

Course Code	TKIT162206											
Course Name	Artificial Intelligence											
Course Instructors	Teguh Bharata Aji											
Course Type	Required											
Course Classification	Engineering Topics											
Credit / Contact Hour per Week	2 /100 minutes per Week											
Course Description	<p>Understanding the definition, history, taxonomy, and examples of its application.</p> <p>Student expected to understand representation of knowledge, expert systems and machine learning.</p> <p>Ability to implement search techniques.</p> <p>Ability to implement Prologue programming language.</p>											
Prerequisites Courses												
Covered Student Outcome	Fundamental Engineering Knowledge (a) Development of Engineering Solution (b) Modern Tools Utilization (e) Engineering Design (c)											
Learning Outcome												
		Study Program Student Outcome										
No	Learning Outcome	SO (a) – SO (k)										
1.	Student able to explain the definition, history, taxonomy, and examples of applications of Artificial Intelligence.	Fundamental Engineering Knowledge										
2.	Student able to implement search techniques.	Fundamental Engineering Knowledge										
3.	Student understand and able to explain expert system.	Development of Engineering Solution										
4.	Able to represent production rules, propositional logic and first order logic.	Development of Engineering Solution										
5.	Student able to design and implement using Prologue	Modern Tools Utilization										
6.	Student capable of solving problems with data mining techniques, for example using nearest neighbor and decision tree.	Engineering Design										
Topic	a. Preliminary b. Searching for exploring alternative solutions c. Expert system d. Representation of knowledge: rules and logic e. Knowledge Representation: semantic network f. Machine learning: nearest neighbor and decision tree g. Data mining techniques h. Prologue i. Arithmetic, List, & Predicate Calculus j. Tree structure and graph k. NLP and Machine translation											
Direct Assessment	<table border="1"> <thead> <tr> <th>Direct Assessment Plan</th> <th>Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Mid Exam</td> <td>LO1, LO2</td> </tr> <tr> <td>Final Exam</td> <td>LO3, LO4</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	Mid Exam	LO1, LO2	Final Exam	LO3, LO4				
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	Mid Exam	LO1, LO2										
	Final Exam	LO3, LO4										
Indirect Assesment	Questionnaire and direct communication											
References	Russell & Norvig, Artificial Intelligence: A Modern Approach 2nd Ed. Negnevitsky, Artificial Intelligence: A Guide to Intelligent Systems 2nd Ed.											