	Universitas Negeri Surabaya Faculty of Sports and Health Sciences Master of Sports Science Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Exercise Physiology	1234703004		T=3	P=0	ECTS=6.72	1	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Dr. Achmad Widodo, 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	Understanding and mastery of human physiology which includes the structure and function of skeletal muscles, energy and hormone systems, nervous control of muscles, energy supply and fatigue, cardiovascular system, respiratory system, cardiovascular response, principles of exercise, adaptation to aerobic and anaerobic exercise, training in hot and cold environments, exercise at high altitudes, sports training, body composition and nutrition for sports, ergogenics and exercise, exercise in children and adolescents, the aging process and exercise.
References	**Main :**
	1. 1. Kusnanik, Nining W., dkk. 2011. Dasar-Dasar Fisiologi Olahraga. Surabaya: UNESA University Press 2. Mc.Ardle, William D. 2010. Exercise physiology: nutrition, energy, and human performance 7th ed. Wolter Kluwer. Lippincot Williams & Wilkins 3. Foss, Merle L. 1998. Fox's Physiological Basis for Exercise and Sport. WCB/ McGraw-Hill
	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 structure and function of skeletal muscle	Explain muscle structure ▪ Explain muscle contraction ▪ Explain the relationship between skeletal muscle and exercise	**Criteria:** 1.1. Participation during lectures and peer teaching, carried out through observation (weight 2) 2.2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 9-16 given a weight (3)	Lectures, discussions and questions and answers 3 X 50			0%
2	Understand energy and hormonal systems	□ Explain metabolism and bioenergy □ Explain energy sources □ Explain basic energy systems □ Explain hormonal control □ Explain metabolic regulation during exercise □ Explain hormonal regulation during exercise	**Criteria:** 1.1. Participation during lectures and peer teaching, carried out through observation (weight 2) 2.2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 9-16 given a weight (3)	Lectures, discussions and questions and answers 3 X 50			0%

3	Understand the structure and function of the nervous system	▪ Name and explain the structure and function of nerves ▪ Explain the central nervous system ▪ Explain the peripheral nervous system Explain motor control	**Criteria:** 1.1. Participation during lectures and peer teaching, carried out through observation (weight 2) 2.2. The subsummative test (UTS) is carried out once with indicators 1-7 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching and practicum is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 9-16 given a weight (3)	Lectures, discussions and questions and answers 3 X 50			0%
4	Understanding about energy supply and fatigue	Explain energy expenditure during rest and exercise Explain fatigue and its causes Explain energy systems and fatigue Explain neuromuscular fatigue		Lectures, discussions and questions and answers 3 X 50			0%
5	Understanding the cardiovascular system			3 X 50			0%
6	Understand transportation systems			3 X 50			0%
7	UTS			3 X 50			0%
8	Understand the principles of exercise			3 X 50			0%
9	Understand aerobic and anaerobic exercise adaptations			3 X 50			0%
10	Understand training in hot and cold environments			3 X 50			0%
11							0%
12							0%
13							0%
14							0%
15							0%
16							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.