



**Universitas Negeri Surabaya
Faculty of Sports and Health Sciences,
Undergraduate Nutrition Study Program**

**Document
Code**

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date																																																																																																					
Product Development	1321103093		T=0 P=3 ECTS=4.77	5	December 1, 2022																																																																																																					
AUTHORIZATION	SP Developer		Course Cluster Coordinator	Study Program Coordinator																																																																																																						
	1. Prof. Rita Ismawati ; 2. Noor Rohmah Mayasari, Ph.D		Prof. Rita Ismawati	Amalia Ruhana, S.P., M.P.H.																																																																																																						
Learning model	Project Based Learning																																																																																																									
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																																																																																									
	PLO-9	Able to have an attitude of belief in the Almighty God, be ethical, disciplined, aware of the law, have a social and cultural insight, and behave professionally.																																																																																																								
	PLO-11	Able to solve problems in the field of nutrition by applying scientific thinking concepts and cutting-edge approaches through research, scientific literacy and publications.																																																																																																								
	Program Objectives (PO)																																																																																																									
	PO - 1	Students have knowledge about the characteristics and quality of good food products																																																																																																								
	PO - 2	Students have the ability to make and present processed food products by utilizing learning resources.																																																																																																								
	PO - 3	Students have the ability to compose scientific work in the form of articles																																																																																																								
	PO - 4	Students have a responsible attitude in developing products for therapy and prevention of nutritional problems																																																																																																								
	PLO-PO Matrix																																																																																																									
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PO Matrix at the end of each learning stage (Sub-PO)																																																																																																										
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Short Course Description	This course discusses the series of various activities in the process of developing food so that it can produce food products with higher nutritional value using existing technology. This course discusses a series of various activities in the process of developing food and nutritional products, which aim to produce quality food and improve its nutritional quality. The topic in this lecture is, understanding the Food and Nutrition Product Development process, with approaches and methods that are in accordance with the processes and procedures in developing a product to be developed. Learning activities are carried out through lecture, discussion and practical learning experiences.																																																																																																									
References	Main :																																																																																																									

- Ulrich Karl. T. and Eppinger Steven D. 2011 Product Desingn and Development. 5th edition. . Mc. Graw Hill.
- Ariadne. C. Teknik Mengelola Produk dan Merek. 2017. Gramedia Pustaka Utama.Jakarta :
- Purnomo, D dan Sukarti, T.2010.Teknik Pengembangan Produk Pangan Baru. Bandung : Widya Padjajaran
- Hari Eko Irianto dan Giatmi. 2021. Pengembangan Produk Pangan: Teori dan Implementasi. Rajawali Pers. Depok
- Graf Ernst and Sam Saguy Israel, 1991. Food Product Development, New York : van Nostrand Reinhold.
- Hyatt internasional M.dkk, 1994, Great Cuisine Of The Word, Jakarta

Supporters:

- Dewi, Rahayu dkk. Pendidikan pengolahan kudapan bergizi di PKBM Lentera Fajar Indonesia. Laporan akhir PKM. 2021
- Ismawati, Rita dkk. PKM Crackers Daun Kelor (Moringa Crackers) untuk meningkatkan imun dalam mencegah Covid-19. Laporan Akhir PKM.2020
- Ismawati, Rita dkk. PKM teh Celup Morsel (Daun Kelor dan Bunga Rosella) untuk meningkatkan imunitas tubuh dalam mencegah covid-19. Laporan Akhir PKM.2020
- Miranti, MG. Diversifikasi Minuman Herbal berbasis serbuk instan untuk meningkatkan kekebalan tubuh menangkan covid-19. Laporan Akhir PKM.2020
- Ismawati, Rita dkk. Pangembangan produk Prototipe Industri Biskuit Daun Kelor (Moringa Crackers) Kaya nutrisi untuk meningkatkan Imunitas Tubuh dalam Mencegah Covid-19. Laporan Akhir Penelitian Pengembangan prototipe industri. 2020.
- Ismawati, Rita dkk. Pengembangan produk inovasi cookies tepung formula tempe gluten free tinggi makro dan mikronutrien. Laporan Akhir Penelitian Pengembangan Produk Inovasi. 2022
- Ismawati, Rita dkk. Pengembangan produk inovasi minuman probiotik daun kelor (Moringa Yogurt) tinggi mikronutrient dan antioksidan. Laporan akhir penelitian pengembangan produk inovasi. 2021
- Ismawati, Rita dkk. Pengembangan produk inovasi cookies tepung formula tempe (probiotic cookies) gluten free tinggi makro dan mikronutrient. Laporan akhir penelitian pengembangan produk inovasi. 2023

Supporting lecturer Dra. Rahayu Dewi Soeyono, M.Si.
Prof. Dr. Rita Ismawati, S.Pd., M.Kes.
Noor Rohmah Mayasari, Ph.D.

