

PORTFOLIO

COURSE:
NUTRITIONAL SCIENCE
(PTH 304317)



TEACHING TEAM:

Ir. Nura Malahayati, M.Sc., Ph.D.
Dr. Merynda Indriyani Syafutri, S.TP., M.Si.

AGRICULTURAL PRODUCT TECHNOLOGY
STUDY PROGRAM, FACULTY OF AGRICULTURE
UNIVERSITAS SRIWIJAYA

A. COURSE IDENTITY

Module designation	Nutritional Science	
Semester (s) in which the module is taught	5 th semester/3 th year	
Person responsible for the module	1. Ir. Nura Malahayati, M.Sc., Ph.D. 2. Dr. Merynda Indriyani Syafutri, S.TP., M.Si.	
Language	Indonesian	
Relation to curriculum	Compulsory Course	
Type of teaching, contact hours	<ul style="list-style-type: none"> - Face-to-face lecture (offline) and E-learning (online) - Structured assignment -The class size 20-75 students per class -Contact hours for lecture are 51.33 hours per semester -Total hours practical is 19.83 hours per semester 	
Workload (incl. Contact hours, self-study hours)	<ol style="list-style-type: none"> 1. Lectures (2 x 50 minutes) per week or 51.33 hours per semester 2. Assignment :2 x 60 minutes per week or 24 hours per semester 3. Self-study: 2 x 60 minutes per week or 24 hours per semester 	
Credit points	3 credits (equivalent with 4.91 ECTS)	
Requirements according to the examination regulations	A student must have attended the lecture at least 85% of total lectures and submitted all the assignments prior to join the final exam	
Module objectives/intended learning outcomes	After completing this course, a student is expected to:	
CLO=Course Learning Outcomes	CLO1	understand and be able to explain the source, structure, function, requirement, and role of nutrients in carbohydrates, proteins, fats, vitamins, minerals and water
	CLO2	understand and be able to explain metabolism of water and nutrients, digestion and absorption by body organs and their distribution into cells where further metabolic processes take place
	CLO3	identify problems with deficiency and excess of nutrients and metabolic errors
	CLO4	analyze biochemical processes, basic concepts of nutrition science and the relationship between food consumption and nutritional status, and health

Content	<ol style="list-style-type: none"> 1. Introduction: Historical Aspects (International and National) 2. Water, Electrolyte, Acid and Base, Energy: Energy Terms, Source, Digestibility, Calorimetry, Balance Method 3. Carbohydrates : Source, Structure, Function, Requirement, Digestion, Absorption and Transport, Metabolism, Clinical Importance (Effect of Excess and Deficiency) 4. Lipid : Source, Structure, Function, Requirement, Digestion Absorption and Transport, Metabolism, Clinical Importance (Effect of Excess and Deficiency) 5. Protein : Source, Structure, Function, Requirement, Digestion, Absorption and Transport, Metabolism, Clinical Importance (Effect of Excess and Deficiency) 6. Fat Soluble Vitamin : Source, Structure, Function, Requirement, Digestion, Absorption and Transport, Metabolism, Clinical Importance (Effect of Excess and Deficiency) 7. Water Soluble Vitamin : Source, Structure, Function, Requirement, Digestion, Absorption and Transport, Metabolism, Clinical Importance (Effect of Excess and Deficiency) 8. Macro Mineral : Source, Structure, Function, Requirement, Digestion, Absorption and Transport, Metabolism, Clinical Importance (Effect of Excess and Deficiency) 9. Micro Mineral : Source, Structure, Function, Requirement, Digestion, Absorption and Transport, Metabolism, Clinical Importance (Effect of Excess and Deficiency) 10. Role of Micronutrients (Vitamin and Mineral) in Energy Metabolism
Examination forms	Multiple choice exam and essay writing exam
Media employed	LCD, whiteboard, E-learning Unsri, video
Reading List	<ol style="list-style-type: none"> 1. Anjana, A. and Sobha, A.U. 2014. Textbook of Human Nutrition. Jaypee Brothers Medical Pub; 1st edition (September 12, 2014) 2. Krause, M.V. and Mahan L.K. 1984. Food, Nutrition and Diet Therapy. W.B. Saunders Company, Philadelphia. 3. Global Nutrition Report 2020. 4. Duncan, A.W. 2005. The Chemistry of Food and Nutrition. CRC Press. 1136 pages. 5. Achmad, D.S. 2007. IlmuGizi. Dian Rakyat.

B. STUDY LEARNING PLAN

Course Name : Nutritional Science

Code/Credits : PTH103217

Course Status : Mandatory

Short Description

This course discusses source, function and role of nutrients in carbohydrates, proteins, fats, vitamins, minerals, water and electrolytes. Metabolism of nutrients, digestion and absorption by body organs and their distribution into cells where further metabolic processes take place are also discussed. The enzymes and hormones involved as well as the facilitating and inhibiting factors of metabolism. Problems with deficiency and excess of nutrients and metabolic errors are also included in this course.

Objectives

After the completion of this course, students will be able to understand, identify and analyze the nutritional science regarding source, structure, function, requirement, digestion, absorption and transport, metabolism and clinical importance (effect of excess and deficiency) of nutrients (macro and micro).

Mapping of Course Learning Outcomes (CLO)-Program Learning Outcomes (PLO)

CLO	Description	PLO*			
		AV	KA	SC	GC
CLO1	understand and be able to explain the source, structure, function, requirement, and role of nutrients in carbohydrates, proteins, fats, vitamins, minerals and water	6; 8	3.1	2	1
CLO2	understand and be able to explain metabolism of water and nutrients, digestion and absorption by body organs and their distribution into cells where further metabolic processes take place	6; 8	3.2	2	1
CLO3	identify problems with deficiency and excess of nutrients and metabolic errors	6; 8	3.2	4	5
CLO4	analyze biochemical processes, basic concepts of nutrition science and the relationship between food consumption and nutritional status, and health	6; 8	3.5; 5.9	4	5

AV = Attitude and Value; **KA** = Knowledge Ability; **SC** = Specific Capability; **GC** = General Capability

*Details are in the study program curriculum file

Course Outlines:**Face-to-Face and E-learning:**

No.	Course materials	Duration (face-to-face) (minutes)	CLO			
			1	2	3	4
1	Introduction: Historical Aspects (International and National)	110	v	v	v	v
2	Water, Electrolyte, Acid and Base, Energy: Energy Terms, Source, Digestibility, Calorimetry, Balance Method	110	v			
3	Carbohydrates : Source, Structure, Function, and Requirement	110	v			
4	Lipid : Source, Structure, Function, and Requirement	110	v			
5	Protein : Source, Structure, Function, and Requirement	110	v			
6	Digestion, Absorption and Transport, Metabolism of Carbohydrates, Lipid and Protein	110		v	v	
7	Effect of excess and deficiency of Carbohydrates, Lipid and Protein	110				v
8	MID TERM (lecture 1 – 7)	110	v	v	v	v
9	Fat Soluble Vitamins (A and D): Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Vitamin A and D	110	v	v	v	v
10	Fat Soluble Vitamins (E and K): Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Vitamin E and K	110	v	v	v	v
11	Water Soluble Vitamins (Vitamin C, Thiamine and Riboflavin): Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Vitamin C, Thiamine and Riboflavin	110	v	v	v	v
12	Water Soluble Vitamins (Niacin, Biotin, Pantothenic Acid, Pyridoxine, Folic Acid and Cyanocobalamin): Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Niacin, Biotin, Pantothenic Acid, Pyridoxine, Folic Acid and Cyanocobalamin	110	v	v	v	v
13	Macro Mineral : Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Macro Minerals	110	v	v	v	v
14	Micro Mineral : Source, Structure, Function, Requirement, Digestion, Absorption, Transport,	110	v	v	v	v

