

2023 MODULE DESCRIPTION

BACHELOR PROGRAM
AGRICULTURAL ENGINEERING
FACULTY OF AGRICULTURE
HASANUDDIN UNIVERSITY
2023



Artificial Intelligence

Elective

Module designation	<i>Artificial Intelligence</i>
Semester(s) in which the module is taught	<i>Elective</i>
Person responsible for the module	<i>Dr. Ir. Abdul Waris, MT. Muhammad Tahir Sapsal, S.TP., M.Si</i>
Language	<i>Indonesia</i>
Relation to curriculum	<i>elective</i>
Teaching methods	<i>Lecture</i>
Workload (incl. contact hours, self-study hours)	<i>Estimated) Total workload: 2 SKS = 3.4 ECTS = 91.8 hours > Lecture = 23.3 hours > Excercise = 28 hours > Sel study = 28 hours > Exam = 4 hours (MID term and final) > Exam preparation = 8.5 hours</i>
Credit points	<i>1 SKS = 1.7 ECTS</i>
Required and recommended prerequisites for joining the module	<i>Basic mathematics Computer Programming Farm Machinery</i>
Module objectives/intended learning outcomes	<i>ILO 3: Apply knowledge of mathematics, sciences, and engineering principles in agricultural fields; (Knowledge 1) ILO 5: Use techniques, skills, and modern tools necessary for agricultural engineering practices; (Skill 1) ILO 7: Design simple equipment, components, or processes needed in agricultural engineering operations;</i>
Content	<i>This course provides students with an understanding of artificial intelligence. The topics covered include the scope, basic concepts, and disciplines within artificial intelligence, expert systems, fuzzy logic, and artificial neural networks. The expert systems topic covers basic concepts, structure, methods of knowledge representation, and their application. The fuzzy logic topic discusses membership functions, fuzzy set operations, implication operators, fuzzy inference systems, and their application in instrumentation and control systems. The topic of artificial neural networks covers concepts, components, activation functions, learning algorithms, and the application of neural networks in simple machines. This course includes laboratory practices to enhance comprehension of the material covered in this course.</i>
Examination forms	<i>Writing</i>
Study and examination requirements	<i>Attendance above 80%</i>
Reading list	<i>Negnevitsky, M. 2005. Artificial Intelligence A Guide to Intelligent Systems. Second Edition. Addison-Wesley.</i>

	<p>Hanafiah, K., A. 2007. Dasar-Dasar Ilmu Tanah. Rajawali Pers: Jakarta</p> <p>Siang, J.J. 2005. Jaringan Syaraf Tiruan dan Pemogramannya Menggunakan Matlab. Andi Yogyakarta.</p> <p>Yen,J., Langari, R., dan Zadeh, L.A. 1995. Industrial Application of Fuzzy logic and Intelligent Systems. The Institute of Electrical and Electronisc Engineers, Inc.,New York.</p>
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