MODULE HANDBOOK
ARTIFICIAL INTELLIGENCE

BACHELOR DEGREE PROGRAM
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE AND DATA ANALYTICS

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

MODULE HANDBOOK
ARTIFICIAL INTELLIGENCE

Module name	**Artificial Intelligence**
Module level	Undergradute
Code	KM184724
Course (if applicable)	Artificial Intelligence
Semester	Fall (Gasal)
Person responsible for the module	Prof. Dr. Mohammad Isa Irawan, MT
Lecturer	Prof. Dr. Mohammad Isa Irawan, MT
Language	Bahasa Indonesia and English
Relation to curriculum	Undergradute degree program, **elective**, 7th semester.
Type of teaching, contact hours	Lectures, <60 students Tuesdays, 11.00-12.50 (GMT+7)
Workload	1. Lectures : 2 x 50 = 100 minutes per week. 2. Exercises and Assignments : 2 x 60 = 120 minutes (2 hours) per week. 3. Private learning : 2 x 60 = 120 minutes (2 hours) per week.
Credit points	2 credit points (sks)
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Mandatory prerequisites	Mathematical Logic
Learning outcomes and their corresponding ILOs	Course Learning Outcome (CLO) after completing this module, CLO-1 : Students are able to understand the definition of artificial intelligence, and history of development of artificial intelligence to the latest technology. CLO-2 : Students are able to understand how the concept of problem solving with heuristic search CLO-3 : Students are able to understand and instruct first-order logic CLO-4 : Students are able to understand and solve uncertainty problems through reasoning CLO-5 : Students understand the workings of rule-based expert systems, and implement on a small scale	

	CLO-6 : Students are able to understand the heuristic method (MH) CLO-7 : Students are able to understand Swarm Intelligence method CLO-8 : Students are able to understand the concept of Natural Language Processing CLO-9 : Students understand practical examples of machine learning (machine learning)
Content	Artificial Intelligence is a branch of science that deals with the use of computers to do work that is usually done by humans. This is usually done by following / imitating the characteristics and thinking analogies of human intelligence, and applying them as algorithms known to computers. A more or less flexible and efficient approach can be taken depending on the needs, which influence how artificial intelligence behaves
Study and examination requirements and forms of examination	• Assignment 1 & 2 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.

Reading lists	Main :
	    1. S. Russel and P. Norvig, "Artificial Intelliegence: A Modern Approach 3ed, Penerbit Person Education, 2010
	Supporting :
	    1. Ian Millington, "Artificial Intelligencence for games:", Penerbit Elsevier, 2006
	    2. Andre Popov, "Genetic Algorithm for Optimization using MATLAB"Penerbit Wolfram, 2005