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	Have ideas, ideas and concepts in creating a work based on nutritional problems in Indonesia	1. Explain ideas, ideas and concepts. 2. Explain how to express ideas in a work 3. Explaining nutritional problems in Indonesia	Criteria: Students get maximum marks if they answer correctly Form of Assessment : Project Results Assessment / Product Assessment	Lectures, discussions, questions and answers, reflections and exploration 4 X 50			5%
2	Have the ability to plan a product	1. Explain the concept of developing new food products2. Explain the principles of planning the creation of a new product	Criteria: Students get maximum marks if they answer correctly Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, discussions, questions and answers, reflections and exploration 4 X 50			10%
3	Have the ability to develop new products	Explain techniques in developing new products	Criteria: Students get maximum marks if they answer correctly Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, group discussions, questions and answers and reflections 4 X 50			10%

4	Have the ability to develop new products	1. Explain the formulation and technology of new food products. 2. Explain the experimental design in developing new products	<p>Criteria: Students get maximum marks if they answer correctly</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Lectures, group discussions, questions and answers and reflections 4 X 50			5%
5	Have the ability to evaluate sensory evaluation of new products	Explains sensory evaluation for the development of new food products	<p>Criteria: Students get maximum marks if they answer correctly</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Lectures, group discussions, and questions and answers 4 X 50			10%
6	Able to understand the design of new food product trials	Explain the initial design of a new food product trial: 1. Determining goals and objectives 2. Formulating a product concept 3. Developing a product formula	<p>Criteria: Students get maximum marks if they answer correctly</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Lectures, group discussions, and questions and answers 4 X 50		<p>Material: 1. Dewi, Rahayu et al. Education on processing nutritious snacks at PKBM Lentera Fajar Indonesia. 2021; 2. Ismawati, Rita et al. PKM Moringa Leaf Crackers (Moringa Crackers) to increase immunity in preventing Covid-19. 2020; 3. Ismawati, Rita et al. PKM Morsel Tea Bags (Moringa Leaves and Rosella Flowers) to increase the body's immunity to prevent Covid-19. 2020 4. Miranti, MG. Diversification of instant powder-based herbal drinks to increase immunity to beat Covid-19. 2020 Library:</p> <hr/> <p>Material: 5. Ismawati, Rita et al. Development of a prototype product for the Moringa Leaf Biscuit Industry (Moringa Crackers) rich in nutrients to increase body immunity to prevent Covid-19. Final Research Report</p>	5%

						Industrial prototype development. 2020; 6. Ismawati, Rita et al. Developing innovative products for gluten-free tempeh flour formula cookies that are high in macro and micronutrients. Final Report on Innovation Product Development Research. 2022; 3. Ismawati, Rita et al. Development of innovative products for gluten-free tempeh flour formula cookies (probiotic cookies) high in macro and micronutrients. Final report on innovation product development research. 2023 Reader:	
7	Able to create new products	Explaining new food products, various snacks, appetizers, main courses, desserts	Criteria: Students get maximum marks if they answer correctly Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Practice making new food products 4 X 50			10%
8	MIDTERM EXAM			4 X 50			0%
9	Able to create new products	Explaining new food products, various snacks, appetizers, main courses, desserts	Criteria: Students get maximum marks if they answer correctly Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Practice making new food products 4 X 50			10%
10	Able to make product assessments of new products	Explain the sensory assessment of new food products	Criteria: Students get maximum marks if they get full marks Form of Assessment : Participatory Activities	Sensory assessment of new food products 4 X 50			10%

11	Able to make new product drinks	Explain various new food product drinks	Criteria: Students get maximum marks if they answer correctly	Practice various drinks, new food products 4 X 50		Material: Ismawati, Rita et al. Development of innovative products for Moringa leaf probiotic drinks (Moringa Yogurt) high in micronutrients and antioxidants. Final report on innovation product development research. 2021 Reader:	10%
12	Able to assess new food products sensoryly Able to assess new food products sensory-wise	Explaining the sensory assessment of new food products. Explaining the sensory analysis of new food products	Criteria: Students get maximum marks if they answer correctly Form of Assessment : Participatory Activities	Sensory test practice, analysis of new food products 4 X 50			10%
13	Able to apply packaging, labeling, to new products	1. Explain packaging 2. Explain labeling	Criteria: Students get maximum marks if they answer correctly Form of Assessment : Project Results Assessment / Product Assessment	Lectures, group discussions, and questions and answers 4 X 50			5%
14	Able to understand business plans and commercialization strategies	1. Explain the business plan 2. Explain the commercialization strategy	Criteria: Students get maximum marks if they answer correctly Form of Assessment : Project Results Assessment / Product Assessment	Lectures, group discussions, and questions and answers 4 X 50			5%
15	Has the ability to organize new product exhibitions	Explain the things that need to be considered when implementing a new product exhibition	Criteria: Students get maximum marks if they answer correctly Form of Assessment : Project Results Assessment / Product Assessment	Lectures, group discussions, and questions and answers 4 X 50			5%
16							0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	50%
2.	Project Results Assessment / Product Assessment	50%
		100%

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.