								Document Code

Universitas Negeri Surabaya
Faculty of Sports and Health Sciences
Bachelor of Sports Science Study Program

SEMESTER LEARNING PLAN

Courses		CODE	Course Family		Credit Weight			SEMESTER	Compilation Date
NUTRITION AND IMMUNITY		8920102227			T=2	P=0	ECTS=3.18	1	July 17, 2024
AUTHORIZATION		**SP Developer**		**Course Cluster Coordinator**			**Study Program Coordinator**		
		....		....			Dr. Heri Wahyudi, S.Or., M.Pd.		

Learning model	**Project Based Learning**

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	This course discusses the understanding of the body's protection and defense system against disease (infection), foreign substances in certain circumstances caused by interactions with the environment (microbia, plant products, food products, animal products), especially the function of food on the immune system. Lectures are conducted to measure the achievement of learning competencies using a problem based learning approach, discussions, questions and answers, assignments. Assessment is carried out by performance, written tests and portfolios.

References	**Main :**	
	1.	1. Abbas, A.K. and Lichtman, A.H. 2007. Cellular and Molecular Immunology. 6th ed. WB Saunders Company Saunders, Philadelphia. 2. Baratawidjaja, K.G., Rengganis I. 2010. Imunologi Dasar ed. 9. Jakarta. BP.FKUI 3. Muhammad, H. 2021. Immunologi Gizi. Gadjah Mada University Press. ISBN: 978-602-386-162-0 4. Nurrahmani, U dan Kurniadi ,H. 2014. STOP! Gejala Penyakit Jantung Koroner, Kolesterol Tinggi, Diabetes Melitus, Hipertensi. Yogyakarta : Istana Media. 5. Sherwood L. 2011. Human Physiology From Cells to System. 6nd ed. USA : Thomson Learning Inc. 6. Sloane E. 1995. Anatomi dan Fisiologi Untuk Pemula. Jakarta : EGC.
	Supporters:	

Supporting lecturer	Dr. Dita Yuliastrid, S.Si., M.Kes. Anna Noordia, S.TP., M.Kes. Ratna Candra Dewi, S.KM., 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	Sub-CPMK-1 Able to analyze the basic concepts of Nutrition and Immunity	1.1 Explain the basic concepts of nutrition 1.2 Explain the concept of immunity 1.3. Explain the relationship between nutrition and immunity	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5.The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and question and answer 2 X 50			0%
2	Able to analyze the concept of anatomy and function of the immune system	1. Explain the concept of the immune system 2. Explain the organs and cells involved in the immune system 3. Explain the function of the immune system	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5.The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and question and answer 2 X 50			0%
1	Sub-CPMK-1 Able to analyze the basic concepts of Nutrition and Immunity	1.1 Explain the basic concepts of nutrition 1.2 Explain the concept of immunity 1.3. Explain the relationship between nutrition and immunity	**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 1-6 via a written exam and is given a weight (2)	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and question and answer 2 X 50			0%

3	Able to analyze non-specific and specific immune defenses	1. Explain the meaning of nonspecific and specific immune systems 2. Explain the properties of the nonspecific and specific immune system 3. Explain the types and functions of the nonspecific and specific immune systems	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and question and answer [TM : 1 (2x50')] Student assignment Independent task to search for literature related to non-specific and specific immune defense 2 X 50				0%
4	Able to analyze the Antigen-Antibody concept	1. Explain the meaning of antigen - antibody 2. Explain the types and characteristics of antigens 3. Explain the types and characteristics of antibodies 4. Explain the interaction between antigen-antibody	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and question and answer [TM : 1 (2x50')] Student assignment Independent assignment to search for literature related to the concept of Antigen-Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: Lecture, discussion and questions and answers [TM : 1 (2x50')] Student assignments Independent assignments through assignments in vilearning related to the concept of Antigen-Antibody 2 X 50				0%

5	Able to understand hypersensitivity and autoimmune reactions	1.Explain the meaning of hypersensitivity 2.Explain the types of hypersensitivity reactions (I-IV) 3.Explain the various diseases included in hypersensitivity 4.Explain the various types of autoimmune diseases	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5.The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and question and answer [TM : 1 (2x50')] Student assignment Independent assignment to search for literature related to hypersensitivity reactions and Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: Lecture, discussion and questions and answers [TM : 1 (2x50')] Student assignments Independent assignments through assignments in vilearning related to hypersensitivity and autoimmune reactions 2 X 50			0%
6	Able to analyze and apply the role of macronutrients in the immune system	1.Explain the role of macronutrients in the immune system 2.Explain the interaction of macronutrients in the immune system 3.Explain the consequences/effects of macronutrients in the immune system. Explain the role of macronutrients in the immune system	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5.The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: PBL, with the following stages: 1. Problem orientation for students regarding the consequences/effects of macro nutrition in the immune system 2. Organizing students. Helping understand the problem of the effects of macronutrients on the immune system 3. Guiding group investigations, gathering information and discussing 4. Developing and presenting work, compiling group reports and preparing presentations of results 5. Analyzing and evaluating the problem solving process, monitoring and providing input during presentations [TM : 1 (2x50')] 2 X 50			0%

