UNIVERSITAS MATARAM
(University of Mataram)
FAKULTAS TEKNIK
(Faculty of Engineering)
PROGRAM STUDI TEKNIK INFORMATIKA
(Department of Informatics Engineering)

MODULE HANDBOOK DESCRIPTION

Artificial Intelligence Application (P22A01)

Module designation	Artificial Intelligence Application (AIA)
Semester(s) in which the module is taught	*7 ar 8 / fourth year*
Person responsible for the module	*Prof. Dr. Eng. I Gede Pasek Suta Wijaya, S.T., M.T.*
Language	*Indonesian*
Relation to curriculum	*Electives*
Teaching methods	*Lectures, Discussions, Project*
Workload (incl. contact hours, self-study hours)	Contact Hours every week, each week of the 16 weeks/semester including Evaluation ● 2 x 50 minutes lecturer/week ● 2 x 60 minutes class exercise/week ● Self Study hours = 120 minutes/week Total workload 340 minutes/week
Credit points	*2 (~ 3,2 ECTS)*
Required and recommended prerequisites for joining the module	Artificial Intelligence.

Module objectives/intended learning outcomes	Artificial Intelligence Applications (AIA) are elective courses for 7th or 8th-semester students. The main objective of AIA is to provide students with knowledge, simulation techniques, application techniques, and analysis about Artificial Intelligence Applications and how to apply them to solve real problems. The learning outcomes of the AIA course are: 1. Able to understand artificial intelligence application techniques for simple problems and the evaluation process. 2. Able to make artificial intelligence programs for simple problems with good performance (independent assignment) 3. Able to apply and create artificial intelligence programs for real-world problems in engineering with good performance (group assignment).
Content	AIA course contains important topics: 1. Introduction to Artificial Intelligence Applications 2. Expert system and its application 3. Genetic algorithm and its application 4. Particle Swarm Optimization and its application 5. Neural Network application 6. Fuzzy Logic and its application 7. Application I (Smart System Lab Research Case Study) 8. Application II (Smart System Lab Research Case Study) 9. Project 10. Project outcome presentation
Examination forms	*Assignments, Quiz, Simulation, Project (Oral Presentation)*
Study and examination requirements	*Assignements 10%,* *Quiz 25%,* *Simulation 25%,* *Project 40%*
Reading list	1. Subakti, I., 2006, Sistem Berbasis Pengetahuan, Jurusan Teknik Informatika, ITS Surabaya. 2. Russel, S., and Norvig, P., 2009, Artificial Intelligence Modern Approach, third edition, Prentice Hall, USA 3. Laurene Fausett, 1994, Fundamentals of Neural Networks: architectures, algorithms, and applications, Prentice Hall, USA 4. https://www.edureka.co/blog/artificial-intelligence-with-python/