1	ININ/EDCITV	Computer Programming Progr	am of Cours						
•	DNIVERSIT			es					
urse cate	gories: UC = University Con	e; FC = Faculty Core; AC = Area Core; AE = Area Elective; FE = Faculty Elective;	UE = University	Elective	Hours		Total		FCTS
emester	Course Code	Course Title	Category	Lecture	Tutorial	Lab/Prac.	Credit	Pre-requisite	Credit
1	ENGR103	COMPUTER PROGRAMMING-I	FC	2	0	2	3	-	5
1	ENGR101	INFORMATION TECHNOLOGY AND APPLICATIONS	FC	2	0	1	2	-	2
1	MATH121 MATH123	DISCRETE MATHEMATICS	FC	3	2	0	4	-	5
1	ENGL121	ENGLISH-I	UC	3	0	0	3	-	4
1	TARH101 / HIST111 TUOG101 / TURK131	ATATURK'S PRINCIPLES AND HISTORY OF TURKISH REFORMS-I	UC	2	0	0	2	-	3
1	100010171000131	Total 7 courses	TOTAL	17	3	3	19	-	28
2	ENGR104	COMPUTER PROGRAMMING-II	FC	2	0	2	3	ENGR103	4
2	CPRG102	INTRODUCTION TO DATABASES	AC	3	0	2	4		6
2	CPRG104 CPRG106	INTRODUCTION TO INTERNET PROGRAMMING	AC	3	0	2	4		6
2	ENGL122	ENGLISH-II	UC	3	0	0	3	ENGL121	4
2	TARH102 / HIST112	ATATURK'S PRINCIPLES AND HISTORY OF TURKISH REFORMS-II	UC	2	0	0	2	-	3
2	TUOG102 / TURK132	TURKISH LANGUAGE-II / TURKISH AS A FOREIGN LANGUAGE-II	UC	2	0	0	2	- / TURK131	3
		Total 7 courses	TOTAL:	18	0	8	22		32
3	CPRG201	FURTHER TOPICS IN INTERNET PROGRAMMING, DATABASES, AND	AC	2	0	2	3	CPRG104	6
3	CMPE215	ALGORITHMS AND DATA STRUCTURES	FC	3	0	1	3	ENGR104	6
3	CPRG200	SUMMER TRAINING	AC	0	0	0	0	-	2
3	CPRGXX1 CPRGXX2	AREA ELECTIVE	AE	X	X	X	3	-	6
3	UNIEXX1	UNIVERSITY ELECTIVE	UE	x	x	x	3	-	4
		Total 6 courses	TOTAL:	5	0	3	15		30
4	CMPE216	OBJECT ORIENTED PROGRAMMING	FC	2	0	2	3	ENGR104	6
4	CPRG202	C#	AC	2	0	4	4	ENGR104	4
4	CPRG204 CPRGXX3	AREA ELECTIVE	AC	x	x	X	3	-	4
4	CPRGXX4	AREA ELECTIVE	AE	х	х	х	3	-	6
4	UNIEXX2	UNIVERSITY ELECTIVE	UE	X	X	X	3	-	4
		Area and Faculty Elective	Courses	4	U	0	10		30
			Course		Hours		Total		ECTS
10. 1	Course Code	Course Title	Category AF	Lecture	Tutorial 0	Lab/Prac.	Credit	Pre-requisite	Credit
2	CPRG210	PROGRAMMING FOR ANDROID	AE	3	0	0	3	-	6
3	CPRG211	PROGRAMMING FOR IOS	AE	3	0	0	3	-	6
5	CPRG212 CPRG214	JAVA FOR HANDHELD TERMINALS	AE AF	3	0	0	3	-	6
6	CPRG215	SOFTWARE TESTING	AE	3	0	0	3	-	6
7	CPRG216	SOFTWARE DEVELOPMENT	AE	3	0	0	3	-	6
8	CPRG217	COMPUTER GRAPHICS APPLICATIONS	AE	3	0	0	3	-	6
<u>,</u>	CI NG210	PROGRAM INFORMAT	ION			0			
		 Construct, select and apply appropriate techniques, resources, ar Apply contextual knowledge to assess social, health, safety, and Utilize core engineering knowledge in a global, economic, environ Solve professional, legal, and ethical issues pertaining to ore engineering to core engineering t	nd modern sim cultural issues mental, and s	ulation to and endu ocietal co	pols to sol re the cor ntext for s fields	ve complex sequent re sustainable	comput sponsibil developr	er related problems. ities relevant to profe nent.	ssional
		 9. Function effectively as a team member or a leader to accomplish 10. Communicate effectively in both verbal and written forms. 	a common go	ts related al in a mu	llti-discipli	nary team.			(.
