

MODULE HANDBOOK
Master Program in Computer Science
Department of Computer Science and Electronics
Faculty of Mathematics and Natural Sciences
Universitas Gadjah Mada

Expert System

Module name	Expert System		
Module level	Graduate		
Code	MII-6856		
Courses (if applicable)	Expert System		
Semester	Even (Genap)		
Contact person	Aina Musdholifah, S.Kom., M.Kom., Ph.D.		
Lecturer	Aina Musdholifah, S.Kom., M.Kom., Ph.D. Drs. Sri Mulyana, M.Kom.		
Language	Bahasa Indonesia		
Relation to curriculum	Master program, elective, 2 nd Semester		
Type of teaching, contact hours	Master program: Class A, lectures, < 18 students, Friday, 07.30-10.00.		
Workload	4. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 5. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 6. 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:		
	CO	Description	Supported PLO
	CO-1	able to explain the expert system architecture and expert system components	PLO4
	CO-2	able to represent and manipulate knowledge in the form of production rules, frames and semantic networks and able to apply the method how to represent and manipulate knowledge from real data/case	PLO2
	CO-3	able to explain the methods of inference and reasoning process in the expert system and able to apply the methods for real case/data	PLO2
	CO-4	able to identify uncertain factors and apply methods of handling uncertainty.	PLO4
	CO-5	able to apply the stages in developing expert system	PLO5, PLO8
	CO-6	able to conduct research including analyzing step for expert system development as a real problem solving and explain the result of the research	PLO5, PLO9, PLO7
Content	Components of expert systems, Representation of knowledge Rules, Frames, Semantic Networks, Inference Methods, Causes Factors and methods of handling uncertainty, Stages of expert system development, expert system applications		

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	<p>CO1: Problem 1 in midterm exam (7.5%).</p> <p>CO2: HW 1 (5%); problem 2 and 3 in midterm (15%).</p> <p>CO3: HW 2 (5%); problem 4 in midterm (7.5%); problem 1 final exam (7.5%).</p> <p>CO4: HW 3 (5%), problem 2 and 3 in final term (15%).</p> <p>CO5: Project 1 (10 %); problem 4 in final term (7.5%).</p> <p>CO6: Project 2 (15%)</p>
Reading List	<p>Joseph C. Giarratano and Gary Riley, Expert Systems: Principles and Programming, Brooks Cole, 4th Edition, Thomson Course Technology, 2005</p> <p>Efraim Turban, Decision Support and Expert Systems: Management Support System, Prentice-Hall, 4th Edition, 1995 ^[1]_{SEP}</p> <p>Ivan Bratko, Prolog-Programming for Artificial Intelligence, Addison Wiley, 3rd Edition, 2001 ^[1]_{SEP}</p>