	Metabolism, Effect of Excess and Deficiency of Micro Minerals					
15	Role of Micronutrients (Vitamin and Mineral) in Energy Metabolism	110				v
16	FINAL EXAM (lecture 9 – 15)	110	v	v	v	v

Outcomes and Assessment

No.	Week	Sub-CLO	Assessment	Percentage of score weight to final score (%)
1	I	<ol style="list-style-type: none"> 1. Understand and be able to explain definition of nutritional terms. 2. Understand and be able to explain a brief history of the science that offers the hope of improving our health naturally. 	<p>Ask and answer question (face-to-face). At least 5% of students in the class are able to answer the question correctly</p>	
2	II	<ol style="list-style-type: none"> 3. Understand and be able to explain total body water, function of water and water balance. 4. Understand and be able to explain the ionic function of the electrolyte, ionic composition of body fluid and fluid balance disorder. 5. Understand and be able to explain acid base balance, acid-base balance regulatory mechanism. 6. Definition of energy and basal metabolic rate (BMR), factors that affect BMR, energy yielding nutrients, and energy density. 	<p>Ask and answer question (face-to-face). At least 5% of students in the class are able to answer the question correctly</p>	
3	III	<ol style="list-style-type: none"> 7. Understand and be able to explain source, structure, function, and requirement of carbohydrates. 	<p>Ask and answer questions (E-learning). At least 5% of students in the class are able to answer the question correctly Assignment of answering the questions and summarizing information from video.</p>	
4	IV	<ol style="list-style-type: none"> 8. Understand and be able to explain source, structure, function, and requirement of protein. 	<p>Ask and answer questions (E-learning). At least 5% of students in the class are able to answer the question correctly. Assignment of answering the questions based on the information from video.</p>	

5	V	9. Understand and be able to explain source, structure, function, and requirement of lipid.	Ask and answer questions (E-learning). At least 5% of students in the class are able to answer the question correctly. Assignment of giving a feedback on the content of the video.	
6	VI	10. Understand and be able to explain digestion, absorption and transport, of carbohydrates, lipid and protein. 11. Understand and be able to explain metabolism of carbohydrates, lipid and protein	Ask and answer questions (face-to-face). At least 5% of students in the class are able to answer the question correctly. Assignment of answering the questions.	
7	VII	12. Understand and be able to explain benefits and goals of RDA, RDI, 13. Understand and be able to explain Estimated Average Requirements (EAR), Recommended Dietary Allowances (RDA), Adequate Intake (AI), and Tolerable Upper Intake Level (UL).	Ask and answer questions (face-to-face). At least 5% of students in the class are able to answer the question correctly.	
8	VIII	EVALUATION (MID_TERM) (I-VII)		
9	IX	14. Understand and be able to explain source, structure, function, and requirement of vitamin A and D. 15. Understand and be able to explain digestion, absorption and transport, and metabolism of vitamin A and D. 16. Understand and be able to explain clinical importance (effect of excess and deficiency) of vitamin A and D.	Ask and answer questions (face-to-face). At least 5% of students in the class are able to answer the question correctly.	
10	X	17. Understand and be able to explain source, structure, function, and requirement of vitamin E and K. 18. Understand and be able to explain digestion, absorption and transport, and metabolism of vitamin E and K. 19. Understand and be able to explain clinical importance (effect of excess and deficiency) of vitamin E and K.	Ask and answer questions (face-to-face). At least 5% of students in the class are able to answer the question correctly.	25
11	XI	20. Understand and be able to explain source, structure, function, and	Ask and answer questions (face-to-	

		<p>requirement of vitamin C, thiamine and riboflavin.</p> <p>21. Understand and be able to explain digestion, absorption and transport, and metabolism of vitamin C, thiamine and riboflavin.</p> <p>22. Understand and be able to explain clinical importance (effect of excess and deficiency) of vitamin C, thiamine and riboflavin.</p>	<p>face). At least 5% of students in the class are able to answer the question correctly.</p>	
12	XII	<p>23. Understand and be able to explain source, structure, function, and requirement of vitamin niacin, biotin, pantothenic acid, pyridoxine, folic acid and cyanocobalamin.</p> <p>24. Understand and be able to explain digestion, absorption and transport, and metabolism of vitamin niacin, biotin, pantothenic acid, pyridoxine, folic acid and cyanocobalamin.</p> <p>25. Understand and be able to explain clinical importance (effect of excess and deficiency) of vitamin niacin, biotin, pantothenic acid, pyridoxine, folic acid and cyanocobalamin.</p>	<p>Ask and answer questions (E-learning). At least 5% of students in the class are able to answer the question correctly.</p>	
13	XIII	<p>26. Understand and be able to explain source, structure, function, and requirement of Na, Ca, K, Cl, P, S and Mg.</p> <p>27. Understand and be able to explain digestion, absorption and transport, and metabolism of Na, Ca, K, Cl, P, S and Mg.</p> <p>28. Understand and be able to explain clinical importance (effect of excess and deficiency) of Na, Ca, K, Cl, P, S and Mg.</p>	<p>Ask and answer questions (face-to-face). At least 5% of students in the class are able to answer the question correctly.</p>	
14	XIV	<p>29. Understand and be able to explain source, structure, function, and requirement of Fe, Zn, I, Cu, Mn, Se, Cr, Co.</p> <p>30. Understand and be able to explain digestion, absorption and</p>	<p>Ask and answer questions (E-learning). At least 5% of students in the class are able to answer the question correctly.</p>	

		transport, and metabolism of Fe, Zn, I, Cu, Mn, Se, Cr, Co. 31. Understand and be able to explain clinical importance (effect of excess and deficiency) of Fe, Zn, I, Cu, Mn, Se, Cr, Co.		
15	XV	32. Role of Micronutrients (Vitamin and Mineral) in Energy Metabolism	Ask and answer questions (face-to face). At least 5% of students in the class are able to answer the question correctly. Assignment of summarizing the role of micronutrients in energy metabolism.	
16	XVI	EVALUATION (FINAL EXAM) (IX-XV)		25

Assignment

No.	Week	Assignment Instructions	Submission Methods	Weight (%)
1	III	-Answering the questions related to dietary fibres based on lectures. -Reviewing video related to carbohydrates. Students are asked to summarize the information from video (max 100 words in a doc file)	Upload in E-Learning	5
2	IV	Reviewing video related to How much protein we need, Marasmus and Kwashiorkor, and Nitrogen Balance. Students are asked to answer the question related the information from video.	Upload in E-Learning	5
3	V	Make your opinion (agree or disagree) on the content of the video and make a reason. The maximum written opinion is 200 words.	Upload in E-Learning	5
4	VI	Answering the questions related to digestion, absorption and transport of macronutrients.	Upload in E-Learning	5
5	XV	Summarizing the role of micronutrients in energy metabolism.	Upload in E-Learning	5
Weight score of evaluation (%)				25

Laboratory Practicum:

No.	Topics	Duration	CLO				Activities in Laboratory
			1	2	3	4	
1	Calculation of Body Fluids	170	v				

2	Calculation of Water Metabolism	170	v	v			Pre-test, explanation from assistant, practice according to the practical manual, writing the results in worksheet, approval by assistant.
3	Calculating nutritional needs of macro and micro nutrients	170	v	v	v	v	
4	Determination of Nutritional Status by Anthropometric	170	v	v	v	v	
5	Determination of Nutritional Status by Consumption (24-hour Recall)	170	v	v	v	v	
6	Report of Nutritional status assessment	170	v	v	v	v	
7	Protein quality	170	v	v	v	v	
Distribution of weight in the lab practicum score: Pre-Test (20%), practicum report (20%), participation (10%), and final practicum exam (50%). All students should have 100% of presence in the laboratory, and for those who are unable to attend lab practicum, she/he must take a follow-up practicum at another time. Percentage of score weight of laboratory practicum to final score is 25%.							