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PRG200 SUMMER TRAINING (0, 0, 0)0 2	AC - English
Computer Programming summer training is a 30-day internship for students to apply theoretical knowledge fro place at any institution related to Computer Programming and Development. Students work on real-life tasks.	In their studies in a professional setting. The training can take interact with professionals, and explore their interests within
the industry. After the first year of their studies, they write summer training reports summarizing their experience	nces. A committee evaluates these reports to assess the
students' internship performance. The training aims to bridge the gap between academia and industry, enablin and make informed decisions about their professional path.	g students to better prepare for future career opportunities
ourse ontent	
OBJECT ORIENTED PROGRAMMING (2, 0, 2)3 6	FC ENGR104 English
This course introduces the concepts of object-oriented programming to students with a background in the pro	cedural paradigm. The course begins with a brief review of
focusing on the definition and use of classes along with the fundamentals of object-oriented design. Other top	ics include an overview of programming language principles,
simple analysis of algorithms, basic searching and sorting techniques, memory management, an introduction to development	o software engineering issues, and ethics in software
ourse ontent	
PRG202 C# (2, 0, 4)4 6	AC ENGR104 English
This course introduces computer programming using the Visual Programming Language with object-oriented p programming methods, including creating and manipulating objects and classes and using object-oriented tool	ogramming principles. The emphasis is on event-driven s such as the class debugger. Visual programming languages ar
widely used for the rapid development of graphical applications. This subject will introduce students to the fun	damental principles of event-driven programming and to
programming in a visual environment through the use of the Visual C# programming language. An additional ai	m of this subject is to give students an understanding of the
	and actual at a peginning leven
ourse	
PRG204 GRADUATION PROJECT (2, 0, 2)3 6	AC - English
Engineering Design is a crucial activity for engineering students, involving various phases of the design process. Interdisciplinary capstone projects over one academic year, spanning FLFE401 and FLFE402 courses FLFE401 c	Students work in teams under supervision to complete overs problem formulation, technical surveys, detailed problem
study, analysis, and methodical initial solution formulation. The course requires comprehensive preliminary de	sign documentation for solving a realistic and complex
computer engineering problem, applying skills gained throughout the undergraduate program. Students prese	It progress through reports and presentations during the
semester and at its conclusion. This extended exercise aims to cultivate professional application and experienc	, m engilleerilig uesign.
iourse	
Course Descriptions – III: All Area Elective and Faculty/School Elective courses offered	
Code Course Title Credit Credi	by the department of the program.
