



**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
Basic Nutrition Science	1321103105	Compulsory Study Program Subjects	T=3 P=0 ECTS=4.77	1	August 1, 2023
AUTHORIZATION	SP Developer		Course Cluster Coordinator		Study Program Coordinator
	Satwika Arya Pratama, S.Gz., M.Sc.		Cleonara Yanuar Dini, S.Gz., Dietisien, M.Sc.		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-8 Able to master the scientific basis of nutrition, food, biomedicine, humanities and public health sciences.																																																																																																				
	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 Able to formulate problems in managing nutritious food using concepts, examples and procedures in Basic Nutrition science																																																																																																				
	PO - 2 Able to master knowledge about concepts, examples and procedures of Basic Nutrition science for managing nutritious food																																																																																																				
	PO - 3 Able to design nutritious food management using knowledge of Basic Nutrition science																																																																																																				
	PO - 4 Able to be responsible for designing nutritious food management that utilizes Basic Nutrition knowledge																																																																																																				
	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 introductory concepts of nutrition, energy, carbohydrates, fats, proteins, vitamins, minerals, fluids and electrolytes, digestion, absorption and metabolism of nutrients, exchangeable food ingredients (BMP), list of food ingredients composition (DKBM) and composition tables Indonesian food (TKPI), calculating daily energy needs, calculating daily nutritional needs, and designing menus for daily nutritional needs. Activities in this course are carried out through learning experiences, lectures, discussions and assignments.
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References	<p>Main :</p> <ol style="list-style-type: none"> 1. Almatier S. 2002. Prinsip Dasar Ilmu Gizi. Jakarta: Gramedia 2. Hardinsyah dan Supariasa, IDN. 2016 .Ilmu Gizi Teori dan Aplikasi. Jakarta: EGC 3. Mahan LK & Sylvia ES. 2011. Krause's Food & the Nutrition Care Process 13th Edition. Philadelphia: W.B Saunders Company. 4. Setyawati, VAV, dan Hartini, Eko. 2018. Buku Ajar Dasar Ilmu Gizi Kesehatan Masyarakat. Deepublish 5. Sediaoetama, A.D., 2008. Ilmu gizi untuk mahasiswa dan profesi. Jakarta: Penerbit Dian Rakyat. <p>Supporters:</p>
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	1. Sholihah, Lini Anisfatus, dkk. Soy Milk Induces Higher Postprandial Satiety Than Cow's Milk: A Cross-Over Experiment in Healthy Normal Female Adults. Food and Research. 2024.						
Supporting lecturer	Cleonara Yanuar Dini, S.Gz., Dietisien, M.Sc. Lini Anisfatus Sholihah, S.Gz., M.Sc. Satwika Arya Pratama, S.Gz., M.Sc. Dr. Salma Shafrina Aulia, S.Gz., M.Si.						
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	1. Carry out a lecture contract and understand the RPS 2. Explain the meaning and concept of nutritional science		Form of Assessment : Participatory Activities	Lecture, Questions and Answers, Discussion Explains the implementation of the lecture contract and the concept of nutrition 2x50 minutes		Material: Basic Principles of Nutrition Science Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i> Material: Nutritional Science Theory and Applications Literature: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i>	5%
2	Understand the meaning and concept of energy in nutritional science	1.1. Explain the meaning of energy 2.2. Explain the concept of energy needs 3.3. Explain and calculate daily energy needs 4.4. Explain the impact of excess and lack of energy	Form of Assessment : Participatory Activities, Tests	Lecture, Questions and Answers, Discussion Task-1: Calculate Daily Energy Requirements 2x50 minutes		Material: Basic Principles of Nutrition Science Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i> Material: Energy Metabolism Reader: <i>Mahan LK & Sylvia ES. 2011. Krause's Food & the Nutrition Care Process 13th Edition. Philadelphia: WB Saunders Company.</i>	5%
3	Understand the meaning and concept of carbohydrates in nutritional science	1.1. Explain the meaning of carbohydrates 2.2. Explain the types of carbohydrates 3.3. Explain examples of food sources of carbohydrates 4.4. Explain the impact of excess and lack of carbohydrates	Form of Assessment : Participatory Activities	Lecture, Question and Answer, Discussion Task-2: Identify food sources of carbohydrates 2x50 minutes		Material: Carbohydrates Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i> Material: Carbohydrates Library: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i>	5%