Contribution of Course Assessment to PLO

Course Assessment	AV	KA	SC	GC	Type
Assignments	5, 6, 8, 9, 10	1.1; 1.2; 1:3	1; 2; 4; 6	1, 2, 3, 5	Formative
Questions in Mid-Term	1, 8, 10	1.1; 1.2; 1:3	1; 2; 4; 6	1, 2, 3, 5	Summative
Questions in Final Exam	1, 8, 10	1.1; 1.2; 1:3	1; 2; 4; 6	1, 2, 3, 5	Summative
Lab Practicum	5, 6, 8, 9, 10	1.1; 1.2; 1:3	1; 2; 4; 6	2, 4, 5, 9	Formative

Assignment Assessment Rubric

No.	Criteria	Weight (%)	Score			
			≥ 86	71-85.99	56-70.99	40-55.99
			Excellent	Good	Enough	Bad
1	Format and presentation of written assignment	15	The assignment is presented in accordance with the instructions	There are parts (10%) of the assignment not in accordance with the instructions	There are parts (25%) of the assignment not in accordance with the instructions	There are half of the assignment not in accordance with the instructions
2	Discussion in the written assignment	70	Information to support the discussion in the assignment is adequate, and the	Information to support the discussion in the assignment is	Information to support the discussion in the assignment is adequate; however the	There is not enough information in the assignment. It is just a compilation of

			discussion is well organized	adequate; however the information is not well written	information is copied and pasted in the assignment without paraphrasing	information derived from internet searching
3	Submission time	15	Assignment is submitted before the deadline	Assignment is submitted one day after the deadline	Assignment is submitted two days after the deadline	Assignment is submitted after two days from deadline

Benchmark for Scoring

No.	Range of Score	Grade	Description
1	86.00 - 100.00	A	Excellent
2	71.00 – 85.99	B	Good
3	56.00 – 70.99	C	Fair
4	40.00 – 55.99	D	Bad
5	<40.00	E	Worst

Benchmark for Evaluation of the achievement of CLO

No.	Performance of Evaluation	Criteria
1	Very satisfactory	If $\geq 80\%$ of students in a class achieve Good and Excellent
2	Satisfactory	If 70-79.9% of students in a class achieve Good and Excellent
3	Fairly satisfactory	If 60-69.9% of students in a class achieve Good and Excellent
4	Unsatisfactory	If $<60\%$ of students in a class achieve Good and Excellent

Remedial Exam:

Students are allowed to join Remedial Exam if the score is under 60 out of 100.

Week 2

ELEKTROLIT, CAIRAN DAN ASAM BASA

By
Nura Malahayati

**THP-FP
UNSRI**

Fungsi Air dalam Fisiologi Manusia

- ❑ Media semua reaksi kimia tubuh
- ❑ Berperan dalam pengaturan distribusi kimia & biolistrik dalam sel
- ❑ Alat transport hormon & nutrien
- ❑ Membawa O₂ dari paru-paru ke sel tubuh
- ❑ Membawa CO₂ dari sel ke paru-paru
- ❑ Mengencerkan zat toksik dan *waste product* serta membawanya ke ginjal dan hati
- ❑ Distribusi panas ke seluruh tubuh

Cairan Tubuh Total

- ❑ Bayi prematur: 80% dari BB (Berat Badan)
- ❑ Bayi normal: 70-75% dari BB
- ❑ Sebelum pubertas: 65-70% dari BB
- ❑ Dewasa: 50-60% dari BB
- ❑ Volume cairan tubuh
 - wanita (17-39 th): 50% BB
 - pria (17-39 th): 60% BB
- ❑ Kandungan air di dalam sel lemak < dibandingkan di dalam sel otot
- ❑ Cairan tubuh total pd orang yang gemuk < dari mereka yang tidak gemuk

Body Composition

© Wadsworth, Thomson Learning

Massa Tubuh Total

45% Solids	40% Solids	ICF = Intra cellular fluid = CIS = cairan intra selular ECF = extra cellular fluid = CES = cairan ekstra selular
55% Fluids	60% Fluids	

2/3 ICF

1/3 ECF

Perempuan Laki-laki

Distribusi Cairan Tubuh

- ❑ Dibagi dalam 2 kompartemen
- ❑ Cairan intrasel (CIS) = 2/3 cairan tubuh total (60%) atau 36% BB pada orang dewasa
- ❑ Cairan ekstrasel (CES) = 1/3 cairan tubuh total (40%) atau 24% BB orang dewasa
 - Intersisium = 30% dari cairan tubuh total atau 18% dari BB orang dewasa
 - intravaskular (plasma) = 10% dari cairan tubuh total atau 6% dari BB orang dewasa

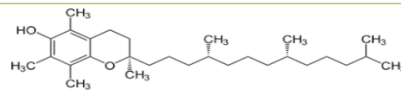
Distribusi Cairan Tubuh

Elektrolit

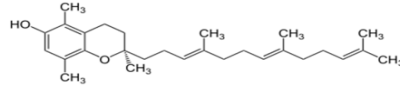
- ❑ Zat-zat atau komponen- komponen yang bila larut dalam air akan berdisosiasi menjadi ion positif (kation) dan ion negatif (anion).
- ❑ Dapat berupa garam inorganik yang sederhana dari natrium, kalium atau magnesium atau molekul organik kompleks.

VITAMIN LARUT LEMAK (VITAMIN E dan K)

Merynda Indriyani Syafutri
PS. THP FP Universitas Sriwijaya



Tokoferol
(www.wikiwand.com)

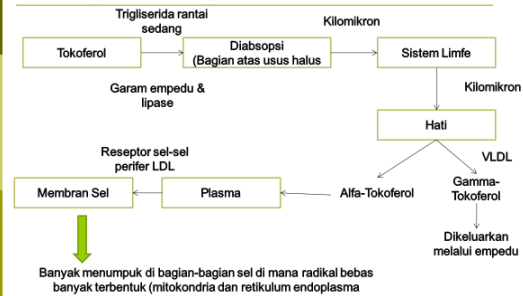


Tokotrienol
(www.wikiwand.com)

Fungsi Vitamin E

- Antioksidan yg larut dalam lemak
- Kekebalan tubuh
- Memelihara integritas membran sel
- Sintesis DNA
- Mencegah keguguran dan sterilisasi
- Mencegah gangguan menstruasi
- Mencegah penyakit jantung koroner

Absorpsi, Transportasi dan Metabolisme



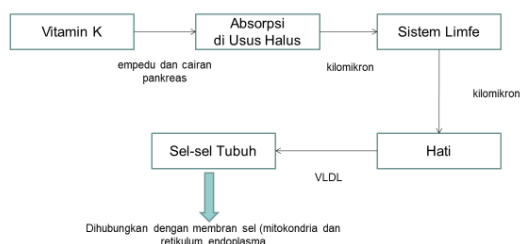
Sifat Kimia Vitamin K

- Dua bentuk : **Vitamin K1** (filokinon) dan **Vitamin K2** (menakinon)
- Filokinon memiliki rantai samping fitil [(CH₂)₂-CH(CH₃)-CH₂]
- Menakinon memiliki rantai samping isoprenil [CH₂-CH=C(CH₃)-CH₂]
- **Vitamin K3** (menadion) : vit K sintetik.
- Manadion : larut air (tidak memiliki rantai samping)
- Cukup tahan panas, tidak tahan alkali dan cahaya.

