

<b>Course Number</b>	<b>CS 537</b>		<b>Course Title</b>	<b>Advanced Topics in Expert Systems</b>			
<b>Semester Hours</b>	<b>3</b>		<b>Course Coordinator</b>	<b>Banafsheh Rekabdar</b>			
			FA20				
<b>Catalog Description</b>	This course is designed to provide students with advanced topics in expert systems theory. Topics covered include: knowledge representation, methods of inference, reasoning under uncertainty, and inexact reasoning (fuzzy logic). A practical introduction to expert systems programming serves to reinforce and clarify the theoretical concepts.						
<b>Textbooks</b>							
<b>References</b>							
<b>Course Learning Outcomes</b>							
<b>Assessment of the Contribution to Student Outcomes</b>							
<b>Outcome →</b>	1	2	3	4	5	6	7
<b>Assessed →</b>	X		X	X	X		X
<b>Prerequisites by Topic</b>							
CS 330 or consent of instructor.							

**Major Topics Covered in the Course**

1. The Representation of Knowledge
2. Methods of Inference
3. Reasoning under Uncertainty
4. Inexact Reasoning (Fuzzy Logic)
5. The Design of Expert Systems
6. Introduction to Expert Systems Programming
7. Modular Design and Execution Control
8. Efficiency in Rule-Based Languages
9. Expert System Design Examples
10. Class Project

**Major Lab Assignments and Projects****Assessment Plan for the Course****Tool 1. Assignments:**

WFF development using CLIPS: PO3

**Tool 2. Readings and Presentations**

Reading 1 & 2: PO5

**Tool 3. Final Exam:**

PO1, PO4

**Tool 4. Final Project:**

PO5, PO7