UNDERGRADUATE PROGRAM IN COMPUTER SCIENCE
DEPARTMENT OF COMPUTER SCIENCE AND ELECTRONICS
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNIVERSITAS GADJAH MADA

Module name	**Artificial Intelligence**
Module level	Undergraduate
Code	MII-2411
Courses (if applicable)	Artificial Intelligence
Semester	Even (Genap)
Contact person	Aina Musdholifah, S.Kom., M.Kom., Ph.D.
Lecturer	Aina Musdholifah, S.Kom., M.Kom., Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, compulsary, 4th
Type of teaching, contact hours	Undergraduate degree program: lectures, < 40 students, Friday, 13.30-16.00.
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 3. Private study: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	-
Recommended prerequisites	-

Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to: **CO1** be able to explain the trend of development of science and technology especially related to the development of intelligent systems. **CO2** can formulate problems with a search approach and be able to use search methods for completion **CO3** be able to explain the process of selecting knowledge of known information and able to choose the appropriate method, and can perform the unification process for inference **CO4** able to explain the expert system architecture **CO5** able to explains the design of Natural Language Processing system **CO6** able to explain the design of Pattern Recognition system **CO7** able to explain the methods and process machine learning	PLO3 PLO5 PLO3 PLO4 PLO3 PLO3 PLO3
Content	Concept of AI; issues of AI; Intelligent agent; Solving problem by searching; Uniinformed Search; Informed Search; Knowledge Representation; Reasoningl Introduction to expert system; introduction to natural language processing;	

	introduction to pattern recognition and introduction to machine learning
Study and examination requirements and forms of examination	Mid-terms examination and Final examination.
Media employed	LCD, blackboard, websites, and ACL tools.
Assessments and Evaluation	**CO1**: Quiz 1 (5%); problem 1 in midterm (5%). **CO2**: Quiz 2 and Quiz 3 (7.5%); problem 2 and 3 in midterm (15%). **CO3**: Assignment 1 (10%); problem 4 in midterm (5%); problem 1 and 2 in final term (12.5%). **CO4**: Assignment 2 (5%), problem 3 in final (15%). **CO5**: Quiz 4 (5%). **CO6**: Paper review 1 (7.5%) **CO7**: Paper review 2 (7.5%)

Reading List	Artificial Intelligence: A Modern Approach 3rd ed. (Russell, S. and Novig, P., Prentice Hall, 2009) Artificial Intelligence: Structures and Strategies for Complex Problem Solving 6th ed. (George F. Luger, Addison-Wesley, 2008) Artificial Intelligence: A Guide to Intelligent Systems (Michael Negnevitsky, Pearson Education, 2002) Artificial Intelligence: A Knowledge-Based Approach (W. Firebaugh, Boyd & Fraser, Boston, 2000) Prolog - Programming for Artificial Intelligence, 3rd Ed (Ivan Bratko, Addison Wiley, 2001).