Fungsi Vitamin K

- **Berperan dalam pembekuan darah**
Kofaktor enzim karboksilase [mengubah asam glutamat (glu) mjd **gama-karboksiglutamat**] → **Gla-protein**.
Gla-protein : mudah mengikat ion Ca, yg merupakan langkah dlm pembekuan darah.

Absorpsi dan Transportasi



Kekurangan dan Kelebihan

- **Kekurangan** : ketika luka atau operasi, darah tidak dpt menggumpal.
- Kekurangan tjd bl ada gangguan penyerapan lemak (produksi empedu berkurang atau diare), kelebihan antibiotika & kons vit K kurang
- **Kelebihan** (vit K sintetik) : hemolisis sel darah merah, sakit kuning, kerusakan otak.



UNIVERSITAS SRIWIJAYA (UNSRI)
FACULTY OF AGRICULTURE DEPARTMENT OF AGRICULTURAL TECHNOLOGY
STUDY PROGRAM OF AGRICULTURAL PRODUCT TECHNOLOGY

SEMESTER LEARNING PLAN

A. COURSE IDENTITY

Subject	Nutritional Science	Code: PTH32408	Semester : 5	Credits : 3(2-1)
Relation to curriculum	Compulsory			
Course description	This course discusses source, function and role of nutrients in carbohydrates, proteins, fats, vitamins, minerals, water and electrolytes. Metabolism of nutrients, digestion and absorption by body organs and their distribution into cells where further metabolic processes take place are also discussed. The enzymes and hormones involved as well as the facilitating and inhibiting factors of metabolism. Problems with deficiency and excess of nutrients and metabolic errors are also included in this course.			
PLO/ILO	<ol style="list-style-type: none"> 1. Able to work together and have social sensitivity and concern for society and the environment (AV-6). 2. Able to internalize academic values, norms, and ethics (AV-8). 3. Able to explain biochemical processes, basic concepts of nutrition science and the relationship between food consumption and nutritional status, and health (KA-3.1). 4. Able to describe the process of digestion and metabolism of nutrients (KA-3.2). 5. Able to describe laboratory techniques commonly applied in biochemistry and evaluation of the biological value of food (KA-3.5). 6. Able to understand the latest issues in the field of agricultural products (KA-5.9). 7. Able to able to analyze problems with agricultural products technology approach in solving production problems and agricultural products so that they are efficient, safe, and with guaranteed quality (SC-4). 8. Able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology that pay attention to and applies humanities values in accordance with their field of expertise (GC-1). 			
Lecturers	: Ir. Nura Malahayati, M.Sc., Ph.D. Dr. Merynda Indriyani Syafutri, S.TP., M.Si.			

B. LEARNING PROGRAM

Week	CLO	SUB-CLO	Subject	Learning method and time	Assignment	Assessment	Weight (%)
1	1, 2, 3 and 4	<ul style="list-style-type: none"> Understand and be able to explain definition of nutritional terms. Understand and be able to explain a brief history of the science that offers the hope of improving our health naturally. 	Introduction: Historical Aspects (International and National)	Lecture, discussion (2 x50minutes) (face to face)		Ask and answer question(face-to-face). At least 5% of students in the class are able to answerthe question correctly.	
2	1	<ul style="list-style-type: none"> Understand and be able to explain total body water, function of water and water balance. Understand and be able to explain the ionic function of the electrolyte, ionic composition of body fluid and fluid balance disorder. Understand and be able to explain acid base balance, acid-base balance regulatory mechanism. Definition of energy and basal metabolic rate (BMR), factors that affect BMR, energy yielding nutrients, and energy density. 	Water, Electrolyte, Acid and Base, Energy: Energy Terms, Source, Digestibility, Calorimetry, Balance Method	Lecture, discussion (2 x50minutes) (face toface)		Ask and answer question(face-to-face). At least 5% of students in the class are able to answer the question correctly. A lab practical regarding calculation of Body Fluids and calculation of Water Metabolism.	

3	1	<ul style="list-style-type: none"> Understand and be able to explain source, structure, function, and requirement of carbohydrates. 	Carbohydrates : Source, Structure, Function, and Requirement	Lecture, discussion (2 x50minutes) (E-learning)	<ul style="list-style-type: none"> Answering the questions related to dietary fibres based on lectures. Reviewing video related to carbohydrates. Students are asked to summarize the information from video (max 100 words in a doc file) 	<p>Ask and answer questions (E-learning).</p> <p>At least 5% of students in the class are able to answer the question correctly.</p>	5 (assignment)
4	1	<ul style="list-style-type: none"> Understand and be able to explain source, structure, function, and requirement of lipid. 	Lipid : Source, Structure, Function, and Requirement	Lecture, discussion (2 x50minutes) (E-learning)	Assignment of answering the questions based on the information from video.	<p>Ask and answer questions (E-learning).</p> <p>At least 5% of students in the class are able to answer the question correctly.</p>	5 (assignment)
5	1	<ul style="list-style-type: none"> Understand and be able to explain source, structure, function, and requirement of lipid. 	Lipid : Source, Structure, Function, and Requirement	Lecture, discussion (2 x50minutes) (E-learning)	Make your opinion (agree or disagree) on the content of the video and make a reason. The maximum written opinion is 200 words.	<p>Ask and answer questions (E-learning).</p> <p>At least 5% of students in the class are able to answer the question correctly.</p>	5 (assignment)

6	2 and 3	<ul style="list-style-type: none"> • Understand and be able to explain digestion, absorption and transport, of carbohydrates, lipid and protein. • Understand and be able to explain metabolism of carbohydrates, lipid and protein. 	Digestion, Absorption and Transport, Metabolism of Carbohydrates, Lipid and Protein	Lecture, discussion (2 x50minutes) (face toface)	Answering the questions related to digestion, absorption and transport of macronutrients.	Ask and answer question(face-to-face). At least 5% of students in the class are able to answer the question correctly.	5 (assignment)
7	4	<ul style="list-style-type: none"> • Understand and be able to explain benefits and goals of RDA, RDI, • Understand and be able to explain Estimated Average Requirements (EAR), Recommended Dietary Allowances (RDA), Adequate Intake (AI), and Tolerable Upper Intake Level (UL). 	Effect of excess and deficiency of Carbohydrates, Lipid and Protein	Lecture, discussion (2 x50minutes) (face toface)		Ask and answer question(face-to-face). At least 5% of students in the class are able to answerthe question correctly. A lab practical regarding: <ul style="list-style-type: none"> • Calculating nutritional needs of macro and micro nutrients. • Determination of Nutritional Status by Anthropometric. • Determination of Nutritional Status by Consumption (24-hour Recall). 	
8	1, 2, 3 and 4	MID TERM (Lecture 1 to 7)					25
9	1, 2, 3 and 4	<ul style="list-style-type: none"> • Understand and be able to explain source, structure, function, and requirement of vitamin A and D. • Understand and be able to explain digestion, absorption 	Fat Soluble Vitamins (A and D): Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of	Lecture, discussion (2 x50minutes) (face toface)		Ask and answer questions(face-to-face). At least 5% of students in the class are able to answerthe question correctly.	

