



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
Kinesiology/biomechanics	8510103007	Compulsory Study Program Subjects	T=3	P=0	ECTS=6.72	1	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					
Short Course Description	Understanding and mastering the analysis of movement and function of the human body as a system through the application of knowledge of anatomy and kinesiology based on the concept of mechanics and its application in various sports activities						
References	Main :						
	1. p> 2. Blazevich, Anthony. 2007. <i>Sports Biomechanics</i> . Black Publishers: London 3. Knudson, Duane. 2007. <i>Fundamentals of Biomechanics Second Edition</i> . Springer:New York 4. Zatsiorsky, Vladimir. 2000. <i>Biomechanics in Sports</i> . Blackwell Science 5. Giancolli, C. Douglas. <i>Fisika Dasar untuk Universitas</i> . Erlangga:Jakarta 6. Hartono, Soetanto. 2007. <i>Anatomi Dasar dan Kinesiologi</i> . Unesa University Press: Surabaya 7. Kartiko, Dwi Cahyo dan Habibulloh. 2014. <i>Biomekanik Olahraga</i> . Unesa University Press: Surabaya 8. R. Putz dan R. Pabst. 2000. <i>Sobotta Atlas Der Anatomie Des Menschen, Edisi 21</i> . Alih bahasa, Septelia Inawati Wanandi, 2000						
	Supporters:						
Supporting lecturer	Dr. Dwi Cahyo Kartiko, S.Pd., 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	Explains the meaning, goals, benefits and rationale of sports biomechanics	<ul style="list-style-type: none"> - Able to explain the meaning of sports biomechanics - Able to explain the purpose of sports biomechanics - Able to explain the benefits of sports biomechanics - Able to explain the rationale of sports biomechanics 		Lectures, discussions and questions and answers 3 X 50			0%
2	analyzing movements in various sports based on the principles of sports biomechanics	<ul style="list-style-type: none"> - provides examples of analysis based on the principles of sports biomechanics in various sports. - provide analysis for other sports. able to master the correct systematics of movements based on the analysis carried out 		Lectures, discussions and questions and answers 3 X 50			0%
3	Explains various joints and various injuries that may be experienced, as well as muscle origins and insertions in the human body	<ul style="list-style-type: none"> - able to explain various types of joints in the human body - able to explain muscle origin and insertion - provide examples and analyze injuries experienced by athletes 		Lectures, discussions and questions and answers 3 X 50			0%
4	Explain the concept of balance	<ul style="list-style-type: none"> - Describe the meaning of balance - Master the factors that influence balance - Describe the various types of balance - Explain the law of stability and its application in various sports 		Lectures, discussions, questions and answers 3 X 50			0%
5	Analyze various sports based on the concept of force and Newton's laws.	<ul style="list-style-type: none"> - Understand the meaning/definition of the concept of force - Know and be able to analyze the causes and magnitude of the forces generated. - Analyzing the influence of force on movement - Applying the concept of force in various sports - Analyzing cases in various sports using the principle of Newton's law 1 (law of inertia) - Analyzing cases in various sports using the principle of Newton's law 2 (acceleration) - Analyzing cases in various sports sport with the principles of Newton's 3rd law (law of action) 		Lectures, discussions and questions and answers 3 X 50			0%

6	Analyze various sports based on the concepts of momentum impulse, lever/lever, and moment of force/torque	- understand and master the principles of impulse and momentum and their application in sports. - Understand the various types of levers and their different characteristics. - Identify the application of levers in various sports - Classify the type of lever intended. understand and master the principles of force moments and their application in sports.		Lectures, discussions, questions and answers, and 3 X 50 assignments			0%
7	Analyze various sports based on the concepts of centripetal force, centrifugal force, friction force, air and water resistance. Analyze various sports based on energy, effort and power.	- understand and master the principles of centripetal, centrifugal, frictional force, air and water resistance and their application in sports understand and master the principles of energy, work and power and their applications in sports		Lectures, discussions and questions and answers 3 X 50			0%
8	Analyzing movements in various sports based on the concepts of straight motion, circular motion and parabolic motion. Using software to analyze movements in certain sports.	- Differentiate between position, speed and acceleration - Understand GLB (Uniform Straight Motion) and GLBB (Regular Varying Straight Motion) and apply them in sports. - Apply circular motion and the various forces that influence it in various sports - Understand parabolic motion and aspects that can be maximized to produce effective movements in sports that apply parabolic motion. Using several video analysis software for movement analysis in various sports		Lectures, discussions and questions and answers 3 X 50			0%
9							0%
10	Make a comprehensive and group analysis of selected sports movements	Make a comprehensive and comprehensive movement analysis	Criteria: 1.1. group performance 2.2. ppt and papers 3.3 performance during question and answer discussions	discussion, presentation and question and answer 3 X 50			0%
11	Make a comprehensive and group analysis of selected sports movements	Make a comprehensive and comprehensive movement analysis	Criteria: 1.1. group performance 2.2. ppt and papers 3.3 performance during question and answer discussions	discussion, presentation and question and answer 3 X 50			0%

12	Make a comprehensive and group analysis of selected sports movements	Make a comprehensive and comprehensive movement analysis	Criteria: 1.1. group performance 2.2. ppt and papers 3.3 performance during question and answer discussions	discussion, presentation and question and answer 3 X 50			0%
13	Make a comprehensive and group analysis of selected sports movements	Make a comprehensive and comprehensive movement analysis	Criteria: 1.1. group performance 2.2. ppt and papers 3.3 performance during question and answer discussions	discussion, presentation and question and answer 3 X 50			0%
14	Make a comprehensive and group analysis of selected sports movements	Make a comprehensive and comprehensive movement analysis	Criteria: 1.1. group performance 2.2. ppt and papers 3.3 performance during question and answer discussions	discussion, presentation and question and answer 3 X 50			0%
15	Make a comprehensive and group analysis of selected sports movements	Make a comprehensive and comprehensive movement analysis	Criteria: 1.1. group performance 2.2. ppt and papers 3.3 performance during question and answer discussions	discussion, presentation and question and answer 3 X 50			0%
16	Make a comprehensive and group analysis of selected sports movements	Make a comprehensive and comprehensive movement analysis	Criteria: 1.1. group performance 2.2. ppt and papers 3.3 performance during question and answer discussions	discussion, presentation and question and answer 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.