



**Universitas Negeri Surabaya  
Faculty of Sports and Health Sciences  
S1 Sports Coaching Education Study Program**

Document Code

**SEMESTER LEARNING PLAN**

<b>Courses</b>	<b>CODE</b>	<b>Course Family</b>	<b>Credit Weight</b>	<b>SEMESTER</b>	<b>Compilation Date</b>																																	
Exercise Physiology II	8520202067		T=2 P=0 ECTS=3.18	2	July 18, 2024																																	
<b>AUTHORIZATION</b>	<b>SP Developer</b>		<b>Course Cluster Coordinator</b>		<b>Study Program Coordinator</b>																																	
	.....		.....		Dr. Or. Muhammad, S.Pd., M.Pd.																																	
<b>Learning model</b>	Case Studies																																					
<b>Program Learning Outcomes (PLO)</b>	PLO study program which is charged to the course																																					
	Program Objectives (PO)																																					
	PLO-PO Matrix																																					
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 50px; height: 20px;">P.O</td> <td colspan="16"></td> </tr> </table>					P.O																															
P.O																																						
	PO Matrix at the end of each learning stage (Sub-PO)																																					
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2" style="width: 30px; height: 20px;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td style="width: 20px; height: 20px;">1</td> <td style="width: 20px; height: 20px;">2</td> <td style="width: 20px; height: 20px;">3</td> <td style="width: 20px; height: 20px;">4</td> <td style="width: 20px; height: 20px;">5</td> <td style="width: 20px; height: 20px;">6</td> <td style="width: 20px; height: 20px;">7</td> <td style="width: 20px; height: 20px;">8</td> <td style="width: 20px; height: 20px;">9</td> <td style="width: 20px; height: 20px;">10</td> <td style="width: 20px; height: 20px;">11</td> <td style="width: 20px; height: 20px;">12</td> <td style="width: 20px; height: 20px;">13</td> <td style="width: 20px; height: 20px;">14</td> <td style="width: 20px; height: 20px;">15</td> <td style="width: 20px; height: 20px;">16</td> </tr> </table>					P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P.O	Week																																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																						
<b>Short Course Description</b>	This course examines the physiology of sport and exercise, including immediate cardiovascular responses to exercise such as pulse rate, stroke volume, blood distribution during exercise, cardiovascular drift, as well as respiratory responses to exercise, ventilation and energy metabolism, understanding the principles of exercise, understanding how the body adapts to aerobic and anaerobic exercise, as well as understanding exercise in hot and cold environments, exercise at high altitudes, sports training, realizing the importance of body composition and nutrition for sports, ergogenics and sports, understanding how the physiological response of children and adolescents to exercise including the aging process and exercise. This lecture is carried out with presentations, discussions, project assignments, and reflection.																																					
<b>References</b>	<b>Main :</b>																																					
	<ol style="list-style-type: none"> <li>1. Katch VL, McArdle WD, Katch FI. 2011. Essentials of Exercise Physiology 4th Edition. USA: Lippincott Williams &amp; Wilkins</li> <li>2. Powers SK, Howley ET. 2009. Exercise Physiology. McGraw Hill.</li> <li>3. Nining WK, Hartono S, Nasution J. 2011. Dasar-Dasar Fisiologi Olahraga. Unesa Unipress.</li> <li>4. Nining WK, dkk. 2015. Fisiologi olahraga. Unesa Unipress.</li> </ol>																																					
	<b>Supporters:</b>																																					
<b>Supporting lecturer</b>	Prof. Dr. Nining Widyah Kusnanik, S.Pd., M.Appl.Sc. Dr. Kunjung Ashadi, S.Pd., M.Fis., AIFO. Bayu Agung Pramono, S.Pd., M.Kes. Dr. Donny Ardy Kusuma, S.Pd., M.Kes.																																					
<b>Week-</b>	<b>Final abilities of each learning stage (Sub-PO)</b>	<b>Evaluation</b>		<b>Help Learning, Learning methods, Student Assignments, [ Estimated time]</b>		<b>Learning materials [ References ]</b>	<b>Assessment Weight (%)</b>																															
		<b>Indicator</b>	<b>Criteria &amp; Form</b>	<b>Offline ( offline )</b>	<b>Online ( online )</b>																																	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)																															

1	Able to master the concept of Cardio respiratory vascular response to exercise	<ol style="list-style-type: none"> <li>1.Explain the meaning of cardio respiratory vascular</li> <li>2.Identify the characteristics of the cardio respiratory vascular response to exercise and exercise</li> <li>3.Evaluate the characteristics of cardio respiratory vascular response and integration into sports training</li> </ol>	<b>Criteria:</b> Full marks will be given if explained correctly	Comprehensive scientific scientific recollectionrememorizationhumanistic performance 3 X 50			0%
2	Able to master the concept of Cardio respiratory vascular response to exercise	<ol style="list-style-type: none"> <li>1.Explain the meaning of cardio respiratory vascular</li> <li>2.Identify the characteristics of the cardio respiratory vascular response to exercise and exercise</li> <li>3.Evaluate the characteristics of cardio respiratory vascular response and integration into sports training</li> </ol>	<b>Criteria:</b> Full marks will be given if explained correctly	Comprehensive scientific scientific recollectionrememorizationhumanistic performance 3 X 50			0%
3	Able to master the principles of exercise	<ol style="list-style-type: none"> <li>1.Explain the meaning of training principles</li> <li>2.Give examples of training principles</li> <li>3.Identify characteristics of exercise principles</li> <li>4.Evaluate the form of an exercise program based on exercise principles</li> </ol>	<b>Criteria:</b> Full marks will be given if explained correctly	Scientific Comprehension Humanistic Generalization Humanistic Performance 3 X 50			0%
4	Able to master the concept of muscle strength training, muscle power and muscle endurance	<ol style="list-style-type: none"> <li>1.Explain the meaning of strength, power and endurance training</li> <li>2.Explain the role of strength, power and endurance training on muscles</li> <li>3.Mention examples of muscle strength, muscle power and muscle endurance training</li> </ol>	<b>Criteria:</b> Full marks will be given if explained correctly	Scientific Comprehensive Humanistic Generalization 3 X 50			0%