		<p>and transport, and metabolism of vitamin A and D.</p> <ul style="list-style-type: none"> • Understand and be able to explain clinical importance (effect of excess and deficiency) of vitamin A and D. 	Excess and Deficiency of Vitamin A and D.				
10	1, 2, 3 and 4	<ul style="list-style-type: none"> • Understand and be able to explain source, structure, function, and requirement of vitamin E and K. • Understand and be able to explain digestion, absorption and transport, and metabolism of vitamin E and K. • Understand and be able to explain clinical importance (effect of excess and deficiency) of vitamin E and K. 	Fat Soluble Vitamins (E and K): Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Vitamin E and K	Lecture, discussion (2 x50minutes) (face toface)		Ask and answer questions(face-to-face). At least 5% of students in the class are able to answerthe question correctly.	
11	1, 2, 3 and 4	<ul style="list-style-type: none"> • Understand and be able to explain source, structure, function, and requirement of vitamin C, thiamine and riboflavin. • Understand and be able to explain digestion, absorption and transport, and metabolism of vitamin C, thiamine and riboflavin. • Understand and be able to explain clinical importance (effect of excess and 	Water Soluble Vitamins (Vitamin C, Thiamine and Riboflavin): Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Vitamin C, Thiamine and Riboflavin	Lecture, discussion (2 x 50 minutes) (face to face)		Ask and answer questions(face-to-face). At least 5% of students in the class are able to answerthe question correctly.	

		deficiency) of vitamin C, thiamine and riboflavin.					
12	1, 2, 3 and 4		Water Soluble Vitamins (Niacin, Biotin, Pantothenic Acid, Pyridoxine, Folic Acid and Cyanocobalam: Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Niacin, Biotin, Pantothenic Acid, Pyridoxine, Folic Acid and Cyanocobalamn	Lecture, discussion (2 x 50 minutes) (E-learning)		Ask and answer questions(E-learning). At least 5% of students in the class are able to answerthe question correctly.	
13	1, 2, 3 and 4	Understand and be able to explain food additives (colorant, anticaking, max.level)	Macro Mineral : Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Macro Minerals	Lecture, discussion (2 x 50 minutes) (face to face)		Ask and answer questions(face-to-face). At least 5% of students in the class are able to answerthe question correctly.	

14	1, 2, 3 and 4	Understand and be able to explain the types of flavorant and its properties	Micro Mineral : Source, Structure, Function, Requirement, Digestion, Absorption, Transport, Metabolism, Effect of Excess and Deficiency of Micro Minerals	Lecture, discussion (2 x 50 minutes) (face to face)	Students are asked to calculate the max level of food additive allowed in a product. They calculate the amount of the product that can be consumed based on the regulation of food additives allowed and their concentration in the product	Ask and answer questions (face-to-face). At least 5% of students in the class are able to answer the question correctly. A lab practical regarding Report of Nutritional status assessment and Protein quality.	4 (assignment)
15	4		Role of Micronutrients (Vitamin and Mineral) in Energy Metabolism	Lecture, discussion (2 x 50 minutes) (face to face)	Summarizing the role of micronutrients in energy metabolism.	Ask and answer questions (face-to-face). At least 5% of students in the class are able to answer the question correctly.	5 (assignment)
16	1, 2, 3, and 4	FINAL EXAM (Lecture 11 to 15)					25
		Total percentage for the lecture					75
		Percentage for Lab Practical					25
		TOTAL PERCENTAGE OF THE COURSE					100

READING LISTS:

1. Anjana, A. and Sobha, A.U. 2014. Textbook of Human Nutrition. Jaypee Brothers Medical Pub; 1st edition (September 12, 2014)
2. Krause, M.V. and Mahan L.K. 1984. Food, Nutrition and Diet Therapy. W.B. Saunders Company, Philadelphia.
3. Global Nutrition Report 2020.
4. Duncan, A.W. 2005. The Chemistry of Food and Nutrition. CRC Press. 1136 pages.
5. Achmad, D.S. 2007. Ilmu Gizi. Dian Rakyat.

PROGRAM STUDI : TEKNOLOGI HASIL PERTANIAN
TAHUN AKADEMIK : 2021/2022 (SEMESTER GANJIL)
NAMA MATA KULIAH : ILMU GIZI (3 SKS)
RUANG : R.KELAS A
DOSEN : IR. NURA MALAHAYATI, M.SC.PH.D. / DR. MERYNDA INDRIYANI SYAFUTRI, S. TP,
M. SI.
JADWAL : KAMIS (09:20 - 11:00 WIB)

NO.	NIM	NAMA	NURA M					Merynda I.S		PRAK	TUGAS		NTR	NUTS	NUAS	NA
			TUGAS 1	TUGAS 2	TUGAS 3	RERATA	UTS	TUGAS	UAS							
1	05031181924001	YAYU GUSTI NADILA	93	90	65,38	82,79	81	93	90	89,57	87,90		88,73	81	90	87
2	05031181924002	ACHMAD GILANG PRADANA	83	52	42,71	59,24	39	83	52	86,57	71,12		78,84	39	52	62
3	05031181924003	TRISNA WATI DAYA	93	86	66,67	81,89	83	93	86	89,43	87,45		88,44	83	86	86
4	05031181924004	SUGY DWI APRILIANIKA	80	60	68,01	69,34	81	80	60	88,43	74,67		81,55	81	60	76
5	05031181924005	RINDY VIOLITA SARI	90	92	69,37	83,79	75	90	92	89,86	86,90		88,38	75	92	86
6	05031181924007	INDAH LEWISTA	84	70	50,69	68,23	71	84	70	86,29	76,12		81,20	71	70	76
7	05031181924008	WANDA DWI ZURAILDA	92	86	66,68	81,56	74	92	86	88,57	86,78		87,68	74	86	84
8	05031181924009	MUSFIROTUN ISNA	93	94	70,7	85,90	85	93	94	90,71	89,45		90,08	85	94	90
9	05031181924010	NUR FADILA	87	82	68,01	79,00	82	87	82	88,86	83,00		85,93	82	82	84
10	05031181924011	ANGGI KRISTINE NATASYA	78	88	66,68	77,56	84	78	88	89,57	77,78		83,68	84	88	85
11	05031181924093	SINTIA	92	82	59,98	77,99	79	92	82	90,14	85,00		87,57	79	82	84
12	05031181924094	USWATUN KHASANAH	93	92	70,7	85,23	85	93	92	92,14	89,12		90,63	85	92	90
13	05031181924095	REGINA AYU FRASTICA	90	78	69,35	79,12	84	90	78	90,14	84,56		87,35	84	78	84
14	05031181924098	SUCI RAHAYU	90	66	66,69	74,23	82	90	66	89,57	82,12		85,84	82	66	80
15	05031181924101	DHEA GITA CAHYANI	93	98	68,01	86,34	81	93	98	91,57	89,67		90,62	81	98	90
16	05031281924012	RISKA KURNIAWATI	90	70	66,69	75,56	82	90	70	91,43	82,78		87,11	82	70	82
17	05031281924013	DIEBY RESKI MARISKA	90	94	65,36	83,12	81	90	94	88,86	86,56		87,71	81	94	88
18	05031281924014	HANI TRIANA BERLIAN SITUMEANG	80	88	62,68	76,89	82	80	88	89,57	78,45		84,01	82	88	85
19	05031281924015	AISYAH RAHMAYUNI	90	98	70,71	86,24	83	90	98	92,57	88,12		90,34	83	98	90
20	05031281924016	M.ALIF ROMADHONI	95	98	68	87,00	84	95	98	90,14	91,00		90,57	84	98	91
21	05031281924018	AHMAD DHANI	83	82	56,05	73,68	76	83	82	88,29	78,34		83,31	76	82	81
22	05031281924020	TRI INDAH SULISTYOWATI	90	98	69,37	85,79	84	90	98	88,43	87,90		88,16	84	98	90