7	Able to analyze and apply the role of macronutrients in the immune system	1. Explain the role of macronutrients in the immune system 2. Explain the interaction of macronutrients in the immune system 3. Explain the consequences/effects of macronutrients in the immune system. Explain the role of macronutrients in the immune system	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: PBL, with the following stages: 1. Problem orientation for students regarding the consequences/effects of macro nutrition in the immune system 2. Organizing students. Helps understand the problem of the effects of macro nutrients on the immune system 3. Guiding group investigations, gathering information and discussing 4. Develop and present work, prepare group reports and prepare presentations of results 5. Analyze and evaluate the problem solving process, monitor and provide input during presentations[TM : 1 (2x50')] 2 X 50				0%
8	MIDTERM EXAM		**Criteria:** 1. The subsummative test (UTS) is carried out once with indicators 1-6 via a written exam and given a weighting of (2)	2 X 50				0%
9	Able to analyze and apply the role of micronutrients in the immune system	1. Explain the role of vitamins and minerals in the immune system 2. Explain the interaction of micronutrients in the immune system 3. Explain the consequences/effects of micronutrients on the immune system	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: PBL, with the following stages: 1. Problem orientation for students regarding the consequences/effects of micronutrients in the immune system 2. Organizing students. Helping understand the problem of the effects of micronutrients on the immune system 3. Guiding group investigations, gathering information and discussing 4. Developing and presenting work, compiling group reports and preparing presentations of results 5. Analyzing and evaluating the problem solving process, monitoring and providing input during presentations [TM : 1 (2x50')] 2 X 50				0%

10	Able to analyze and apply the role of micronutrients in the immune system	1. Explain the role of vitamins and minerals in the immune system 2. Explain the interaction of micronutrients in the immune system 3. Explain the consequences/effects of micronutrients on the immune system	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: PBL, with the following stages: 1. Problem orientation for students regarding the consequences/effects of micronutrients in the immune system 2. Organizing students. Helps understand the problem of the effects of micronutrients on the immune system3. Guiding group investigations, gathering information and discussing 4. Develop and present work, prepare group reports and prepare presentations of results 5. Analyze and evaluate the problem solving process, monitor and provide input during presentations[TM : 1 (2x50')] 2 X 50				0%
11	Able to analyze and apply the role of micronutrients in the immune system	1. Explain the role of vitamins and minerals in the immune system 2. Explain the interaction of micronutrients in the immune system 3. Explain the consequences/effects of micronutrients on the immune system	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: PBL, with the following stages: 1. Problem orientation for students regarding the consequences/effects of micronutrients in the immune system 2. Organizing students. Helps understand the problem of the effects of micronutrients on the immune system3. Guiding group investigations, gathering information and discussing 4. Develop and present work, prepare group reports and prepare presentations of results 5. Analyze and evaluate the problem solving process, monitor and provide input during presentations[TM : 1 (2x50')] 2 X 50				0%

No			Criteria	Learning Form			
12	Able to analyze obesity and the immune system	1. Explain obesity and immune system disorders 2. Describe changes in adipose tissue in obese individuals 3. Describe changes in immune cells in obese individuals 4. Explain obesity and infection	**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 1-6 via a written exam and is given a weight (2) 3. 3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4. 4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and question and answer [TM : 1 (2x50')] Student assignment Independent assignment to search for literature related to obesity and the immune system Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: Lecture, discussion and questions and answers [TM : 1 (2x50')] Student assignments Independent assignments through assignments in vilearning related to obesity and the immune system 2 X 50			0%
13	Able to analyze obesity and the immune system	1. Explain obesity and immune system disorders 2. Describe changes in adipose tissue in obese individuals 3. Describe changes in immune cells in obese individuals 4. Explain obesity and infection	**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 1-6 via a written exam and is given a weight (2) 3. 3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4. 4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and question and answer [TM : 1 (2x50')] Student assignment Independent assignment to search for literature related to obesity and the immune system Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: Lecture, discussion and question and answer [TM : 1 (2x50')]Student assignments Independent assignments through assignments in vilearning related to obesity and the immune system 2 X 50			0%

14	Able to analyze the role of nutrition in various diseases	14.1. Explain healthy foods for diabetes 14.2. Explain healthy foods for hypertension	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5.The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and questions and answers [TM : 1 (2x50')] Student assignment Independent assignment to search for literature related to the role of nutrition in various diseases Learning Form: Virtual face-to-face lecture via vilearning and zoom Learning Method: Lecture, discussion and questions answer[TM : 1 (2x50')]Student assignments Independent assignments through assignments in vilearning related to the role of nutrition in various diseases 2 X 50			0%
15	Able to analyze the role of nutrition in various diseases	15.1. Explain healthy foods for heart disease 15.2. Explain healthy foods for high cholesterol	**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 1-6 via a written exam and is given a weight (2) 3.3. Assessment of written tests in peer teaching is considered an assignment, the scores are averaged, then weighted (3) 4.4. UAS scores are carried out in writing with indicators 8-16 given a weight (3) 5.The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10	Learning Form: Face-to-face lecture Learning Method: Lecture, discussion and question and answer [TM : 1 (2x50')] Student assignment Independent assignment to search for literature related to the role of nutrition in various Learning Forms: Virtual face-to-face lecture via vilearning and zoom Learning Method: Lecture, discussion and questions and answers [TM : 1 (2x50')] Student assignments Independent assignments through assignments in vilearning related to the role of nutrition in various diseases 2 X 50			0%
16							0%

Evaluation Percentage Recap: Project Based Learning

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** 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.