



**Universitas Negeri Surabaya
Faculty of Engineering
, Undergraduate Culinary Education Study Program**

**Document
Code**

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
science of nutrition	8321102116		T=2	P=0	ECTS=3.18	2	December 3, 2023
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
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Learning model	Project Based Learning
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Program Learning Outcomes (PLO)	PLO study program which is charged to the course																			
PLO-9	Able to design, carry out, analyze and implement research results in the field of Culinary Education																			
Program Objectives (PO)																				
PO - 1	Understand the basics of nutritional science.																			
PO - 2	Understand the metabolism of carbohydrates, fats, proteins, vitamins and minerals in the body.																			
PO - 3	Understand the nutritional content of food ingredients.																			
PO - 4	Skilled in calculating and planning individual nutritional needs.																			
PO - 5	Skilled in processing and serving food according to calculations and planning of individual nutritional needs.																			
PO - 6	Understand food management for sick people.																			
PO - 7	Skilled in calculating and planning nutritional needs for several types of diseases (obesity, diabetes mellitus, gout, hypertension, etc.).																			
PO - 8	Skilled in processing and serving food according to calculations and planning of nutritional needs based on certain diseases.																			
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 The lecture material consists of basic nutritional concepts with a discussion of the meaning, scope and relationship between nutrition and food; the function and metabolism of carbohydrates, proteins, fats, vitamins and minerals in the body; nutritional needs include how to determine nutritional needs, factors that influence nutritional needs, calculating individual nutritional needs, calculating the nutritional content of food ingredients, planning, processing and serving menus according to nutritional needs for individuals and groups; Food management for several diseases includes understanding diet, diet goals, diet requirements, as well as planning diet menus, processing and serving food for diets for several diseases

References **Main :**

1. Sediaoetama, AD. 2002. Ilmu Gizi. Dian Rakyat, Jakarta.
2. Bahar, A. 2001. Makanan Dan Gizi. UNESA Press, Surabaya.
3. Hartono, A , Kristiani. 2000. Ilmu Gizi dan Diet. Yayasan Essentia Medica, Yogyakarta.
4. Moehyi, S. 1999. Pengaturan Makanan Dan Diet Untuk Penyembuhan Penyakit. Gramedia Pustaka Utama, Jakarta.
5. Linder, MC. 1992. Biokimia Nutrisi Dan Metabolisme. Universitas Indonesia Perss, Jakarta
6. Almatsier, S. 2002. Prinsip Dasar IlmuGizi. Gramedia Pustaka Utama, Jakarta
7. Almatsier, S. 2004. Penuntun Diet. Gramedia Pustaka Utama, Jakarta
8. Peraturan Menteri Kesehatan Republik Indonesia No 75 tahun 2013 tentang Angka Kecukupan Gizi yang Dianjurkan Bagi Bangsa Indonesia

Supporters:

Supporting lecturer Dr. Ir. Asrul Bahar, M.Pd.
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Ratna Palupi Nurfatimah, S.TP., M.T.P.
Rendra Lebdoyono, S.T.P., M.Sc.

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	Basic understanding of nutritional science	1.a. Explain the meaning of nutrition. 2.b. Explain the scope of nutrition 3.c. Explain the relationship between nutrition and food	Criteria: 1.Question 1 : 35 2.Question 2 : 30 3.Question 3 : 35 Form of Assessment : Participatory Activities	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50			4%

2	Have an understanding of the function and metabolism of carbohydrates in the body	<ol style="list-style-type: none"> 1. Understanding the process of carbohydrate metabolism in the human body. 2. Be able to explain the relationship between carbohydrate consumption, blood sugar regulation, and its effect on body metabolism. 3. Able to identify carbohydrate metabolism disorders and their impact on health. 4. Able to provide an example of a food menu with a balanced carbohydrate composition and in accordance with nutritional needs. 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Question 1 : 35 2. Question 2 : 35 3. Question 3 : 30 <p>Form of Assessment : Participatory Activities</p>	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50		4%
3	Have an understanding of the function and metabolism of proteins in the body	<ol style="list-style-type: none"> a. Explain the meaning of protein b. Explain the types of proteins c. Explain the function of proteins d. Explain protein metabolism in the body 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Question 1 : 30 2. Question 2 : 35 3. Question 3 : 35 <p>Form of Assessment : Participatory Activities</p>	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50		4%
4	Have an understanding of the function and metabolism of fat in the body	<ol style="list-style-type: none"> a. Explain the meaning of fat b. Explain the types and properties of fat c. Explain the function of fat d. Explain fat metabolism in the body 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Question 1 : 20 2. Question 2 : 20 3. Question 3 : 30 4. Question 4 : 30 <p>Form of Assessment : Participatory Activities</p>	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50		4%
5	Have an understanding of the function and metabolism of vitamins in the body	<ol style="list-style-type: none"> a. Explain the meaning of vitamin B. Explain the types of vitamin C. Explain the function of vitamin d. Explain the metabolism of vitamins in the body 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Question 1 : 30 2. Question 2 : 30 3. Question 3 : 40 <p>Form of Assessment : Participatory Activities</p>	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50		4%