23	05031281924024	RUTH ELFERAWI SIPAHUTAR	82	82	53,33	72,44	73	82	82	89,00	77,22		83,11	73	82	80
24	05031281924025	ANNISA NURFITRIANA	95	92	68,02	85,01	83	95	92	91,14	90,00		90,57	83	92	89
25	05031281924026	JANE POPPY ONAKA PATRICIA MARBUN	93	90	69,36	84,12	81	93	90	89,14	88,56		88,85	81	90	87
26	05031281924027	MUHAMMAD ICHSAN RAMADHAN	72	70	50,67	64,22	68	72	70	85,86	68,11		76,98	68	70	73
27	05031281924028	DICKY WIRAYUDHA	82	92	76,03	83,34	87	82	92	90,86	82,67		86,76	87	92	88
28	05031281924029	DEWI SUNIRA	88	88	50,67	75,56	75	88	88	87,29	81,78		84,53	75	88	83
29	05031281924030	REZA PANDEGA	82	70	72,01	74,67	84	82	70	87,00	78,34		82,67	84	70	80
30	05031281924031	RAHMAWATI FADILLA DESTIANI	93	94	49,36	78,79	74	93	94	89,00	85,89		87,45	74	94	86
31	05031281924032	MELLYTA NIKEN PANCARANI	95	94	62,69	83,90	81	95	94	89,43	89,45		89,44	81	94	88
32	05031281924033	ANGELA EVANGELISTA MANURUNG	78	78	66,68	74,23	83	78	78	87,14	76,11		81,63	83	78	81
33	05031281924034	CIK RAHMA ZAHIRA	93	92	70,7	85,23	85	93	92	88,43	89,12		88,77	85	92	89
34	05031281924035	ASIZA MEIDIANA	88	78	68,03	78,01	84	88	78	89,71	83,01		86,36	84	78	84
35	05031281924038	DINA APRIANI	80	80	72,02	77,34	82	80	80	87,86	78,67		83,26	82	80	82
36	05031281924039	MONICA DWI FEBRIZA	90	88	65,37	81,12	81	90	88	90,14	85,56		87,85	81	88	86
37	05031281924040	JIMMY PUTRA ADRIANSYAH	80	74	69,35	74,45	84	80	74	86,57	77,23		81,90	84	74	80
38	05031281924041	FASQHA JIHAD HENDRI	85	70	96,01	83,67	95	85	70	88,43	84,34		86,38	95	70	84
39	05031281924042	FIRDA SALSAPRIANI	85	86	80,03	83,68	89	85	86	89,00	84,34		86,67	89	86	87
40	05031281924043	REGINA VIOLETTA BR TARIGAN	90	84	65,37	79,79	84	90	84	89,43	84,90		87,16	84	84	86
41	05031281924045	AL IHSANUL MUTTAQIN	87	58	50,71	65,24	71	87	58	87,14	76,12		81,63	71	58	73
42	05031281924046	SALSABILA AISYAH PALINJA	90	86	33,39	69,80	66	90	86	86,14	79,90		83,02	66	86	80
43	05031281924091	SALSABILA LUTHFIA AZHARI	80	56	61,35	65,78	77	80	56	89,00	72,89		80,95	77	56	74
44	05031281924092	SITI ILIYO NURROCMAH	93	90	69,34	84,11	84	93	90	88,57	88,56		88,56	84	90	88
45	05031281924096	DWI ELIANA SINAGA	78	86	68,01	77,34	86	78	86	87,57	77,67		82,62	86	86	84
46	05031281924097	HEPTANIA LIRIN RAHASTI	80	56	66,69	67,56	82	80	56	87,00	73,78		80,39	82	56	75
47	05031281924099	RANDY WIJAYA	78	76	52,05	68,68	76	78	76	87,57	73,34		80,46	76	76	78
48	05031281924100	EDIK WISNU GROHO	88	58	68,02	71,34	83	88	58	86,71	79,67		83,19	83	58	77
49	05031281924102	GABRIELLA GEVINA HALOHO	86	88	70,71	81,57	85	86	88	90,00	83,79		86,89	85	88	87
50	05031381924073	RIFALDI FRANS SIGALINGGING	83	34	48,02	55,01	73	83	34	85,00	69,00		77,00	73	34	65
51	05031381924079	FIKRI ARDIAN MAULA	72	70	37,36	59,79	53	72	70	86,14	65,89		76,02	53	70	69

PROGRAM STUDI : TEKNOLOGI HASIL
 PERTANIAN
**2021/2022 (SEMESTER
 GANJIL)**
TAHUN AKADEMIK :
NAMA MATA KULIAH : ILMU GIZI (3 SKS)
RUANG : R.KELAS A
DOSEN : IR. NURA MALAHAYATI, M.SC.PH.D. / DR. MERYNDA
 INDRIYANI SYAFUTRI, S. TP, M. SI.
JADWAL : KAMIS (09:20 - 11:00
 WIB)

NO.	NIM	NAMA	EV-1 (25%)	EV-2 (25%)	25%	25%
			UTS	UAS	PRAK	TUGAS
1	05031181924001	YAYU GUSTI NADILA	81	90	89,57	87,90
2	05031181924002	ACHMAD GILANG PRADANA	39	52	86,57	71,12
3	05031181924003	TRISNA WATI DAYA	83	86	89,43	87,45
4	05031181924004	SUGY DWI APRILIANTIKA	81	60	88,43	74,67
5	05031181924005	RINDY VIOLITA SARI	75	92	89,86	86,90
6	05031181924007	INDAH LEWISTA	71	70	86,29	76,12
7	05031181924008	WANDA DWI ZURAI DA	74	86	88,57	86,78
8	05031181924009	MUSFIROTUN ISNA	85	94	90,71	89,45
9	05031181924010	NUR FADILA	82	82	88,86	83,00
10	05031181924011	ANGGI KRISTINE NATASYA	84	88	89,57	77,78
11	05031181924093	SINTIA	79	82	90,14	85,00
12	05031181924094	USWATUN KHASANAH	85	92	92,14	89,12
13	05031181924095	REGINA AYU FRASTICA	84	78	90,14	84,56

PRAK + TUGAS	EV-1	EV-2	FINAL SCORE	GRADE
NTR	NUTS	NUAS	NA	NM
88,73	81	90	87	A
78,84	39	52	62	C
88,44	83	86	86	A
81,55	81	60	76	B
88,38	75	92	86	A
81,20	71	70	76	B
87,68	74	86	84	B
90,08	85	94	90	A
85,93	82	82	84	B
83,68	84	88	85	B
87,57	79	82	84	B
90,63	85	92	90	A
87,35	84	78	84	B