4	Understand the meaning and concept of fat in nutritional science	<p>1.1. Explain the meaning of fat</p> <p>2.2. Explain the types of fat</p> <p>3.3. Explain examples of food sources of fat</p> <p>4.4. Explain the impact of excess and lack of fat</p>	<p>Form of Assessment : Test</p>	<p>Lecture, Question and Answer, Discussion</p> <p>Task-3: Identify food sources of fat 2x50 minutes</p>		<p>Material: Fats Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i></p> <hr/> <p>Material: Fat Library: <i>Hardinsyah and Supriasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i></p>	5%
5	Understand the meaning and concept of protein in nutritional science	<p>1.1. Explain the meaning of protein</p> <p>2.2. Explain the types of protein</p> <p>3.3. Explain examples of food sources of protein</p> <p>4.4. Explain the impact of excess and deficiency of protein</p>	<p>Form of Assessment : Participatory Activities, Tests</p>	<p>Lecture, Question and Answer, Discussion</p> <p>Task-4: Identify food sources of protein 2x50 minutes</p>		<p>Material: Protein Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i></p> <hr/> <p>Material: Protein Library: <i>Hardinsyah and Supriasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i></p> <hr/> <p>Material: Protein Reference: <i>Sediaoetama, AD, 2008. Nutrition science for students and professionals. Jakarta: Dian Rakyat Publishers.</i></p> <hr/> <p>Material: Vegetable protein and animal protein References: <i>Sholihah, Lini Anisfatus. Evaluation of the Potential of Soybeans (Glycine Max) on Satiety Levels in Young Adult Women as an Effort to Prevent Obesity. Food and Research. 2024.</i></p>	5%

6	Understand the meaning and concept of vitamins in nutritional science	<ol style="list-style-type: none"> 1.1. Explain the meaning of vitamins 2.2. Explain the types of vitamins 3.3. Explain examples of food sources of vitamins 4.4. Explain the impact of excess and deficiency of vitamins 	Form of Assessment : Test	Lecture, Question and Answer, Discussion Task-5: Identify food sources of vitamins 2x50 minutes		Material: Vitamins Library: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i> <hr/> Material: Vitamins Library: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i>	4%
7	Understand the meaning and concept of minerals in nutritional science	<ol style="list-style-type: none"> 1.1. Explain the meaning of minerals 2.2. Explain the types of minerals 3.3. Explain examples of food sources of minerals 4.4. Explain the impact of excess and deficiency of minerals 	Form of Assessment : Participatory Activities	Lecture, Question and Answer, Discussion Task-6: Identify food sources of minerals 2x50 minutes		Material: Minerals Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i> <hr/> Material: Mineral Library: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i>	5%
8	MIDTERM EXAM			MIDTERM EXAM			20%
9	Understand the meaning and concept of fluids and electrolytes in nutrition science	<ol style="list-style-type: none"> 1.1. Explain the meaning and concept of fluids and electrolytes 2.2. Explain the sources of fluids and electrolytes 3.3. Calculate daily fluid requirements 4.4. Explain the impact of excess and deficiency of fluids and electrolytes 	Form of Assessment : Participatory Activities	Lecture, Questions and Answers, Discussion Task-7: calculate daily fluid requirements 2x50 minutes		Material: Fluids and Electrolytes References: <i>Almatsier S. 2002. Basic Principles of Nutrition. Jakarta: Gramedia</i> <hr/> Material: Liquid Library: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i> <hr/> Material: Fluid & Electrolyte Library: <i>Mahan LK & Sylvia ES. 2011. Krause's Food & the Nutrition Care Process 13th Edition. Philadelphia: WB Saunders Company.</i>	5%

10	Understand the concept of digestion, absorption and metabolism of nutrients in general	<p>1.1. Explain the concept of digestion of nutrients</p> <p>2.2. Explain the concept of nutrient absorption</p> <p>3.3. Explain the metabolism of nutrients</p>	<p>Form of Assessment : Test</p>	Lecture, Q&A, Discussion 2x50 minutes		<p>Material: digestion, absorption and metabolism of nutrients</p> <p>Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i></p> <hr/> <p>Material: Digestion, Absorption, and Metabolism of Nutrients</p> <p>References: <i>Mahan LK & Sylvia ES. 2011. Krause's Food & the Nutrition Care Process 13th Edition. Philadelphia: WB Saunders Company.</i></p>	5%
11	Understand the concept of interchangeable food ingredients (BMP), food ingredient composition list (DKBM) and Indonesian food composition table (TKPI)	<p>1.1. Explain the concept of interchangeable food ingredients (BMP)</p> <p>2.2. Explain the concept of food ingredient composition list (DKBM)</p> <p>3.3. Explain the concept of the Indonesian food composition table (TKPI)</p>	<p>Form of Assessment : Participatory Activities</p>			<p>Material: BMP, DKBM, and TKPI</p> <p>Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i></p> <hr/> <p>Material: BMP, DKBM, and TKPI</p> <p>Library: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i></p>	5%

