

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES MASTER PROGRAM IN CHEMISTRY	COURSE CODE: 140120- UND202 502034
Module designation	Fermented Food Products	
Semester(s) in which the module is taught	2	
Lecturers	Safri Ishmayana, Ph.D.; Dr. Muhammad Fadhlillah	
Medium of instruction	Bahasa Indonesia	
Relation to curriculum	Elective Course	
Teaching methods	Participatory Learning Method (A learning approach in which students actively participate in the learning process—for example, through presentations and discussions—rather than just passively receiving information.	
Workload	Lecture and Discussion : 24 hours Tutorial : 4 hours Assignment : 5 hours Test and Examination : 4 hours Independent Study : 53 hours Total workload : 90 hours	
Credit points	2 (2-0) 2 credit = 2 × 1.81 ECTS = 3.62 ECTS	
Required and recommended prerequisites for joining the module	-	
Module objectives/intended learning outcomes	LO1: Able to apply chemical principles in the development, analysis, and evaluation of fermented food products. LO2: Able to analyze and communicate food fermentation processes scientifically from the perspectives of chemistry and biotechnology.	
Contents	<ol style="list-style-type: none"> 1. Introduction to Fermented Food Products 2. Microbial Metabolism Chemistry in Fermentation 3. Biochemical Mechanisms in Fermentation 4. Advanced Fermentation Technology 5. Traditional Fermented Foods in Indonesia 6. Analytical Techniques in Fermentation Chemistry 7. Chemistry of Fermented Dairy Products 8. Chemistry of Fermented Beverages 9. Health Chemistry in Fermented Foods 	

	<p>10. Innovation in Fermentation Technology</p> <p>11. Commercialization and Regulation of Fermented Products</p> <p>12. Sustainability in the Fermentation Industry</p>
Examination forms	Written test, assignment, presentation
Study and examination requirements	A minimum of 80% attendance in lectures is required. The final grade will be evaluated based on quizzes (15%), individual assignments (5%), the mid-semester exam (15%), the final exam (15%), class participation (15%), and the project (35%)
Reading lists	<ol style="list-style-type: none"> 1. El-Mansi, E.M.T., Nielsen, J., Mousdale, D. and Carlson, R.P. (2019) <i>Fermentation Microbiology and Biotechnology</i>. 4th ed. Boca Raton, FL: CRC Press. 2. Shetty, K. and Gálvez Ranilla, L. (eds.) (2025) <i>Fermentation Biotechnology for Functional Foods</i>. Abingdon: Routledge.