6	Understand the function and metabolism of macro minerals in the body	1. Explain the meaning of macro minerals 2. Explain the types of macro minerals 3. Explain the function of macro minerals Explain mineral metabolism in the body	Criteria: 1.Question 1 : 10 2.Question 2 : 30 3.Question 3 : 30 4.Question 4 : 30 Form of Assessment : Participatory Activities	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50			0%
7	Understanding the function and metabolism of micro minerals in the UTS body	1. Explain the meaning of micro minerals 2. Explain the types of micro minerals 3. Explain the function of micro minerals 4. Explain the metabolism of micro minerals in the body	Criteria: 1.Question 1 : 10 2.Question 2 : 30 3.Question 3 : 30 4.Question 4 : 30 Form of Assessment : Participatory Activities	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50			0%
8	Understand the nutritional content of food ingredients	1. Explain the nutritional content contained in food ingredients. 2. Explain how to calculate the nutrient content in food ingredients. 3. Explain how to calculate the oil absorption conversion and cooking ingredient conversion.	Criteria: The maximum score is obtained if the student gives the answer correctly Form of Assessment : Participatory Activities	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50			4%
9	Understand the body's need for nutrients	1. Explain how to determine nutritional needs (based on MDR RDA AKG) 2. Explain the factors that influence nutritional needs	Criteria: The maximum mark is given if the student gives the answer correctly	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50			4%
10	Skilled in calculating and planning individual nutritional needs	1. Calculate individual nutritional needs. 2. Prepare a plan for individual nutritional needs	Criteria: The maximum mark is given if the student gives the answer correctly	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Problem Based Learning 3 X 50			0%

11	Skilled in processing and serving food according to calculations and planning of individual nutritional needs	1. Process food according to the calculation and planning of individual nutritional needs 2. Serve food according to the calculation and planning of individual nutritional needs	Criteria: The maximum score is given if students can cook and serve food according to the criteria	Learning Method: Practice Creating Menu Designs, 10 day menu cycle, group discussions, presentations on Google Classroom Learning Model: 3 X 1 Direct Learning			0%
12	Understand food management for sick people	1. Explain the types of food for sick people. 2. Explain the purpose of managing food for sick people. 3. Explain the requirements for managing food for sick people	Criteria: The maximum mark is given if the student can answer the question correctly	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Cooperative 3 X 50			0%
13	Skilled in calculating and planning nutritional needs for several types of diseases (obesity, DM, uric acid, hypertension, etc.)	1. Calculate nutritional needs for several types of diseases (obesity, DM, gout, hypertension, etc.) 2. Plan nutritional needs for several types of diseases (obesity, DM, gout, hypertension, etc.)	Criteria: The maximum mark is given if the student can answer the question correctly	Learning Method: Lectures, group discussions, and questions and answers on Google Classroom Learning Model: Problem based learning 3 X 50			0%
14	Skilled in processing and serving food according to calculations and planning of nutritional needs based on certain diseases	1. Process food according to the calculation and planning of nutritional needs based on certain diseases. 2. Serve food according to the calculation and planning of nutritional needs based on certain diseases	Criteria: The maximum score is given if students can cook and serve food according to the criteria	Learning Method: 1. Practice making food processing plans according to calculating and planning nutritional needs based on certain diseases, group discussions, presentations on Google Classroom2. Practice Making Plans for Serving Food according to calculating and planning nutritional needs based on certain diseases group discussions, presentations on Google Classroom Learning Model: Direct Learning 3 X 50			0%
15	Final exams			2 X 50			0%

16	Final exams		Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment, Practices / Performance	2 X 50			0%
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Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	24%
		24%

Notes

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Forms of assessment:** test and non-test.
- 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.
- 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.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 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%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.