

Module Course

	UNIVERSITAS JEMBER FACULTY OF AGRICULTURAL TECHNOLOGY DEPARTMENT OF AGRICULTURAL PRODUCT TECHNOLOGY		KODE DOKUMEN F1.03.05
Module Course			
COURSE	Name	Fat and Essential Oil Processing Technology	
	Kode	TPU 1002	
	Credit (SKS)	2 SKS Face to Face; 0 SKS Practice	
	Semester	6	
Person(s) Teaching			
- Riska Rian Fauziah, S.Pt., M.P., M.Sc., Ph.D. - Ir. Mukhammad Fauzi, MSi. - Dr. Maria Belgis, S.TP., M.P.			
DESCRIPTION OF COURSE			
This course discusses the definition, physicochemical properties of oils/fats and essential oils; process and method of extraction and purification of oil/fat and essential oil; oil/fat breakdown mechanism during processing; quality standards and fat/oil analysis; discuss potential sources of fats/oils and essential oils that can develop, utilization of fats/oils for food and non-food; and will discuss fat/oil engineering technology			
LO – Programme Learning Outcome			
No LO	Statement of Learning Outcome (LO)		
LO-4	Able to design food products and agricultural products based on local agro-industry commodities		
LO-7	Able to evaluate chemical, enzymatic, microbiological, physical changes, technical functional properties and health functional properties of food and agricultural products		
Course Learning Outcome (CLO)			
No CLO	Statement of CLO		
CLO-1	Explain the characteristics of agricultural food based on fats and essential oils		
CLO-2	Describe changes in the characteristics of foodstuffs and agricultural products based on fats and essential oils during processing and storage		
CLO-3	Explain the principles of testing agricultural products based on fats and essential oils		
CLO-4	Design the processing and engineering of food products based on fats and essential oils		
CLO-5	Designing a model for packaging and storage of food products based on fats and essential oils		
SUB COURSE LEARNING OUTCOME (Sub-CLO)			
No Sub-CLO	Statement of Sub-CLO		

1	Students can explain the characteristics of agricultural food based on fats and essential oils	
2	Students can explain changes in the characteristics of foodstuffs and agricultural products based on fats and essential oils during processing and storage	
3	Students can explain the principles of testing agricultural products based on fats and essential oils	
4	Students can design the processing and engineering of food products based on fats and essential oils	
5	Students can design packaging and storage models for food products based on fats and essential oils	
LEARNING TOPIC		
- Definition and physicochemical properties of oils/fats and essential oils - Oil/fat and essential oil extraction processes and methods - Oil/fat breakdown mechanism during processing - Quality standards and fat/oil analysis - Potential sources of fat/oil and essential oil that can develop - Utilization of fats/oils for food and non-food - Fat/oil engineering technology		
MAIN REFERENCES		
- Ketaren, S. (1986). <i>Minyak dan Lemak Pangan</i>. UI-Press, Jakarta - Akoh, C.C dan D. B. Min. (2002). <i>Food Lipids: Nutrition, Chemistry, and Biotechnology</i>. New York : Marcel Dekker, Inc - Gustone, F. D. (2002). <i>Vegetable Oils in Food Technology : Composition, Properties, and Uses</i>. UK : Blackwell Publishing - Rajah, K.K. (2002). <i>Fats in Food Technology</i>. Sheffield Academic Press Ltd, UK - Fauziah, RR., S. Ogita, T. Yoshino, Y. Yamamoto, 2020. <i>Effect of Molecular Form of Conjugated Linoleic Acid on Oxidative Stability : Comparison of Triacylglycerol and Phosphatidylcholine Form</i>. <i>Journal of Oleo Science</i>. Vol. 69 No. 8		
ADDITIONAL REFERENCES		
-		
PREREQUISITES COURSE (If any)		
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TIMELINE		
WEEK(s)	Components	Person(s)
1	Definition, character and chemistry of essential oils	Dr. Maria Belgis, S.TP., M.P.
2	Uses and biological activity of essential oils	Dr. Maria Belgis, S.TP., M.P.
3	essential oil extraction technology	Dr. Maria Belgis, S.TP., M.P.
4	Indonesian plant essential oil components	Dr. Maria Belgis, S.TP., M.P.

5	development of essential oil research	Dr. Maria Belgis, S.TP., M.P.
6	understanding, classification, and physicochemical properties of oils/fats	Ir. Mukhammad Fauzi, MSi.
7	oil/fat extraction principle	Ir. Mukhammad Fauzi, MSi.
8	oil/fat refining process	Ir. Mukhammad Fauzi, MSi.
9	oil and grease damage	Ir. Mukhammad Fauzi, MSi.
10	quality standards and methods of analysis of fats and oils	Ir. Mukhammad Fauzi, MSi.
11	Industry prospects and potential sources of oil/fat	Riska Rian Fauziah, S.Pt., M.P., M.Sc., Ph.D.
12	potential source of fat/oil	Riska Rian Fauziah, S.Pt., M.P., M.Sc., Ph.D.
13	Oils and Fats for food and non-food	Riska Rian Fauziah, S.Pt., M.P., M.Sc., Ph.D.
14	Oils and Fats for food and non-food	Riska Rian Fauziah, S.Pt., M.P., M.Sc., Ph.D.
15	Oils and Fats for food and non-food	Riska Rian Fauziah, S.Pt., M.P., M.Sc., Ph.D.
16	engineering technology in oil/fat processing	Riska Rian Fauziah, S.Pt., M.P., M.Sc., Ph.D.

Jember, October 2022

Chief of Department

Person(s) coordinator

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