Course title	Code	semester	T+U	credit	ECTS
Fuzzy Logic		8	3 +0	3	4

Prerequisite Courses	None
Language of the Course	English
Course Level	Undergraduate
Type of Course	Optional
Course Coordinator	
Instructors	
Course Assistants	
The aim of lesson	The aim of this course is to provide information on the use of fuzzy logic in various fields such as systems with uncertainty and artificial intelligence methods and to explain hybrid system development issues.
Course Content	Fuzzy Sets; Fuzzy Set Operations, Fuzzy Relations; Fuzzy Graphs and Relations, Fuzzy Numbers; Fuzzy Functions, Probability and Uncertainty; Fuzzy Logic, Fuzzy Inference; Fuzzy Modeling and Control; Fuzzy Expert Systems; Fuzzy Systems and Artificial Neural Networks, Application Examples.
Course Learning Outcomes	Students who successfully complete this course; 1. Will be able to understand the basic concepts of fuzzy logic. 2. Will be able to understand and interpret fuzzy systems within the scope of fuzzy set theory. 3. Will be able to model and solve problems involving uncertainty using fuzzy set theory. 4. Will be able to use fuzzy system and artificial intelligence techniques together. 5. will be able to develop hybrid system design.

Weeks	Topics
one	Introduction to Fuzzy Sets
2	Fuzzy Set Operations
3	Fuzzy Relationships
4	Fuzzy Graphs
5	Fuzzy Numbers
6	Fuzzy Functions
7	Probability and Uncertainty
8	Probability and Uncertainty
9	Fuzzy Logic
10	Fuzzy Inference
11th	Fuzzy Modeling and Control
12	Fuzzy Expert Systems
13	Fuzzy Systems and Artificial Neural Networks
14	Fuzzy Systems and Artificial Neural Networks
15	fuzzy control applications

General Competencies

To have knowledge about the use of fuzzy logic in various fields such as systems with uncertainty and artificial intelligence methods and to be able to explain hybrid system development issues.

resources

KH Lee, “First Course on Fuzzy Theory and Applications”, Springer Verlag, 2005, ISBN-13: 978-3540229889
HT Nguyen, EA Walker, “A First Course in Fuzzy Logic”, CRC Press, 2006, ASIN : B008LYZG60

Evaluation System

The dates, days and hours of the Midterm Exam, Quiz, Final Exam and Evaluations will be announced later, according to the decision of the Faculty Administrative Board.

	WITH PROGRAM LEARNING OUTCOMES COURSE LEARNING OUTCOMES RELATIONSHIP TABLE										
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PC10**	**PC11**
INCREASE 1	5	5	5	5	4	4	4	5	5	4	4
INCREASE 2	5	4	4	4	4	3	3	3	5	4	5
INCREASE 3	5	5	5	4	5	3	3	3	3	3	3
LO4	5	5	5	3	5	4	3	3	3	3	3
LO5	5	5	5	4	5	3	3	3	3	3	3
LO: Learning Outcomes OP: Program Outcomes											
Contribution Level	**1 Very Low**		**2 Low**		**3 Medium**		**4 High**		**5 Very High**		

Relation of Program Outcomes and Related Course

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**
Fuzzy Logic	5	5	5	4	5	3	4	4	3	4	3