

## Description of Course Unit

Course unit title	Smart Technology Application
Course unit code	VW191904
Type of course unit (compulsory, optional)	compulsory
Level of course unit (according to EQF: first cycle Bachelor, second cycle Master)	first cycle Bachelor
Year of study when the course unit is delivered (if applicable)	
Semester/trimester when the course unit is delivered	7
Number of ECTS credits allocated	4.8
Name of lecturer(s)	BRODJOL SUTIJO SUPRIH ULAMA
Learning outcomes of the course unit	Able to understand and apply 1. Statistical concepts in the Application of Smart Technology, 2. Building perceptrons, 3. Building the Multilayer Perceptron, 4. Base Radial Function Network, 5. Implementation of Smart Technology for prediction and classification, 6. Fuzzy network to get useful information and be able to overcome problems that arise in the analysis carried out
Mode of delivery (face-to-face, distance learning)	face-to-face
Prerequisites and co-requisites (if applicable)	
Course content	<ol style="list-style-type: none"> <li>1. The concept of Smart Technology / <i>Artificial Intelligence, Big Data and Data Mining.</i></li> <li>2. Fundamentals of Programming (MatLab).</li> <li>3. Build <i>Perceptron Architecture</i>, Activation functions and learning processes .</li> <li>4. Adaptive learning process</li> <li>5. Build a Multilayer Perceptron Architecture and <i>backpropagation learning</i></li> <li>6. Building Base Radial Function Architecture and non-supervising learning,</li> <li>7. Build a multi layer perceptron architecture for mapping and classification</li> <li>8. Build a multi layer perceptron architecture for estimation and prediction</li> <li>9. Build a Statistical modeling architecture with the concept of Fuzzy Network</li> </ol>
Recommended or required reading and other learning resources/tools	<ol style="list-style-type: none"> <li>1. Haykin, S. 1999, Neural Networks, 2<sup>nd</sup> ., ed., Prentice Hall</li> <li>2. Fausett, L., 1994, Fundamental of Neural Networks, Prentice Hall</li> <li>3. Sivanandam, S.N., Sumathi, S., and Deepa, S. N., 2006, Introduction to Neural Networks using MATLAB 6, McGraw-Hill</li> <li>4. Stuart J Russel, Peter Norvig, Ernest Davis, Arificial Intelligence : A Modern Approach, Prentice Hall, 2010</li> </ol>

	5. Manual Paket Program SPSS 6. Manual MatLab
Planned learning activities and teaching methods	Problem Based Learning, Blended Learning
Language of instruction	Indonesian Language
Assessment methods and criteria	Assignment, Quiz, Midterm Exam and Final Exam

