



## Module Description

<b>Module name</b>	Artificial Intelligence
<b>Module level, if applicable</b>	Bachelor of Informatics
<b>Code, if applicable</b>	21D12120803
<b>Subtitle, if applicable</b>	-
<b>Course, if applicable</b>	-
<b>Semester(s) in which the module is taught</b>	3 <sup>rd</sup>
<b>Person responsible for the module</b>	Dr. Indrabayu., ST., MT., M.Bus.Sys
<b>Lecturer</b>	<ol style="list-style-type: none"> <li>1. Dr. Indrabayu., ST., MT., M.Bus.Sys</li> <li>2. Anugrayani Bustamin., ST., MT</li> </ol>
<b>Language</b>	Indonesian Language [Bahasa Indonesia]
<b>Relation to Curriculum</b>	This course is a compulsory course and offered in the 3 <sup>rd</sup> semester.
<b>Type of teaching, contact hours</b>	Teaching methods: [group discussion], [simulation], [collaborative learning].  Teaching forms: [lecture], [tutorial], [practicum].  CH : 08.00 - 16.00
<b>Workload</b>	For this course, students are required to meet a minimum of 136.00 hours in one semester, which consist of: - 40.00 hours for lecture, - 48.00 hours for structured assignments, - 48.00 hours for private study
<b>Credit points</b>	3 credit points (equivalent with 5.1 ECTS)



<p><b>Requirements according to the examination regulations</b></p>	<p>Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)</p>
<p><b>Recommended prerequisites</b></p>	<p>Basic of Multimedia</p>
<p><b>Module objectives/intended learning outcomes</b></p>	<p>After completing the course, Students are able:</p> <p><b>Intended Learning Outcomes (ILO):</b></p> <p><b>ILO 1 :</b> Have the knowledge of fundamental in Computing Science that includes basic theory and concepts of computer science, Mathematics and Statistics, Programming Algorithm, Software Engineering, Information Management and Digital Resilience, also the advance topics of either Artificial Intelligence, Data Science, Computer Network, Cloud Computing or Internet of Things.</p> <p><b>ILO 6 :</b> Perform effectively in a team, either as a member or leader, in activities related to the program's discipline.</p> <p><b>ILO 7 :</b> Communicate their ideas in a convincing and effective manner, either in written or orally, to propose solutions. [ILO7]-S</p> <p><b>Course Learning Objective (CLO):</b></p> <p>After taking the Artificial Intelligence Course for one semester, students can solve problems and knowledge with artificial intelligence expertise. Have an understanding of basic concepts and theories in informatics, mathematics, the application of algorithms, and programming by demonstrating independent performance in solving problems.</p> <p><b>Sub CLO :</b></p> <p>ILO 1 ⇒ CLO 1 : Students are able to define the scope of Artificial Intelligence, representation of knowledge through artificial intelligence techniques.</p> <p>ILO 7 ⇒ CLO 2 : Students are able to categorize implementing searching, reasoning, planning, and learning algorithms.</p> <p>ILO 6 ⇒ CLO 3 : Students are able to explain the Artificial Neural Network algorithm and its application in artificial intelligence technology.</p>
<p><b>Content</b></p>	<p>Students will learn about :</p> <ol style="list-style-type: none"> <li>1. Artificial and Natural Intelligence Definition</li> </ol>



	<ol style="list-style-type: none"> <li>2. Knowledge Representation</li> <li>3. Programming Logic (Prolog)</li> <li>4. Searching, Planning, reasoning, dan learning</li> <li>5. Supervised learning, dan Unsupervised Learning</li> <li>6. Perceptron Neural Network</li> </ol>
<b>Forms of Assessment</b>	<p>Assessment techniques: [observation], [participation], [performance], [written test].</p> <p>Assessment forms: [quiz], [midterm exam], [assignment], [presentation].</p> <p>Quiz = 10%, Mid term exam = 25%, Assignment = 25%, Presentation = 40%</p> <p>CLO 1 =&gt; ILO 1: 15% (Quiz: written test)</p> <p>CLO 2 =&gt; ILO 7: 65% (Assignment (20%): participation; midterm exam (25%): written test; and Presentation (20%): observation)</p> <p>CLO 3 =&gt; ILO 6: 20% (Presentation: observation)</p>
<b>Study and examination requirements and forms of examination</b>	<p><b>Study and examination requirements:</b></p> <ul style="list-style-type: none"> <li>- Students must attend 15 minutes before the class starts.</li> <li>- Students must switch off all electronic devices.</li> <li>- Students must inform the lecturer if they will not attend the class due to sickness, etc.</li> <li>- Students must submit all class assignments before the deadline.</li> <li>- Students must attend the exam to get a final grade.</li> </ul> <p><b>Form of examination:</b> Written test</p>
<b>Media employed</b>	Video conference, Slide Presentation, Learning Management System (LMS).
<b>Reading list</b>	<p><b>Main :</b></p> <ol style="list-style-type: none"> <li>1. Suyanto, 2014, Artificial Intelligence: Searching, Reasoning, Planning, dan Learning, Bandung: Informatika</li> <li>2. Russel. Stuart &amp; Norvig. Peter, 1995, <i>Artificial Intelligence A Modern Approach</i>, New Jersey : Prentice Hall, Englewood</li> <li>3. Luger. F George &amp; StuBBlefield. William A, 1997, Artificial Intelligence : Structures &amp; Strategies for Complex Problem Solving (Third Edition), California: Addison Wesley Longman.Inc</li> </ol>