12	Understand and calculate daily energy needs	Understand and calculate daily energy needs	Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment, Tests	Group Work, Discussion, Project Based Learning Phase-1 Student orientation in calculating daily energy requirements Lecturer Activities: present the topic of daily energy requirements and ask questions about how to calculate daily energy requirements Student Activities: ask questions about the process of calculating daily energy requirements Phase-2 Planning Daily Menu Lecturer Activities: Lecturer ensures that each student in the group chooses and knows the procedure for making a daily menu Student Activities: Students discuss preparing a plan for making a daily menu by starting to calculate daily energy needs Phase-3 Developing a Daily Menu Making Schedule Lecturer Activities: Agreement on design and making schedule daily menu Student Activities: Students prepare a schedule for completing the daily menu creation project in 2 x 50 minutes		Material: Daily Energy Requirements Reader: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i>	5%
13	Calculate daily nutritional requirements	1.1. Calculate daily carbohydrate needs 2.2. Calculate daily fat requirements 3.3. Calculate daily protein requirements	Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment, Tests	Group Work, Discussion, Project Based Learning Phase-4 Monitoring Activity and Development of the Daily Menu Making Project Lecturer Activities: Lecturer monitors the process of calculating daily macronutrient requirements (carbohydrates, fats and protein) Student Activities: Students calculate daily macronutrient requirements (carbohydrates, fats and proteins) and discuss problems/obstacles with the lecturer 2x50 minutes		Material: Calculating daily nutritional needs Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i> Material: Calculating daily nutritional needs Reference: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i>	5%

14	Design a menu for daily nutritional needs	<p>1.1. Identify food sources of carbohydrates</p> <p>2.2. Identify food sources of protein</p> <p>3.3. Identify food sources of fat</p> <p>4.4. Identify food sources of vitamins and minerals</p>	<p>Form of Assessment : Participatory Activities</p>	<p>Group Work, Discussion, Presentation, Project Phase-4 Monitoring the Activity and Development of the Daily Menu Making Project Lecturer Activities: Lecturer monitors the process of identifying/selecting food sources of carbohydrates, proteins, fats, vitamins and minerals Student Activities: Students identify/select food ingredients sources of carbohydrates, protein, fat, vitamins and minerals and discussing problems/obstacles with the lecturer Phase-5 Testing the Results of Daily Menu Design Lecturer Activities: Lecturer discusses the results of daily menu design, monitors student involvement, measures standard achievement. Student Activities: Students discuss the feasibility of the daily menu design with a 2x50 minute presentation for each group</p>		<p>Material: Identification of Sources of Carbohydrates, Proteins and Fats Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i></p> <hr/> <p>Material: Identification of Sources of Carbohydrates, Proteins and Fats Reference: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i></p>	5%
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15	Design a menu for daily nutritional needs	<p>1.1. Identify food sources of carbohydrates</p> <p>2.2. Identify food sources of protein</p> <p>3.3. Identify food sources of fat</p> <p>4.4. Identify food sources of vitamins and minerals</p>	<p>Form of Assessment : Participatory Activities</p>	<p>Group Work, Discussion, Presentation,</p> <p>Phase-5 Project Testing Results of Daily Menu Design Lecturer Activities: Lecturer discusses the results of each group's daily menu, monitors student involvement, measures achievement of standards. Student Activities: Students discuss the feasibility of the results of the daily menu practicum by presenting and presenting the menu for each group</p> <p>Phase-6 Evaluation of Learning Experience Results of the Daily Menu Practicum Lecturer Activities: The lecturer guides the process of presenting the project results of the daily menu practicum, the lecturer together with the students reflect/conclude Student Activities: Each The group presents a report, the other groups provide responses, and together with the lecturer conclude the results of the daily menu practicum. 2x50 minutes</p>	<p>Material: Identification of Sources of Carbohydrates, Proteins and Fats Reference: <i>Almatsier S. 2002. Basic Principles of Nutrition Science. Jakarta: Gramedia</i></p> <p>Material: Identification of Sources of Carbohydrates, Proteins and Fats Reference: <i>Hardinsyah and Supariasa, IDN. 2016. Nutritional Science Theory and Applications. Jakarta: EGC</i></p>	5%
16	FINAL EXAMS		<p>Form of Assessment : Test</p>			30%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	43.34%
2.	Project Results Assessment / Product Assessment	3.34%
3.	Test	52.34%
		99.02%

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.

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.