Course title		Code	semester	T+U	credit	ECTS
Pattern Recognition			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 teach methods for pattern classification and recognition and to implement applications.
Course Content	Pattern recognition systems, optical pattern recognition systems, pattern recognition methods, statistical methods, fukunaga-koontz transform, fuzzy classifier, stochastic methods, optical pattern recognition methods, optical filters, recognition with mach filters, optical hardware elements, joint transformation correlation, optical overlap filter, optical fourier correlation, adaptive optical co-transform correlation, pattern tracking, pattern tracking from sequential images, pattern recognition performance measures, receiver processing characteristic (roc)
Course Learning Outcomes	Students who successfully complete this course; 1. Will be able to have pattern recognition skills, 2. Will be able to have pattern classification skills, 3. Will be able to have optical pattern recognition skills, 4. Will be able to have target recognition and tracking skills, 5. Will be able to acquire pattern recognition system design skills.

Weeks	Topics
one	Introduction to Pattern Recognition
2	Statistical Classifiers
3	Fukunaga-Koontz Transform
4	Fuzzy Classifier
5	Stochastic Methods
6	Size Reduction
7	Optical Filters
8	Optical Filters
9	Classification with Optical Overlap Filters
10	Optical Fourier Correlation
11th	Common Conversion Correlation
12	Adaptive Joint Conversion Correlation
13	Pattern Tracing in Sequential Images
14	Pattern Recognition Performance Metrics
15	Pattern Recognition Performance Measures, General Repetition

General Competencies

Teaching methods for pattern classification and recognition and performing applications.

resources

RO Duda, P. Hart, D. Stork, "Pattern Classification", 2nd Edition, 2000, Wiley Interscience, ISBN: 978-0-471-05669-0

FTS Tu, S. Jutamulia, "Optical Pattern Recognition", Cambridge Unv. Press, 1998, ISBN -13: 978-0521465175

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
Pattern Recognition	5	5	5	4	5	3	4	4	3	4	3