	dit Catego. Pre-requisite Teaching Language
I Inis course covers the Python programming language, which has advanced features with an emphasis on programming	AF Catego. Pre-requisite Teaching Language AE - English amming practice. A graphical user interface. data analysis and

	Python's best practices; Recognize the variations in implementation and performance considerations associated with various Python data structures; Handle missin inconsistent values, manipulate, and analyze huge datasets; Create, test, and implement Python applications for data analysis and visualization, online data extract database interactions.	; or on, and
Course		
CPRG210	0 PROGRAMMING FOR ANDROID (3, 0, 0)3 6 AE - English	
Course	The course covers the design and development of mobile applications utilizing the open-source Android platform. It will be a lecture and laboratory course that will students grasp the philosophy of programming for Android by examining its core application development building elements and how they interact with one anoth course encourages students to learn by developing increasingly sophisticated and meaningful Android mobile applications. Upon completion of this course, each stu have created their own entire Android application, incorporating the majority of the platform's important features.	nelp r. This dent will
Content	t	
CPRG211	1 PROGRAMMING FOR IOS (3, 0, 0)3 6 AE - English	
Course	The course covers the design and development of mobile applications utilizing the Open-Source IOS Ubarries. It will be a lecture and laboratory course that will help grasp the philosophy of programming for IOS by examining its core application development building elements and how they interact with one another. This course encourages students to learn by developing increasingly sophisticated and meaningful IOS mobile applications. Upon completion of this course, each student will ha their own entire IOS application, incorporating the majority of the platform's important features.	students ve created
Content	t	
CPRG212	2 JAVA FOR HANDHELD TERMINALS (3,0,0)3 6 AE - English	
	This course covers computer programming with object-oriented programming ideas using the Java programming language. The course emphasizes event-driven pro approaches, database connectivity, socket programming, and distributed programming, as well as the creation and manipulation of objects and classes and the use oriented tools such as the class debugger. After completing this course, the student will be able to: design, create, build, and debug Java applications and applets, w programs using object-oriented programming techniques such as classes, objects, methods, instance variables, composition, inheritance, and polymorphism; and w programs using graphical user interface (GUI) components and Java's Event Handling Model.	gramming of object- ite Java ite
Course		
Content		
Course	how to use advanced VB.NET and .NET Framework technologies to create sophisticated, scalable, and high-performance applications. Students will design a Visual Ba using inheritance, interfaces, and polymorphism. Students will build attractive ASP.NET web and Windows user interfaces. Students will learn how to use LINQ to int or other databases into Visual Basic. Students will also learn how to deploy Windows and ASP.NET applications.	sic project egrate SQI
Content CDRG215		
Course	The goal of this course is to teach students about software validation and testing concepts and theories. It is primarily concerned with examining whether a software meets specifications and requirements so that it fulfills its intended purpose. White box, black box, integration, system and acceptance, performance, regression, of oriented, usability, and acceptance, billity concerns will be covered. Students who successfully complete the course will be aware of a wide range of software testing techniq have the ability to apply the right techniques in the process of software validation and testing.	: system ject- ues and
CPRG216	6 SOFTWARE DEVELOPMENT (3, 0, 0)3 6 AE - English	
Course Content	The objective of this course is to generate dependable, safe, and effective software products by focusing on software product development. This involves looking at general organization of the software's development and release phases, how the software is broken down into components, how the servers are organized, and the technologies that were utilized to create the software. With a focus on the practical concerns inherent in software project management, students will master the fundamentals of software architectural designs, patterns, and views. In addition, a brief introduction to microservices architecture and cloud-based applications will covered.	the
CPRG217	7 COMPUTER GRAPHICS APPLICATIONS (3, 0, 0)3 6 AE - English	
	The primary goal of this subject is to introduce students to computer graphics concepts. It begins with an overview of interactive computer graphics, two-dimension systems, and mapping before moving on to the most important drawing algorithms, two-dimensional transformation, clipping, filling, and an introduction to three- dimensional graphics. The course discusses strategies for rendering a complicated scene efficiently in real-time. The course covers the following topics: As a renderin architecture, the shader development languages at the highest level Algorithms for rendering shadows, reflections, and refraction efficiently and techniques for incr speed, such as culling and level-of-detail detection of intersections and collisions.	al g easing
Contont		
CONTENT CPRG218	CLOUD COMPUTING APPLICATIONS CLOUD COMPUTING APPLICATIONS CLOUD COMPUTING APPLICATIONS CLOUD COMPUTING APPLICATIONS	
	This course focuses on the use of the most popular cloud computing applications and services that run on a distributed network using virtualized resources and are by common Internet protocols and networking standards. Its architecture, abstraction, virtualization, infrastructure, scaling deployments, machine learning in the management, security, and privacy in the cloud will be discussed in detail. On successful completion of this course, students should be able to: Explain Cloud Comp abstraction and virtualization; Describe cloud storage services, pros and cons; Use different cloud storage services; Work with cloud APIs and SDKs; Describe machin in the cloud; Secure data in the cloud; and Build their own cloud with open stack.	accessed oud, data iting e learning
Course	s	