Module designation	Advanced hydrology discusses the philosophy of the hydrological cycle; The main processes-roses in hydrology (precipitation, evaporation, evapotranspiration, infiltration, percolation, interception, water storage. Geographic landscape approach (4 zones); World & Indonesia rain distribution. Rain processes (orographic, convective, frontal), rain distribution (spatial and temporal. Rain data measurement and rain data collection; rain extraction (principle of sizing and reporting), extraction of rain from RC data, rain extraction from models (e.g. CHRS); rain from RADAR. Infiltration process, pF curve, soil infiltration rate vs soil texture; Runoff and runoff calculations (CN, rational, SCS, UH, UH intetics). Rainfall-runoff model. Conservation of water resources.								
Semester(s) in which the module is taught	Odd/Even								
Person responsible for the module	Prof. Dr. Sudarmadji, M.Eng.Sc. Dr. Mohammad Pramono Hadi, M.Sc.								
Language	Indonesian								
Relation to curriculum	Elective								
Teaching methods	SCL: Team-based Project/Case-based Learning/PBL								
Workload (incl. contact hours, self-study hours)	CLO1	Interactive le	ectures	ures 3 meetings (6 x 50 minutes)					
	CLO2	Interactive le case discuss	ctures (along with 6 meetings ons) (12 x 50 minutes))				
	CLO3	Interactive le	ectures (along with ions)	5 meetings (10 x 50 minutes)					
Credit points		Percentag		-	CLO				
	Assessment Techniques	e of Assessmen t	Assessmen Criteria/ Indicato		3	4	5		
	Participatory Activities	20%	Presentation contributions Presentation rubric		5%	5%	10%		
	Project Results/ Case Study Results/ PBL Results	30%	Problem analysis PBL assessment rubric		5%	10 %	15%		
	Cognitive								
	Assignment	20%	Heading penilaian		5%	5%	10%		
	Quiz Midterm Exam		Answerkey		-	-			
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develop,	= :	Supporting Competence I (knowledge and <i>understanding</i> of) is being able to understand, synthesis, and or evaluate the development of concepts, theories and applications of geography for the benefit of development.					
·	Supporting Competence III (practical skill-able to) is being able to develop, modify, and synthesis geographic analysis methods to solve problems in the real world, whether spatial, ecological, or regionally complex.						
. Understa	Understand the basic concepts of hydrological science [ELO2]						
	Understand and develop solutions to problems in the scope of hydrology including the availability of water on earth [ELO4]						
! 	Understand and be able to operate modeling applications for the analysis of hydrological phenomena that occur [ELO4]						
	Basic Concepts of Hydrology Hydrological Cycle						
2. Water	 Availability of spatial and temporal water. Water availability compared to water requirements Floods and Droughts 						
2. Rainfa	 Rain analysis (Sukat, RS, and Radar), Rain Spread Interpolation Rainfall-runoff process Hydrology model, HEC-HMS, HEC-RAS 						
Midterm Exam and Final Exam							
3	1. Availa 2. Water 3. Flood 1. Rain a 2. Rainfa 3. Hydro	 Availability of spatial and temporal water. Water availability compared to water require 3. Floods and Droughts Rain analysis (Sukat, RS, and Radar), Rain Spr. Rainfall-runoff process Hydrology model, HEC-HMS, HEC-RAS 	 Availability of spatial and temporal water. Water availability compared to water requirements Floods and Droughts Rain analysis (Sukat, RS, and Radar), Rain Spread Inte Rainfall-runoff process Hydrology model, HEC-HMS, HEC-RAS 	 Availability of spatial and temporal water. Water availability compared to water requirements Floods and Droughts Rain analysis (Sukat, RS, and Radar), Rain Spread Interpolation Rainfall-runoff process Hydrology model, HEC-HMS, HEC-RAS 			