

BİRÜNİ UNIVERSITY
FACULTY OF ENGINEERING AND NATURAL SCIENCES
TEACHING PLAN DEPARTMENT OF COMPUTER ENGINEERING

1st Semester (Autumn)

Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
CMP101		Introduction to Computer Programming	C	2	0	2	3	7
CMP103		Introduction to Computer Engineering and Career Planning	C	3	0	0	3	5
MTH101		Mathematics I	C	3	2	0	4	7
GER101		German I	C	2	0	0	2	2
PHY101		Physics I	C	3	0	2	4	7
TDI161		Turkish Language and Literature I	C	2	0	0	2	2
TOTAL ECTS								30

2nd Semester (Spring)

Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
CMP102		Advanced Programming	C	2	0	2	3	6
MTH104		Linear Algebra	C	3	0	0	3	6
MTH102		Mathematics II	C	3	2	0	4	7
GER102		German II	C	2	0	0	2	2
PHY102		Physics II	C	3	0	2	4	7
TDI162		Turkish Language and Literature II	C	2	0	0	2	2
TOTAL ECTS								30

3rd Semester (Autumn)

Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
CMP201		Object Oriented Programming	C	2	0	2	3	6
CMP205		Digital Logic	C	3	0	0	3	5
MTH105		Discrete Mathematics	C	3	0	0	3	5
ISE207		Occupational Health and Safety	C	2	2	0	3	4
MTH205		Differential equations	C	4	0	0	4	6
		University Elective	E					4
TOTAL ECTS								30

4th Semester (Spring)								
Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
CMP202		Data Structures and Algorithms	C	2	0	2	3	6
CMP204		Computer Organization	C	2	0	2	3	5
CMP206		Digital System Design	C	2	0	2	3	5
CMP108		Computer Networks	C	2	0	2	3	5
MTH210		Numerical Analysis	C	3	2	0	4	5
		University Elective Course	E					4
TOTAL ECTS								30

5th Semester (Autumn)								
Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
CMP301		Operating systems	C	2	0	2	3	6
CMP309		Web Programming	C	2	0	2	3	5
CMP305		Software Engineering	C	2	0	2	3	5
ATA151		Atatürk's Principle and History of Turkish Revolution I	C	2	0	0	2	2
CMP307		Database Management Systems	C	2	0	2	3	6
		Technical Elective	E					6
TOTAL ECTS								30

6th Semester (Spring)								
Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
CMP302		Formal Languages and Automata Theory	C	3	0	0	3	5
CMP304		Embedded System Programming	C	2	0	2	3	6
CMP308		Artificial Intelligence	C	2	0	2	3	5
ATA152		Atatürk's Principle and History of Turkish Revolution II	C	2	0	0	2	2
MTH306		Probability and Statistics	C	3	0	0	3	6
		Technical Elective Course	E					6
TOTAL ECTS								30

7th Semester (Autumn)								
Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
CMP401		Summer internship	C					6
		Technical Elective Course I	E					6

		Technical Elective Course II	E					6
		Technical Elective Course III	E					6
		Technical Elective Course IV	E					6
TOTAL ECTS								30

8th Semester (Spring)								
Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
CMP402		Graduation Project	C	2	8	0	6	8
		Technical Elective Course I	E					6
		Technical Elective Course II	E					6
		Technical Elective Course III	E					6
		University Elective Course	E					4
TOTAL ECTS								30

Technical Elective Course List								
Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
CMP235		Introduction to Data Science	E	2	0	2	3	6
CMP303		Data Structures and Algorithms II	E	2	0	2	3	6
CMP320		Software Project Management	E	2	0	2	3	6
CMP321		Software Architecture	E	2	0	2	3	6
CMP322		Microcontrollers	E	2	0	2	3	6
CMP323		Graphics and Animation on Computer	E	2	0	2	3	6
CMP324		Human Computer Interaction	E	2	0	2	3	6
CMP325		Bioinformatics	E	2	0	2	3	6
CMP404		Artificial Intelligence Applications	E	2	0	2	3	6
CMP420		BGA- Information Security	E	2	0	2	3	6
CMP421		Multimedia Systems and Communication	E	2	0	2	3	6
CMP422		Special Topics in Computer Engineering I	E	2	0	2	3	6
CMP423		Special Topics in Computer Engineering II	E	2	0	2	3	6
CMP424		Introduction to Network Security and Encryption	E	2	0	2	3	6
CMP425		Advanced Encryption and Networking	E	2	0	2	3	6
CMP426		Mobile and	E	2	0	2	3	6
CMP427		Applied Electronics and Pcb Design	E	2	0	2	3	6
CMP428		Network System Engineering	E	2	0	2	3	6
CMP429		Scripting Languages	E	2	0	2	3	6
CMP430		Advanced Web Technologies	E	2	0	2	3	6
CMP431		Mobile Operating Systems and Applications	E	2	0	2	3	6