5	Able to master the concept of muscle strength training, muscle power and muscle endurance	<ol style="list-style-type: none"> <li>1.Explain the meaning of strength, power and endurance training</li> <li>2.Explain the role of strength, power and endurance training on muscles</li> <li>3.Mention examples of muscle strength, muscle power and muscle endurance training</li> </ol>	<b>Criteria:</b> Full marks will be given if explained correctly	Scientific Comprehensive Humanistic Generalization 3 X 50			0%
6	Able to master the analysis of aerobic and anaerobic exercise	<ol style="list-style-type: none"> <li>1.Explain the meaning of aerobic and anaerobic</li> <li>2.Explain the role of aerobic and anaerobic exercise</li> <li>3.Explains aerobic and anaerobic measurements in exercise</li> <li>4.Evaluate the aerobic and anaerobic aspects of training</li> </ol>	<b>Criteria:</b> Give full marks if you explain correctly Give full marks if you can practice correctly according to aerobic and anaerobic measurement techniques	Collaborative cognitiveScientific associative Humanistic automatic 3 X 50			0%
7	Able to master the analysis of aerobic and anaerobic exercise	<ol style="list-style-type: none"> <li>1.Explain the meaning of aerobic and anaerobic</li> <li>2.Explain the role of aerobic and anaerobic exercise</li> <li>3.Explains aerobic and anaerobic measurements in exercise</li> <li>4.Evaluate the aerobic and anaerobic aspects of training</li> </ol>	<b>Criteria:</b> Give full marks if you explain correctly Give full marks if you can practice correctly according to aerobic and anaerobic measurement techniques	Collaborative cognitiveScientific associative Humanistic automatic 3 X 50			0%
8	UTS			3 X 50			0%
9	Able to master the concept of training in hot and cold environments	<ol style="list-style-type: none"> <li>1.Explain the meaning of exercise in hot and cold environments</li> <li>2.Understand the concept of body adaptation when exercising in hot and cold environments</li> <li>3.Understand the health risks of exercising in hot and cold environments</li> </ol>	<b>Criteria:</b> Full marks will be given if explained correctly	Scientific Comprehension Humanistic Generalization 3 X 50			0%

10	Able to master the concept of training at high altitudes (training altitude)	<ol style="list-style-type: none"> <li>1.Explains the concept of training at high altitudes</li> <li>2.Understanding the physiological processes of high altitude exercise</li> <li>3.Understand the health risks of exercising at high altitudes</li> </ol>	<b>Criteria:</b> Full marks will be given if explained correctly	Scientific Comprehensive Humanistic Generalization 3 X 50			0%
11	Able to master sports training model optimization	<ol style="list-style-type: none"> <li>1.Explains the concept of sports training including various forms and models.</li> <li>2.Analyzing the hormonal response to overtraining</li> <li>3.Understanding tapering with peak performance</li> </ol>	<b>Criteria:</b> Explain the concept of sports training	Scientific Comprehension Humanistic Generalization 3 X 50			0%
12	Able to master sports training model optimization	<ol style="list-style-type: none"> <li>1.Explains the concept of sports training including various forms and models.</li> <li>2.Analyzing the hormonal response to overtraining</li> <li>3.Understanding tapering with peak performance</li> </ol>	<b>Criteria:</b> Explain the concept of sports training	Scientific Comprehension Humanistic Generalization 3 X 50			0%
13	Able to master the concepts of body composition and nutrition for sports	<ol style="list-style-type: none"> <li>1.Explain the concept of body composition</li> <li>2.Take body composition measurements including skin fat thickness</li> <li>3.Understanding nutrition in sports</li> </ol>	<b>Criteria:</b> Give full marks if you explain correctly. Give full marks if you can practice correctly according to the body composition measurement technique	Collaborative cognitive Scientific associative Humanistic automatic 3 X 50			0%
14	Understand the concept of ergogenic substances and exercise	<ol style="list-style-type: none"> <li>1.Explain the concept of ergogenic substances</li> <li>2.Understand the concept of doping and sport</li> <li>3.Analyze the use of ergogenics and exercise</li> </ol>	<b>Criteria:</b> Full marks will be given if explained correctly	Collaborative Motivation Scientific Comprehension 3 X 50			0%
15	Understand the concept of the influence of sport on children's growth and development and aging due to sport	<ol style="list-style-type: none"> <li>1.Explain the concept of growth and development</li> <li>2.Explains the concept of the effects of exercise on acute physiological aspects after exercise</li> <li>3.Explains the concept of sports performance to parents</li> </ol>	<b>Criteria:</b> Full marks will be given if explained correctly	Collaborative Motivation Scientific Comprehension 3 X 50			0%
16	UAS			3 X 50			0%

**Evaluation Percentage Recap: Case Study**

No	Evaluation	Percentage
----	------------	------------

#### 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.