COURSE LIST Faculty of Engineering and Architecture

Computer Engineering Dept.

Course Title	Code	ECTS Credit	COMU Credit	Lecturer
Software Engineering	ULP-04-001	5	3	Assist. Prof. Dr. Ali Murat Tiryaki
Object Oriented Programming	ULP-04-002	6	3.5	Assoc. Prof. Dr. İbrahim Türkyılmaz
Computer Architecture	ULP-04-003	6	3	Assoc. Prof. Dr. İsmail Kadayıf
Database Management Systems	ULP-04-005	5	3	Lecturer İsmail Kahraman
Concepts of Programming Languages	ULP-04-006	5	3	Lecturer Dr. Mustafa Şahin
Distributed Systems	ULP-04-041	5	3	Yrd. Prof. Dr. Bahadır Karasulu

Course Code	ULP-04-001
Name of the Course in English	Software Engineering
Name of the Course in Turkish	Yazılım Mühendisliği
Language of the Course	English

Level of the Course	(x) Undergraduate ( ) Master ( ) Doctorate
Lecturer	Yrd. Doç. Dr. Ali Murat TİRYAKİ
ECTS Credit	5
COMU Credit	3
Description	In this course , firstly the basic concepts in software engineering area.Then, the process moderls identified for software development, generic processes and the development activities in these processes are explained in detail. Couse Outline: 1. Basic concepts in software engineering 2. Software development processes 3. Project management 4. Requirements, kids of requirements, requirement identification 5. Requirement engineering 6. Architectural desing 7. Desing activities and modeling types 8. Re-usable desing 9. Midterm
	10. Implementation 11. Verification and validation 12. Quality management and cost estimation 13. Configuration management 14. Emergent Technologies for software engineering

Course Code	ULP-04-002
Name of the Course in English	Object Oriented Programming
Name of the Course in Turkish	Nesneye Yönelik Programlama
Language of the Course	English
Level of the Course	(x) Undergraduate ( ) Master ( ) Doctorate
Lecturer	Yrd. Doç. Dr. İbrahim TÜRKYILMAZ
ECTS Credit	6
COMU Credit	3,5
Description	Introducing logic of object oriented programming and reinforcing this perception with C++ programming language. Structured programming, value concept (local and global), pointers, functions and methods of parameter passing methods, (value, reference and pointers). Class and object concepts, Constructors (default and default copy constructors),destructors, membership functions of classes. Interface concepts in classes (public, private,protected), operator overloading,derivations in classes, friend functions and its classes, virtual functions.

Course Code	ULP-04-003
Name of the Course in English	Computer Architecture
Name of the Course in Turkish	Bilgisayar Mimarisi
Language of the Course	English
Level of the Course	(x) Undergraduate ( ) Master ( ) Doctorate
Lecturer	Yrd. Doç. Dr. İsmail KADAYIF
ECTS Credit	6
COMU Credit	3
Description	This course aims to introduce the basic hardware of microprocessors and to teach the various performance oriented techniques commonly used in today's modern microprocessors. This course covers, but not limited to, the
	following subjects. Performance and Measurement, Datapath & Control Design, Single-Cycle Computer Implementation, Multi-Cycle Computer Implementation Scalar Processor Design, Basic Pipeline Phases, Pipeline Hazards (Structural, Data, and Control Hazards), Branch Prediction Mechanisms, Superscalar Processor Design, Code Scheduling (Loop Unrolling, Software Pipelining), Memory Hierarchy, Cache Memories and Their Design, Virtual Memory Concept, Input/Output, Multicore Processors.

Course Code	ULP-04-005
Name of the Course in English	Database Management Systems
Name of the Course in Turkish	Veri Tabanı Yönetim Sistemleri
Language of the Course	English
Level of the Course	(x) Undergraduate ( ) Master ( ) Doctorate
Lecturer	İsmail KAHRAMAN
ECTS Credit	5
COMU Credit	3
Description	basic concepts , data models , entitiy relational models, relation concepts , transforming data models into relations, relational algebra /calculus, SQL , normalization , econdary stroge management , optimzasyon.

Course Code	ULP-04-006
Name of the Course in English	Concepts of Programming Languages
Name of the Course in Turkish	Programlama Dilleri Kavramları
Language of the Course	English

Level of the Course	(x) Undergraduate ( ) Master ( ) Doctorate
Lecturer	Mustafa ŞAHİN
ECTS Credit	5
COMU Credit	3
Description	Describes the fundamental concepts of programming languages by discussing the design issues of the various language constructs.
Course Code	ULP-04-041
Name of the Course in English	Distributed Systems
Name of the Course in Turkish	Dağıtık Sistemler
Language of the Course	English
Level of the Course	(x) Undergraduate ( ) Master ( ) Doctorate
Lecturer	Assist. Prof. Dr. Bahadır KARASULU
ECTS Credit	5
COMU Credit	3

Description	The aim of the course is to give knowledge to students hardware and software concepts which are basic concepts for distributed systems. A distributed system is one in which components located at networked computers communicate and coordinate their actions only by passing messages. The sharing of resources is a main motivation for constructing distributed systems. Main characteristics of distributed sytems are concurrency of components, lack of a global clock and independent failures of components. In the scope of course, communication and layered protocols, Remote Procedure Call (RPC), Remote Object Invocation (ROI), message - oriented communication, stream-oriented communication, processes, code migration and clock synchronization are explained in details.