CMP432		Advanced Application Development for IOS Devices	E	2	0	2	3	6
CMP433		Special Topics in Project Management	E	2	0	2	3	6
CMP434		Basics of Multimedia Communication	E	2	0	2	3	6
CMP435		Use of Information Technologies in Finance	E	2	0	2	3	6
CMP436		Big Data and Analytics	E	2	0	2	3	6
CMP437		Application Development on Android Devices	E	2	0	2	3	6
CMP438		Advanced Application Development on Android Devices	E	2	0	2	3	6
CMP439		Mobile Application Development for Windows Phone	E	2	0	2	3	6
CMP440		Safe and Smart Cities	E	2	0	2	3	6
CMP441		Introduction to Game Development	E	2	0	2	3	6
CMP442		Humanoid Robots	E	2	0	2	3	6
CMP443		Internet of objects	E	2	0	2	3	6
CMP444		Introduction to Artificial Intelligence and Expert Systems	E	2	0	2	3	6
CMP445		Introduction to IT Service Management	E	2	0	2	3	6
CMP446		Management information systems	E	2	0	2	3	6
CMP447		Digital Image Processing	E	2	0	2	3	6
CMP448		Special Topics in Software Engineering I	E	2	0	2	3	6
CMP449		Web Application Programming	E	2	0	2	3	6
CMP450		Algorithm Analysis	E	2	0	2	3	6
CMP451		Parallel and Distributed Programming	E	2	0	2	3	6
CMP452		Robotics	E	2	0	2	3	6
CMP453		Machine Learning	E	2	0	2	3	6
CMP454		Natural Language Processing	E	2	0	2	3	6
CMP455		Computer Graphics	E	2	0	2	3	6
CMP456		Web Mining	E	2	0	2	3	6
CMP457		Evolutionary Computing	E	2	0	2	3	6
CMP458		Software Quality and Testing	E	2	0	2	3	6
CMP459		Special Topics in Software Engineering	E	2	0	2	3	6
CMP460		Engineering Ethics and Law	E	2	0	2	3	6

University Elective Course List								
Code	Prerequisite	Course Title	C/E	T	P	L	C	ECTS
BIR300		Behavioral Science	E	2	0	0	2	4
BIR301		Communication Skills	E	2	0	0	2	4

BIR303		Leadership	E	2	0	0	2	4
BIR305		Critical Thinking	E	2	0	0	2	4
BIR306		Public Speaking and Presentation Skills	E	2	0	0	2	4
BIR312		Healthy Life and Physical Activity	E	2	0	0	2	4
BIR314		Interpersonal Violence and Management	E	2	0	0	2	4
BIR315		Introduction to Psychology	E	2	0	0	2	4
BIR316		Use of Basic Information and Communication Technologies	E	3	0	0	3	5
BIR317		Time Management and Planning	E	2	0	0	2	4
BIR318		Strategic Decision Making	E	2	0	0	2	4
BIR319		Entrepreneurship and Brand Management	E	2	0	0	2	4
BIR320		Technology, Research and Development Management	E	2	0	0	2	4
BIR321		Innovation Management	E	2	0	0	2	4
BIR322		Volunteering	E	1	2	0	2	4
BIR330		Critical Thinking and Creativity	E	3	0	0	3	6
BIR331		Research and Academic Writing	E	2	0	0	2	4
BIR332		Environmental Protection	E	3	0	0	3	6
BIR335		History of Science	E	2	0	0	2	4
BIR336		Art and Interpretation	E	2	0	0	2	4
BIR337		Food Safety and Security	E	2	0	0	2	4
BIR338		Forensic Science	E	2	0	0	2	4
BIR339		Clinical Trials	E	2	0	0	2	4
BIR344		Stress Management	E	2	0	0	2	4