ME4103 - Boundary Layer Meteorology

COURSE LESSON PLAN **STUDY PROGRAM: METEOROLOGY** **FACULTY/SCHOOL: FACULTY OF EARTH SCIENCES AND TECHNOLOGY** **INSTITUT TEKNOLOGI BANDUNG**				
Course Code: ME4103		**Credits: 3**	**Semester: 7**	**Course Type: Compulsory course**
Course Name		Meteorologi Lapisan Batas		
		Boundary Layer Meteorology		
Related Course		-	-	-
Study Materials		Definition and structure of the atmospheric boundary layer.		Expose
		Boundary layer theory (mechanical).		Expose
		Mathematical methods for deriving flow equations in the boundary layer due to turbulent effects.		Expose
		Turbulent kinetic energy equation and stability.		Expose
		Turbulent closure techniques for solving turbulent equations using various parameterization techniques.		Expose
		Surface layer and introduction to similarity theory (*similarity theory*)		Expose
		Geographical effects on local circulation closely related to the boundary layer, such as sea breeze and katabatic winds.		Expose
		Boundary layer observation methods and analytical approaches.		Explore
Learning Outcomes				
Code		**LO**		
PLO-2.2		Able to demonstrate understanding of basic meteorological knowledge to explain weather or climate phenomena. (C3)		
PLO-3.1		Able to use conventional and non-conventional instruments to obtain data and information on the state of the atmospheric environment. (C3)		
PLO-4.2		Able to interpret and analyze data processing and/or simulation results to obtain new information or knowledge related to meteorology. (C4)		
Code	**CO**	**Elements of Course Learning Outcomes (CO)**		
PLO-2.2	1	Students are able to operate mathematical methods and solve the governing equations of the atmospheric boundary layer. (C3)		
PLO-3.1	2	Students are able to conduct boundary layer observations in a region. (C3)		
PLO-4.2	3	Students are able to analyze boundary layer characteristics from observational data. (C4)		
Learning Methods		Lecture Group Discussion Cooperative Learning Problem-based Learning		
Learning Modalities		Synchronous learning Blended/Online Asynchronous		
Assessment Method		Assessment components: Midterm Examination (30%), Final Examination (30%), Assignments (10%), and Observation Report (30%). Grading Scale: 80–100% A (maximum competency) 75–80% AB (very good competency) 65–75% B (good competency) 60–65% BC (satisfactory competency) 55–60% C (minimum competency) 45–54% D (below minimum competency) <45% E (far below minimum competency)		