Overall Achievement of CLO
OK
X
OK
X
OK
X
X
OK
X
X
X
OK
X

Achievement			
PRAK	TUGAS	EV-1	EV-2
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved

14	05031181924098	SUCI RAHAYU	82	66	89,57	82,12
15	05031181924101	DHEA GITA CAHYANI	81	98	91,57	89,67
16	05031281924012	RISKA KURNIAWATI	82	70	91,43	82,78
17	05031281924013	DIEBY RESKI MARISKA	81	94	88,86	86,56
18	05031281924014	HANI TRIANA BERLIAN SITUMEANG	82	88	89,57	78,45
19	05031281924015	AISYAH RAHMAYUNI	83	98	92,57	88,12
20	05031281924016	M.ALIF ROMADHONI	84	98	90,14	91,00
21	05031281924018	AHMAD DHANI	76	82	88,29	78,34
22	05031281924020	TRI INDAH SULISTYOWATI	84	98	88,43	87,90
23	05031281924024	RUTH ELFERAWI SIPAHUTAR	73	82	89,00	77,22
24	05031281924025	ANNISA NURFITRIANA	83	92	91,14	90,00
25	05031281924026	JANE POPPY ONAKA PATRICIA MARBUN	81	90	89,14	88,56
26	05031281924027	MUHAMMAD ICHSAN RAMADHAN	68	70	85,86	68,11
27	05031281924028	DICKY WIRAYUDHA	87	92	90,86	82,67
28	05031281924029	DEWI SUNIRA	75	88	87,29	81,78
29	05031281924030	REZA PANDEGA	84	70	87,00	78,34
30	05031281924031	RAHMAWATI FADILLA DESTIANI	74	94	89,00	85,89
31	05031281924032	MELLYTA NIKEN PANCARANI	81	94	89,43	89,45
32	05031281924033	ANGELA EVANGELISTA MANURUNG	83	78	87,14	76,11
33	05031281924034	CIK RAHMA ZAHIRA	85	92	88,43	89,12
34	05031281924035	ASIZA MEIDIANA	84	78	89,71	83,01

85,84	82	66	80	B
90,62	81	98	90	A
87,11	82	70	82	B
87,71	81	94	88	A
84,01	82	88	85	B
90,34	83	98	90	A
90,57	84	98	91	A
83,31	76	82	81	B
88,16	84	98	90	A
83,11	73	82	80	B
90,57	83	92	89	A
88,85	81	90	87	A
76,98	68	70	73	B
86,76	87	92	88	A
84,53	75	88	83	B
82,67	84	70	80	B
87,45	74	94	86	A
89,44	81	94	88	A
81,63	83	78	81	B
88,77	85	92	89	A
86,36	84	78	84	B

X
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achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved

35	05031281924038	DINA APRIANI	82	80	87,86	78,67
36	05031281924039	MONICA DWI FEBRIZA	81	88	90,14	85,56
37	05031281924040	JIMMY PUTRA ADRIANSYAH	84	74	86,57	77,23
38	05031281924041	FASQHA JIHAD HENDRI	95	70	88,43	84,34
39	05031281924042	FIRDA SALSA APRIANI	89	86	89,00	84,34
40	05031281924043	REGINA VIOLETTA BR TARIGAN	84	84	89,43	84,90
41	05031281924045	AL IHSANUL MUTTAQIN	71	58	87,14	76,12
42	05031281924046	SALSABILA AISYAH PALINJA	66	86	86,14	79,90
43	05031281924091	SALSABILA LUTHFIA AZHARI	77	56	89,00	72,89
44	05031281924092	SITI ILIYO NURROCMAH	84	90	88,57	88,56
45	05031281924096	DWI ELIANA SINAGA	86	86	87,57	77,67
46	05031281924097	HEPTANIA LIRIN RAHASTI	82	56	87,00	73,78
47	05031281924099	RANDY WIJAYA	76	76	87,57	73,34
48	05031281924100	EDIK WISNU GROHO	83	58	86,71	79,67
49	05031281924102	GABRIELLA GEVINA HALOHO	85	88	90,00	83,79
50	05031381924073	RIFALDI FRANS SIGALINGGING	73	34	85,00	69,00
51	05031381924079	FIKRI ARDIAN MAULA	53	70	86,14	65,89

83,26	82	80	82	B
87,85	81	88	86	A
81,90	84	74	80	B
86,38	95	70	84	B
86,67	89	86	87	A
87,16	84	84	86	A
81,63	71	58	73	B
83,02	66	86	80	B
80,95	77	56	74	B
88,56	84	90	88	A
82,62	86	86	84	B
80,39	82	56	75	B
80,46	76	76	78	B
83,19	83	58	77	B
86,89	85	88	87	A
77,00	73	34	65	C
76,02	53	70	69	C

X
OK
X
X
OK
OK
X
X
X
OK
X
X
X
X
OK
X
X

achieved	not achieved	not achieved	not achieved
achieved	achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	not achieved	achieved	not achieved
achieved	not achieved	achieved	not achieved
achieved	not achieved	achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	not achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	not achieved	not achieved	achieved
achieved	not achieved	not achieved	not achieved
achieved	not achieved	not achieved	not achieved
achieved	not achieved	not achieved	not achieved
achieved	not achieved	not achieved	not achieved
achieved	not achieved	not achieved	not achieved
not achieved	not achieved	not achieved	not achieved
achieved	not achieved	not achieved	not achieved

**CLO achievement is at
least>85.55**

Overall in class=41,17%

PROGRAM STUDI : TEKNOLOGI HASIL PERTANIAN
TAHUN AKADEMIK : 2021/2022 (SEMESTER GANJIL)
NAMA MATA KULIAH : ILMU GIZI (3 SKS)
RUANG : R.KELAS A
DOSEN : IR. NURA MALAHAYATI, M.SC.PH.D. / DR. MERYNDA INDRIYANI SYAFUTRI, S. TP, M. SI.
JADWAL : KAMIS (09:20 - 11:00 WIB)

No.	NIM	Nama	P1	P2	P3	P4	P5	P6	P7	Final Score
1	05031181924001	YAYU GUSTI NADILA	93	86	88	89	85	92	94	89,57
2	05031181924002	ACHMAD GILANG PRADANA	91	89	89	92	85	77	83	86,57
3	05031181924003	TRISNA WATI DAYA	91	89	90	86	85	89	96	89,43
4	05031181924004	SUGY DWI APRILIANTIKA	93	87	89	86	85	89	90	88,43
5	05031181924005	RINDY VIOLITA SARI	91	91	93	87	85	90	92	89,86
6	05031181924007	INDAH LEWISTA	93	90	88	86	85	82	80	86,29
7	05031181924008	WANDA DWI ZURaida	91	87	88	88	85	89	92	88,57
8	05031181924009	MUSFIROTUN ISNA	93	91	90	90	85	93	93	90,71
9	05031181924010	NUR FADILA	93	87	88	88	85	89	92	88,86
10	05031181924011	ANGGI KRISTINE NATASYA	92	90	88	87	85	92	93	89,57
11	05031181924093	SINTIA	91	91	94	88	80	96	91	90,14
12	05031181924094	USWATUN KHASANAH	93	88	93	91	85	98	97	92,14
13	05031181924095	REGINA AYU FRASTICA	93	93	89	90	85	91	90	90,14
14	05031181924098	SUCI RAHAYU	93	94	88	88	80	95	89	89,57
15	05031181924101	DHEA GITA CAHYANI	93	92	96	90	85	95	90	91,57
16	05031281924012	RISKA KURNIAWATI	90	90	93	87	100	88	92	91,43
17	05031281924013	DIEBY RESKI MARISKA	92	87	88	87	85	93	90	88,86
18	05031281924014	HANI TRIANA BERLIAN SITUMEANG	92	86	88	88	100	81	92	89,57
19	05031281924015	AISYAH RAHMAYUNI	92	90	96	94	85	98	93	92,57
20	05031281924016	M.ALIF ROMADHONI	93	90	90	90	85	92	91	90,14
21	05031281924018	AHMAD DHANI	91	89	89	89	85	90	85	88,29
22	05031281924020	TRI INDAH SULISTYOWATI	93	88	90	88	85	83	92	88,43
23	05031281924024	RUTH ELFERAWI SIPAHUTAR	93	87	89	87	85	91	91	89,00
24	05031281924025	ANNISA NURFITRIANA	92	90	96	91	85	92	92	91,14

