COURSE LIST

Institute of Natural and Applied Sciences

Field : Computer Engineering

Course Title	Code	ECTS Credit	COMU Credit	Lecturer
Parallel Processors and Processing	ULP-21-BM001	7.5	3	Yrd. Doç. Dr. İsmail Kadayıf
Sementic Web	ULP-21-BM002	7.5	3	Yrd. Doç. Dr. Cengiz Toğay
Digital Image Processing	ULP-21-BM003	7.5	3	Yrd. Doç. Dr. İbrahim Türkyılmaz
Object Oriented Approaches	ULP-21-BM004	7.5	3	Yrd. Doç. Dr. Ali Murat Tiryaki

Course Code	ULP-21-BM001
Name of the Course in English	**Parallel Processors and Processing**
Name of the Course in Turkish	**Paralel İşlemciler ve İşlem**
Language of the Course	English
Level of the Course	Master
Lecturer	**Yrd. Doç. Dr. İsmail Kadayıf**
ECTS Credit	7.5
COMU Credit	3
Description	This course aims to introduce the basic principles inimplementation of parallel computers. This course covers, but not limited to, the following subjects. Technology barriers (power wall and ILP wall) in single core processors which make the parallel computers a necessity. Shortcomings of instruction level parallelism (ILP). Basic parallel processor organizations and parallel computing platforms. Superscalar processors supporting ILP, Simultaneous Multi-Threading (SMT), Chip Multi-Processing (CMP),Multiple CMP systems. Memory hierarchy in parallel architectures. Cache coherency and consistency in parallel processors. Interconnection networks and their desing principles in parallel computers.

Course Code	ULP-21-BM002
Name of the Course in English	**Sementic Web**
Name of the Course in Turkish	**Anlamsal Ağ**
Language of the Course	English
Level of the Course	Master
Lecturer	**Yrd. Doç. Dr. Cengiz Toğay**
ECTS Credit	7.5
COMU Credit	3
Description	The essential concepts in the topic of sementic web, ontology expression languages: RDF, RDFS, DAML-OIL, OWL, ontology development with OWL, ontology guerying, RDQL guery language,inferencing on ontologies, Protege ontology development tool, OWLApi library, matching between ontologies, defining rules in ontologies, SWRL rule language, the relationship between agents and ontologies, semantic web services.

Course Code	ULP-21-BM003
Name of the Course in English	**Digital Image Processing**
Name of the Course in Turkish	**Sayısal Görüntü İşleme**
Language of the Course	English
Level of the Course	Master
Lecturer	**Yrd. Doç. Dr. İbrahim Türkyılmaz**
ECTS Credit	7.5
COMU Credit	3
Description	Image Formation Simple Processing Image Segmention Histogram Matching – Specification Quantization Designing the Reproduction Levels for Given Thresholds MSQE Optimal Lloyd-Max Quantizer Systems, Linear Systems, Linear Shift Invariant (LSI) Systems Convolution and Linear Filtering The Fourier Transform of 2-D Sequences Fourier Transform Types

	Sampling and Aliasing The 2-D DFT for Finite Extent Sequences Filtering of Images Fourier Transforms and Gibbs Phenomenon Images and Edges Edge Detection – Motivation Human Visual System and Mach Bands Perceptual Image Processing

Course Code	ULP-21-BM004
Name of the Course in English	**Object Oriented Approaches**
Name of the Course in Turkish	**Nesneye Yönelik Yaklaşımlar**
Language of the Course	English
Level of the Course	Master
Lecturer	**Yrd. Doç. Dr. Ali Murat Tiryaki**
ECTS Credit	7.5
COMU Credit	3
Description	Process models for software development, object oriented analyses and design, volutionary development with RUP,use ceses, domain models, software architectures,interaction diagrams, class models, GRASP patterns, design patterns, agile processes, extreme programming, test driven development, unit testing, refactoring.