



BACHELOR IN FOOD & AGRICULTURAL PRODUCT TECHNOLOGY

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MODULE HANDBOOK PRODUCT AND PROCESS DEVELOPMENT

Module designation	Product and Process Development
Module code	TPHP213202
Module level	Bachelor
Semester(s) in which the module is taught	Semester 6 / Even Semester
Person responsible for the module	Putrika Citta Pramesi, S.T.P., M.Sc. Dr. Qurrotul A'Yun, S.T.P., M.Sc. Zaki Utama, S.T.P., M.P. Prof. Dr. Ir. Eni Harmayani, M.Sc. Prof. Dr. Ir. Chusnul Hidayat
Language	Indonesian
Relation to curriculum	Compulsory Courses
Teaching methods	Project-based
Workload (incl. contact hours, self-study hours)	1. Lectures 2 credits x 50 minutes x 16 meetings = 1600 minutes = 26.67 hours = 26.67 hours/30 hours = 0.89 ECTS 2. Structured Assignments 2 credits x 60 minutes x 16 meetings = 1920 minutes = 32 hours = 32 hours/30 hours = 1.07 ECTS 3. Self-study 2 credits x 60 minutes x 16 meetings = 1920 minutes = 32 hours = 32 hours/30 hours = 1.07 ECTS



	Total workload = 3.03 ECTS (90.67 hours)	
Credit points	2 credits / 3.03 ECTS	
Required and recommended prerequisites for joining the module	No requirement needed	
Module objectives/intended learning outcomes	Programme Learning Outcome (PLO)	
	PLO KK2	Be able to design sustainable food processing units and agricultural products
	PLO P4	Be able to use the principles of food engineering, food preservation and processing, packaging materials and methods, cleaning and sanitation, and water and waste management
	Module Learning Outcome (MLO)	
	MLO KK2.61	Be able to design and develop new products
	MLO KK2.62	Be able to design and develop food and agricultural product processing processes
	MLO P4.24	Be able to design processing methods to produce safe and high-quality food
Content	1. Inputs for product development: 2. Idea generation a. Trend new product b. Customers and users, c. Marketing research d. Competitors e. Other market f. Company people 3. Screening/idea selection a. Market trends b. SWOT c. Market opportunities (5Ps, market surveys, marketing roles) 4. Development (concept test) a. Technology and raw materials availability b. Packaging c. Process design d. Food additive and food ingredient regulations e. Sensory evaluation f. Market test 5. Commercialization a. Labelling, regulations claims, nutritional value information b. Regulation for new product distribution licenses 6. Process Development Theory	



	a. Process development concept b. Process chain design c. Process control d. Process layout <i>These are compulsory courses with parallel classes (2 classes). Before the mid-term examination, the odd (A) class will have process development theory, and the even (B) class will have product development theory. Each class will exchange these theories after the mid-term examination.</i>			
Examination forms	Evaluation Base	Evaluation Components	MLO	Percentage
	A. Participatory Activities	Discussion		
	B. Case Study Results	Presentation	MLO KK2.61, MLO KK2.62, MLO P4.24	20%
		Report	MLO KK2.61, MLO KK2.62, MLO P4.24	30%
		Midterm Exam	MLO KK2.61, MLO KK2.62, MLO P4.24	5%
		Final Exam	MLO KK2.61, MLO KK2.62, MLO P4.24	5%
	C. Cognitive	Skill-Based Assessment (SBA)	-	-
		Quiz	-	-
		Midterm Exam	MLO KK2.61, MLO KK2.62, MLO P4.24	20%
		Final Exam	MLO KK2.61, MLO KK2.62, MLO P4.24	20%
		Total		100%
Study and examination requirements	The final grade in the module is composed of (60% project results and 40% cognitive). Students must attend 75% of the total meetings to take the exam.			
Reading list	Main: 1. Anonim, 1995. SNI Bahan Tambahan Pangan. Badan Standardisasi Nasional. Jakarta 2. Fuller, G.W. 1994. New Food Product Development from Concept to Marketplace, CRC Press, Boca Raton			



	3. Graft, Ernst and Saguy, Israel Sam. 1991. Food Product Development forms a Concept for the marketplace. Van Nostrand Reinhold, New York. 4. Harjinder Snigh: Future of Nanotechnology in New Product Development 5. M. J. Rudolph. 2000. The Food Product Development Process 6. Urban, G. L. and Hauser, J. R. 1980. Design and Marketing of New Products. Prentice Hall 7. Ray, B. 1996. Fundamental Food Microbiology. CRC Press, Inc.
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