25	05031281924026	JANE POPPY ONAKA PATRICIA MARBUN	93	88	88	89	85	88	93	89,14
26	05031281924027	MUHAMMAD ICHSAN RAMADHAN	94	89	87	87	85	82	77	85,86
27	05031281924028	DICKY WIRAYUDHA	92	88	92	88	100	87	89	90,86
28	05031281924029	DEWI SUNIRA	86	86	89	88	85	86	91	87,29
29	05031281924030	REZA PANDEGA	90	89	87	86	85	85	87	87,00
30	05031281924031	RAHMAWATI FADILLA DESTIANI	92	90	89	90	85	89	88	89,00
31	05031281924032	MELLYTA NIKEN PANCARANI	93	90	89	89	85	90	90	89,43
32	05031281924033	ANGELA EVANGELISTA MANURUNG	91	87	89	91	85	84	83	87,14
33	05031281924034	CIK RAHMA ZAHIRA	93	91	88	90	85	84	88	88,43
34	05031281924035	ASIZA MEIDIANA	91	91	91	90	85	93	87	89,71
35	05031281924038	DINA APRIANI	92	90	88	91	85	81	88	87,86
36	05031281924039	MONICA DWI FEBRIZA	93	91	96	89	85	83	94	90,14
37	05031281924040	JIMMY PUTRA ADRIANSYAH	92	86	87	86	85	80	90	86,57
38	05031281924041	FASQHA JIHAD HENDRI	93	89	87	87	85	89	89	88,43
39	05031281924042	FIRDA SALSA APRIANI	93	88	94	90	85	84	89	89,00
40	05031281924043	REGINA VIOLETTA BR TARIGAN	90	90	89	89	85	93	90	89,43
41	05031281924045	AL IHSANUL MUTTAQIN	92	90	88	90	85	83	82	87,14
42	05031281924046	SALSABILA AISYAH PALINJA	90	86	89	86	90	79	83	86,14
43	05031281924091	SALSABILA LUTHFIA AZHARI	91	90	89	87	85	94	87	89,00
44	05031281924092	SITI ILIYO NURROCMAH	91	94	96	87	75	87	90	88,57
45	05031281924096	DWI ELIANA SINAGA	92	91	88	86	85	85	86	87,57
46	05031281924097	HEPTANIA LIRIN RAHASTI	91	87	89	88	85	84	85	87,00
47	05031281924099	RANDY WIJAYA	91	90	87	86	100	78	81	87,57
48	05031281924100	EDIK WISNU GROHO	91	87	88	89	85	84	83	86,71
49	05031281924102	GABRIELLA GEVINA HALOHO	93	89	88	90	85	95	90	90,00
50	05031381924073	RIFALDI FRANS SIGALINGGING	88	88	88	86	80	82	83	85,00
51	05031381924079	FIKRI ARDIAN MAULA	91	87	88	87	85	83	82	86,14

No	NIM	Nama	P1	P2		P3				P4				P5				P6				P7			
			CLO-1	CLO-1	CLO-2	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4
1	05031181924001	YAYU GUSTI NADILA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
2	05031181924002	ACHMAD GILANG PRADANA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x	
3	05031181924003	TRISNA WATI DAYA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
4	05031181924004	SUGY DWI APRILIANTIKA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
5	05031181924005	RINDY VIOLITA SARI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
6	05031181924007	INDAH LEWISTA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x	
7	05031181924008	WANDA DWI ZURAIDA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
8	05031181924009	MUSFIROTUN ISNA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
9	05031181924010	NUR FADILA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
10	05031181924011	ANGGI KRISTINE NATASYA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
11	05031181924093	SINTIA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
12	05031181924094	USWATUN KHASANAH	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
13	05031181924095	REGINA AYU FRASTICA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
14	05031181924098	SUCI RAHAYU	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
15	05031181924101	DHEA GITA CAHYANI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
16	05031281924012	RISKA KURNIAWATI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	
17	05031281924013	DIEBY RESKI MARISKA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
18	05031281924014	HANI TRIANA BERLIAN SITUMEANG	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	
19	05031281924015	AISYAH RAHMAYUNI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
20	05031281924016	M.ALIF ROMADHONI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
21	05031281924018	AHMAD DHANI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x	
22	05031281924020	TRI INDAH SULISTYOWATI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
23	05031281924024	RUTH ELFERAWI SIPAHUTAR	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	
23	05031281924025	ANNISA NURFITRIANA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v	

No	NIM	Nama	P1	P2		P3				P4				P5				P6				P7			
			CLO-1	CLO-1	CLO-2	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4
25	05031281924026	JANE POPPY ONAKA PATRICIA MARBUN	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
26	05031281924027	MUHAMMAD ICHSAN RAMADHAN	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x
27	05031281924028	DICKY WIRAYUDHA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
28	05031281924029	DEWI SUNIRA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
29	05031281924030	REZA PANDEGA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
30	05031281924031	RAHMAWATI FADILLA DESTIANI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
31	05031281924032	MELLYTA NIKEN PANCARANI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
32	05031281924033	ANGELA EVANGELISTA MANURUNG	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x
33	05031281924034	CIK RAHMA ZAHIRA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
34	05031281924035	ASIZA MEIDIANA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
35	05031281924038	DINA APRIANI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
36	05031281924039	MONICA DWI FEBRIZA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
37	05031281924040	JIMMY PUTRA ADRIANSYAH	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
38	05031281924041		v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
39	05031281924042	FIRDA SALSA APRIANI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
40	05031281924043	REGINA VIOLETTA BR TARIGAN	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
41	05031281924045	AL IHSANUL MUTTAQIN	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x
42	05031281924046	SALSABILA AISYAH PALINJA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x
43	05031281924091	SALSABILA LUTHFIA AZHARI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
44	05031281924092	SITI ILIYO NURROCMAH	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
45	05031281924096	DWI ELIANA SINAGA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
46	05031281924097	HEPTANIA LIRIN RAHASTI	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x

No	NIM	Nama	P1	P2		P3				P4				P5				P6				P7			
			CLO-1	CLO-1	CLO-2	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4	CLO-1	CLO-2	CLO-3	CLO-4
47	05031281924099	RANDY WIJAYA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x
48	05031281924100	EDIK WISNU GROHO	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x
49	05031281924102	GABRIELLA GEVINA HALOHO	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	v	v	v	v
50	05031381924073	RIFALDI FRANS SIGALINGGING	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x
51	05031381924079	FIKRI ARDIAN MAULA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	x	x	x	x	x	x	x	x