						Document Code
![UNESA logo]	**Universitas Negeri Surabaya** **Faculty of Sports and Health Sciences,** **Undergraduate Nutrition Study Program**					

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Physiology	1321102095	Compulsory Study Program Subjects	**T=2**	**P=0**	**ECTS=3.18**	1	January 2, 2025

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
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Learning model	Case Studies

Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**	
	PLO-8	Able to master the scientific basis of nutrition, food, biomedicine, humanities and public health sciences.
	Program Objectives (PO)	
	PO - 1	. Have the ability to analyze human physiology by utilizing learning resources and ICT.
	PO - 2	Have knowledge of human physiological analysis in order to support good nutritional status.
	PO - 3	Have the ability to design steps to handle nutritional problems based on data analysis about the physiology of body systems.
	PO - 4	Have a responsible attitude in solving physiological problems in order to achieve good nutritional status.
	PLO-PO Matrix	

P.O	PLO-8
PO-1	
PO-2	
PO-3	
PO-4	

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
PO-1																
PO-2																
PO-3																
PO-4																

Short Course Description	Discussion of the normal functions of the human body. The discussion includes human body structure, digestive physiology, cardiovascular physiology, respiratory physiology, metabolism, muscle physiology, central nervous system physiology, peripheral nervous system physiology, autonomic nervous system physiology, sensory physiology, excretory system physiology, immune system physiology, and hormonal system physiology. Learning is carried out through discussions, practicums and presentations. The learning activity ends with a presentation of a problem analysis paper on physiological disorders of the body's systems
References	**Main :**

1. KusIrianto. 2004. Struktur dan Fungsi TubuhManusia Untuk Paramedis. Bandung:CV YRAMA WIDYA.
2. ArthurC Guyton MD, John E Hall. 1996 Textbook of Medical Physiology. Fisiologi Kedokteran, Penerjemah :Irawati, Setiawan, LMA Ken Ariata Tengadi, Alex Santoso, Edisi Engish WBSaunders, Edisi Indonesia, Penerbit Buku Kedokteran EGC, Cetakan I
3. Setiadi. 2007. Anatomi dan Fisiologi Manusia . Yogyakarta: Graha Ilmu
4. Tortora Gerard J. and Graboswski Sandra R.1992. Principle of Anatomy and Physiology. New York: Harper Collins College Publishers

Supporters:	

Supporting lecturer	Dr. dr. Endang Sri Wahjuni, M.Kes. Lini Anisfatus Sholihah, S.Gz., M.Sc. Nur Ilahi Anjani, S.Ked., 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	1.Carry out a lecture contract and understand the RPS 2.Able to explain the meaning of physiology and cell physiology	- Able to explain the meaning of physiology. Able to explain the scope of physiology.	**Criteria:** Full marks are obtained if you submit your paper on time. **Form of Assessment** : Participatory Activities, Practice/Performance	Lectures and questions and answers 3 X 50		**Material:** Introduction of physiology **Reader:** *Setiadi. 2007. Human Anatomy and Physiology. Yogyakarta: Graha Ilmu*	5%
2	Understand the function and work of muscles	- Explain the physiology of muscle cells and their organelles. - Explain the function of muscles, actin and myosin, understand the relationship between nerves and muscles. - Explain the mechanism of muscle contraction. - Identify types of muscle fibers - Explain the differences between type I and II muscle fibers	**Criteria:** Full marks are obtained if you do all the questions correctly. **Form of Assessment** : Participatory Activities	Lectures, discussions and questions and answers 3 X 50			5%
3	Understand the energy supply system	- Explain anaerobic metabolism and the energy it produces. - Explain aerobic metabolism and the energy it produces.	**Criteria:** Full marks are obtained if you do all the questions correctly. **Form of Assessment** : Participatory Activities	Lectures, discussions, questions and answers and assignments 3 X 50			5%
4	Understanding the nutritional metabolism system	- Explain the metabolic processes of carbohydrates, fats and proteins - Explain the stages of absorption and metabolic rate - Explain the body temperature regulation system	**Criteria:** If answered correctly then the score is 100 **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, discussions, questions and answers and assignments 3 X 50			0%

5	Understand the physiology of the digestive system	- Identify the digestive process from the mouth to excretion in the rectum and anus. - Explain the digestive glands and their functions	**Criteria:** If answered correctly, the score is 100 **Form of Assessment** : Participatory Activities	Lectures, discussions, questions and answers and assignments 3 X 50			5%
6	Mastering the respiratory system during rest and activity.	- Explain the anatomy and physiology of the respiratory system. - Understand the factors that stimulate the respiratory center - Understand lung ventilation, alveolar ventilation during rest and activity	**Criteria:** If answered correctly, the score is 100 **Form of Assessment** : Participatory Activities	Lectures, discussions and questions and answers 3 X 50			5%
7	Mastering the cardiovascular system at rest and activity	- Explain the anatomy and physiology of the cardiovascular system - Explain changes in the cardiovascular system during rest and activity - Explain the physiology of blood pressure - Explain how to measure resting HR and blood pressure	**Criteria:** Each question item has a scoring of 25 **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, discussions and questions and answers 3 X 50			5%
8	Can do UTS questions	UTS	**Criteria:** If answered correctly, the score is 100 **Form of Assessment** : Test	scientific 3 X 50			0%
9	Understand the physiology of the central nervous system and peripheral nervous system	- Understand the physiology of the central nervous transmission system - Understand the physiology of the peripheral nerve transmission system	**Criteria:** If answered correctly, then score 100 **Form of Assessment** : Participatory Activities	Lectures, discussions and questions and answers 3 X 50			5%
10	Understand the excretory system	- Understand the physiology of the renal excretory system	**Criteria:** If answered correctly, the score is 100 **Form of Assessment** : Participatory Activities	Lectures, discussions and questions and answers as well as practice by working on the 3 X 50 LKM			5%
11	Understand the endocrine system	- Understand the process of controlling and secreting hormones	**Criteria:** If you can answer correctly, the score is 100 **Form of Assessment** : Participatory Activities	Lectures, discussions and questions and answers and working on 3 X 50 LKM			5%

12	Understand the excretory system; Skin Skin sensation, pain, tactile, and thermal	skin sensationSkin sensation, pain, tactile, and thermal	**Criteria:** If you can answer correctly, the score is 100 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment, Portfolio Assessment	Lectures, discussions and questions and answers and practice working on the 3 X 50 LKM				5%
13	Understanding the five sensory systems	- Understand the physiology and mechanisms of stimulation of the five senses	**Criteria:** Each question item has a score of 20 **Form of Assessment** : Project Results Assessment / Product Assessment	Lectures, discussions and questions and answers as well as practice working on the 3 X 50 LKM				5%
14	Understanding the immunological system	- Understand the immunological system and its control	**Criteria:** If answered correctly, the score is 100 **Form of Assessment** : Project Results Assessment / Product Assessment	Lectures, discussions and questions and answers as well as practice working on the 3 X 50 Student Worksheet				5%
15	Understanding the reproductive system	- Understand the physiological processes of the male and female reproductive systems	**Criteria:** Each scoring question item is 25 **Form of Assessment** : Participatory Activities	Lectures, discussions and questions and answers as well as practice working on the 3 X 50 Student Worksheet				5%
16			**Form of Assessment** : Test					15%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	46.67%
2.	Project Results Assessment / Product Assessment	14.17%
3.	Portfolio Assessment	1.67%
4.	Practice / Performance	2.5%
5.	Test	15%
		80.01%

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** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities 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.