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MODULE HANDBOOK

Module name	***Machine Learning***
Module level	*Undergraduate Program*
Code	
Courses Names	*Machine Learning*
Knowledge field	*Intelligent Systems*
Person in Charge	*Sri Hartati*
Lecturer(s)	*Sri Hartati, Ilona Usuman*
Language	*Indonesian*
Relation to curriculum	*Elective courses*
Type of teaching	*Lectures, > 25 students,*
Workload	1. *Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) per week.* 2. *Exercises and Assignments: 150 minutes (2 hours 30 minutes) per week.* 3. *Private study: 150 minutes (2 hours 30 minutes) per week.*
Credit points	*3 credit points*
Requirements according to the Examination regulations	*Individual exams, Open Course Notes*
Recommended prerequisites	
Learning outcomes (course outcomes)	CO-1: Students are able to distinguish between Machine Learning and other computer systems understand the concept of learning.

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<td>and their corresponding PLOs</td>
<td>
CO-2: Students are able to understand the notion of regression, and several types of regression methods, and their application in solving real problems.

CO-3: Students are able to understand the meaning of classification, multi-class classification, and several types of classification methods, and their application in solving real problems..

CO-4: Students are able to understand non-parametric statistics, and their application in solving real problems..

CO-5: Students are able to understand the meaning of dimension reduction, its methods and applications in solving real problems.

CO-6: Students are able to understand the meaning of artificial neural networks, and several types of artificial neural network architectures and their application in solving real problems.

<table>
<tr><th colspan="2">PLO</th><th>CO1</th><th>CO2</th><th>CO3</th><th>CO4</th><th>CO5</th><th>CO6</th></tr>
<tr><td rowspan="5">Program Learning Outcome (PLO)</td><td>PLO1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PLO2</td><td>√</td><td>√</td><td></td><td></td><td></td><td></td></tr>
<tr><td>PLO3</td><td></td><td></td><td>√</td><td>√</td><td></td><td></td></tr>
<tr><td>PLO4</td><td></td><td></td><td></td><td></td><td>√</td><td>√</td></tr>
<tr><td>PLO5</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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<tr>
<td>Contents</td>
<td>This course introduces some basic concepts and methods for machine learning. The aim is to teach students about some of the basic learning algorithms and techniques and their applications, as well as common questions related to analyzing and working with large data sets. Several publicly available libraries, software and datasets will be used to illustrate the implementation of this algorithm. Classes will briefly cover topics in regression, classification, clustering, neural networks, dimension reduction</td>
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<td>Study and examination

requirements and forms of examination</td>
<td>Assignment, Mid exam, Final Exam, Project</td>
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<tr><td>Media employed</td><td>Online, White board, camera</td></tr>
<tr><td>Assessments and Evaluation</td><td>Diisikan distribusi penilaian contohnya sebagai berikut
<table>
<tr><th>Type</th><th>Percentage</th><th>CO1</th><th>CO2</th><th>CO3</th><th>CO4</th><th>CO5</th><th>CO6</th></tr>
<tr><td>Case based task</td><td>10</td><td>0</td><td>5</td><td>5</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Knowledge Check/Quiz</td><td>15</td><td>5</td><td></td><td></td><td>5</td><td>5</td><td>-</td></tr>
<tr><td>Final Project</td><td>20</td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>10</td></tr>
<tr><td>Mid Term Exam</td><td>35</td><td>10</td><td>10</td><td>15</td><td></td><td></td><td>-</td></tr>
<tr><td>Final Term Exam</td><td>30</td><td></td><td></td><td></td><td>10</td><td>10</td><td>10</td></tr>
<tr><td>Total</td><td>100%</td><td>15</td><td>15</td><td>20</td><td>15</td><td>15</td><td>20</td></tr>
</table></td></tr>
<tr><td>Reading List</td><td>Pattern Recognition and Machine Learning, Bishop, C.M, Springer, New York,2006
Mitchell Tom. Machine Learning. McGraw Hill, 1997.
Richard O. Duda, Peter E. Hart, David G. Stork. Pattern classification (2ndedition). Wiley, New York, 2001.</td></tr>
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