



Bachelor Program in Geophysics

Faculty of Mathematics and Natural Sciences
HASANUDDIN UNIVERSITY

17. Decision Support Systems

Module Name	:	Decision Support Systems
Module Level	:	Bachelor
Code, if applicable	:	23H06130802
Subtitle, if applicable	:	-
Courses, if applicable	:	Geophysics
Semester(s) in which the module is taught	:	V (Fifth Semester)
Module coordinator(s)	:	Dr. Samsu Arif, M.Si.
Lecturer(s)	:	• Dr. Samsu Arif, M.Si. • Drs. Erfan, M.Si.
Language	:	Bahasa (Indonesian language)
Relation to curriculum	:	Elective courses in the third year for Bachelor Degree in Geophysics
Type of teaching, contact hours	:	This course is delivered through Lectures (i.e., Project/Case-based learning), complemented by structured assignments (paper review, project/case evaluation) and independent study. Contact hours consist of 100 minutes lectures per week, plus 120 minutes per week for each of the following: structured assignments and independent study
Workload	:	Total workload is 90 hours per semester, consisting of 28 hours for lectures, and 31 hours each for structured assignments and independent study
Credit points	:	2 SKS (3.2 ECTS)
Requirements according to the examination regulations	:	Students are eligible to attend the examination if their absences are less than 20% of the lectures
Recommended prerequisites	:	-
Module objectives/intended learning outcomes	:	After completion of this module, students will be able to: CLO 1. Students are able to develop systems through planning, analysis, design, implementation, testing, and maintenance to deliver relevant, accurate, and effective solutions; CLO 2. Students are able to master algorithms and complexity by studying key concepts and competencies in designing,



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		implementing, and analyzing algorithms for decision models and computer-based systems; CLO 3.Students are able to utilize knowledge in intelligent systems to learn data patterns, extract information, and apply learning capabilities to create optimal and acceptable solutions; The following is the mapping of the ILO and the CLO of this course: <table><tr><td></td><td>ILO 7</td><td>ILO 10</td><td>ILO 13</td></tr><tr><td>CLO 1</td><td>✓</td><td></td><td></td></tr><tr><td>CLO 2</td><td></td><td>✓</td><td></td></tr><tr><td>CLO 3</td><td></td><td></td><td>✓</td></tr></table>		ILO 7	ILO 10	ILO 13	CLO 1	✓			CLO 2		✓		CLO 3			✓								
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CLO 3			✓																							
Content	:	1. Analytical Hierarchy Process (AHP) 2. Multiple Criteria Decision Making (MCDM) 3. ELECTRE (Elimination Et Choix Traduisant la Realité) 4. Weighted Product (WP) 5. TOPSIS (Technique for Order Preference by Similarity to Ideal Solution)																								
Study and examination requirements		Participants are marked based on their performance in theory: Project / Case Study (80%), Written Examination (20%). Students are marked based on their percentage of points obtained and based on the following grade scale: <table><tr><th>Percentage of Achievement</th><th>Grade</th><th>Conversion Value</th></tr><tr><td>85 – 100</td><td>A</td><td>4.00</td></tr><tr><td>80 - <85</td><td>A-</td><td>3.75</td></tr><tr><td>75 - < 80</td><td>B+</td><td>3.5</td></tr><tr><td>70 - < 75</td><td>B</td><td>3.0</td></tr><tr><td>65 - < 70</td><td>B-</td><td>2.75</td></tr><tr><td>60 - < 65</td><td>C+</td><td>2.5</td></tr><tr><td>50 - < 60</td><td>C</td><td>2.00</td></tr></table>	Percentage of Achievement	Grade	Conversion Value	85 – 100	A	4.00	80 - <85	A-	3.75	75 - < 80	B+	3.5	70 - < 75	B	3.0	65 - < 70	B-	2.75	60 - < 65	C+	2.5	50 - < 60	C	2.00
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Exams and assessment formats		Assessment in this course consists of a project or case study, and written examination. The project or case study is conducted in a group or individually and requires students to apply theoretical concepts to analyze and solve a problem, presented in the form of a written report. The written examination (<i>closed-book</i> , written) evaluates students' understanding of fundamental concepts covered by CLO 1 and CLO 2, and CLO 3.						
Reading list	1.	Main References: 1. Efraim Turban, Jay E. Aronson, Ting Peng Liang (2010). Decision Support Systems and Intelligent Systems. Additional References: 1. Turban, Efraim & Aronson, Jay E. (2005). Decision Support Systems and Intelligent Systems, 5th Ed., Prentice-Hall International.						
Last revision date		July 1 st , 2025						