation	**Criteria:** 1. · 2. Discusses the regulation of metabolism, nutrition, and body temperature	Lectures, discussions, questions and answers 3 X 50			0%
13	Understand the physiology of the urinary system	· Explain the function of the kidneys · Explain the mechanism of urine production · Explain the mechanism of urine dilution Mention disorders of the urinary system	**Criteria:** 1. The assessment is carried out on the following aspects: 2. 1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3. 2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4. 3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5. 4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6. The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%

14	Understand fluid, electrolyte and acid-base balance	· Explain the components of body fluids · Explain water balance · Explain water balance disorders · Explain electrolyte balance Explain the regulation of blood pH	**Criteria:** 1. The assessment is carried out on the following aspects: 2. 1. Participation during lectures and peer teaching, carried out through observation (weight 2) 3. 2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 4. 3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 5. 4. UAS scores are carried out in writing with indicators 9-16 given a weight (3) 6. The final NA is (participation grade") (assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10	Lectures, discussions, questions and answers 3 X 50			0%
15	Understand the physiology of the reproductive system, pregnancy and development	· Explain the primary genital organs of men and women · Explain the process of spermatogenesis · Explain the hormonal regulation of the male reproductive system · Explain the hormonal regulation of the female reproductive system · Explain the process of fertilization Explain the hormones secreted during pregnancy	**Criteria:** · Discuss the reproductive system, pregnancy and development	Lectures, discussions, questions and answers 3 X 50			0%
16	Understand the physiology of the reproductive system, pregnancy and development	· Explain the primary genital organs of men and women · Explain the process of spermatogenesis · Explain the hormonal regulation of the male reproductive system · Explain the hormonal regulation of the female reproductive system · Explain the process of fertilization Explain the hormones secreted during pregnancy	**Criteria:** · Discuss the reproductive system, pregnancy and development	Lectures, discussions, questions and answers 3 X 50			0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
		0%

Notes

1. **Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
2. **The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
3. **Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
4. **Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
5. **Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
6. **Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
7. **Forms of assessment:** test and non-test.
8. **Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
9. **Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
10. **Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
11. **The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
12. TM=Face to face, PT=Structured assignments, BM=Independent study.