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Course Content Report

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
OD 107	CAREER PLANNING	1	0	1.00	2.00	Compulsory

Course Content

Conceptual framework for career planning; Promotion of exchange programs and scholarship programs to support undergraduate education; Introduction of vocational national and international certificate and training-practice programs; Introduction of the program and elective courses for career alternatives; Explaining communication issues such as introducing oneself, official correspondence rules, addressing in official interviews and interviews; Giving information about the use of diction and body language; Introduction of the sector and related business lines; Transfer of professional experience with the participation of a sector representative or a successful professional in the sector; Preparing a CV and transferring basic information to the CV; Examining CV samples and introducing job/professional application platforms; Teaching interview techniques; Transfer of professional experience with the participation of a sector representative or a successful professional in the sector

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
TM 109	PHYSICS I	3	1	3.50	5.00	Compulsory

Course Content

This course includes these topics: units and physical quantities, vectors, motion in one or two dimensions, force, laws of conservation of work and energy, potential energy, circular motion, static equilibrium etc.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 101	INTRODUCTION TO COMPUTER ENGINEERING	2	0	2.00	3.00	Compulsory

Course Content

History of Computers ; The Basics of Computer Science and Computer Engineering ; Software and Hardware Comcepts ; Computer Architecture ; Data Manipulation ; Signed and Unsigned Integers ; Floating Point Numbers ; Number Systems ; Introduction to Algorithms ; Flowcharts ; Pseudo Code; Input/Outpput ; Arithmetic Operations ; Controls ; Loops ; Introduction to Coding ; Data Types ; Arrays ; Min-Max Problem ; Strings ; Multi-dimensional Arrays ; Search Algorithms ; Complexity of Algorithms

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 103	INTRODUCTION TO COMPUTING	3	1	3.50	4.00	Compulsory

Course Content

Concepts of an algorithm and an effective algorithm; Introduction to the basic problem solving techniques; Algorithm design; Algorithm analysis; Algorithm optimization; Several applications in C programming language.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
OD 113	TURKISH I	2	0	2.00	2.00	Compulsory

Course Content

Definition of language, its characteristics, relations between language-nation / language-thought and language-culture. Language in the world; the place and importance of Turkish among them and its historical development. Ataturk's language revolution, concept and works. Sounds in Turkish. Phonology of Turkish. Spelling rules and application. Punctuation rules and application. Vocabulary. Productiveness of Turkish.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
TM 107	GENERAL CHEMISTRY	3	1	3.50	5.00	Compulsory

Course Content

In this course, students will learn basic chemistry knowledge and will be able to perform chemical scale calculations with this information. They will also have detailed information about the compound types and their behavior.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
TM 105	MATHEMATICS I	4	0	4.00	5.00	Compulsory

Course Content

This lesson includes the following subjects; limit and continuity, derivative and applications of derivative, integral and integral applications.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
OD 117	ADVANCED ENGLISH I	3	0	3.00	4.00	Compulsory

Course Content

This course; Includes topics aimed to ensure academic level English reading skills.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
OD 118	ADVANCED ENGLISH II	3	0	3.00	4.00	Compulsory

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
OD 114	TURKISH II	2	0	2.00	2.00	Compulsory

Course Content

Expression disorders, types of written expression, thoughts, artistic writing, types of correspondence, types of verbal expression.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
TM 106	MATHEMATICS II	4	0	4.00	5.00	Compulsory

Course Content

This course includes sequences, series and applications, vectors, limit, continuity and derivative, direction derivatives and multiple integrals in multivariable functions etc.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 102	DISCRETE COMPUTATIONAL STRUCTURES	3	0	3.00	5.00	Compulsory

Course Content

Logic; Sets and Functions; Fundamentals of Algorithms; Integers and matrices; Counting Techniques; Chromatics Polinomials; Graphs; Trees; Boolean Algebra; Finite-State Machine with/without Output

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 104	COMPUTER PROGRAMMING	3	1	3.50	5.00	Compulsory

Course Content

Data Types ; Control Flows ; Loops ; Arrays and Pointers ; Multi-dimensional Arrays ; Pointer Arrays ; Strings ; Dynamic Memory Allocation ; Functions ; Function Pointers ; Recursive Functions ; Local and Global Variables ; Structures ; Bit-wise Operations ; File Operations ; C Preprocessing ; Macros ; Data Structures in C ; Linked Lists ; Static and Dynamic Libraries

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
TM 108	PHYSICS II	3	1	3.50	5.00	Compulsory

Course Content

Electric Fields; Gauss's Law; Electric Potential; Capacitance and Dielectrics; Current and Resistance; Direct Current Circuits; Magnetic Field; Sources of the Magnetic Field; Faraday's Law; Inductance; Alternating Current Circuits.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
TM 110	LINEAR ALGEBRA	3	0	3.00	4.00	Compulsory

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
TM 203	DIFFERENTIAL EQUATIONS	3	0	3.00	5.00	Compulsory

Course Content

The content of this lesson; solution methods of first order differential equations, linear differential equations and solution methods of systems, laplace and inverse laplace transforms.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 207	PROBABILITY AND ISTATISTICS	3	0	3.00	4.00	Compulsory

Course Content

• Sample Space and Probability • Sets • Probabilistic Models • Conditional Probability • Total Probability Theorem and Bayes' Rule • Independence • Counting • Discrete Random Variables • Probability Mass Functions • Functions of Random Variables • Expectation, Mean, and Variance • Joint PMFs of Multiple Random Variables • Conditioning • Independence • General Random Variables • Continuous Random Variables and PDFs • Cumulative Distribution Functions • Normal Random Variables • Conditioning on an Event • Multiple Continuous Random Variables • Derived Distributions • Further Topics on Random Variables • Transforms • Sums of Independent Random Variables - Convolution • More on Conditional Expectation as a Random

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 201	BASIC ELECTRICAL CIRCUITS AND ELECTRONICS	3	1	3.50	5.00	Compulsory

Course Content

Definition and modeling of charge, current, power and energy concepts; ideal circuit elements; independent and dependent voltage and current sources; Kirchhoff's voltage and current laws; analysis of resistive circuits; Meshcurrent and node-voltage methods; Thevenin and Norton equivalent circuits; operational amplifier circuits; capacitor and inductor circuit elements; analysis of first order circuits containing capacitor and inductor; sinusoidal steady state analysis; phasors; frequency domain analysis of circuits. Filters, Definition of semiconductor circuit elements, Investigation of direct current and alternating current behavior of diodes and transistors, and some basic circuits related to them.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 203	DATA STRUCTURES	3	1	3.50	6.00	Compulsory

Course Content

Classification of data structures, introduction to algorithm and complexity analysis, basic data structures and derivatives such as lists, stacks, queues, trees, graphs and stacks, analysis of important sorting algorithms, emphasis on writing programs using dynamic memory allocation, practical exercises in laboratories and term project.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 205	OBJECT ORIENTED PROGRAMMING	3	1	3.50	5.00	Compulsory

Course Content

Object-oriented programming concepts, Objective program design using the Unified Modeling Language (UML), Class design, Applet, Relic (inheritance), Polymorphism, Interface and abstract classes, Design patterns, Framework programs, Application programming interfaces (API) .

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 209	OCCUPATIONAL HEALTH AND SAFETY I	2	0	2.00	3.00	Compulsory

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 211	TECHNICAL ENGLISH	2	0	2.00	2.00	Compulsory

Course Content

Enriching the vocabulary of students in the field of computer engineering, introducing informatics terms and definitions, and facilitating the understanding of technical texts. They see the subjects in the courses they take in English and their command of technical terms is increased.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 202	INTRODUCTION TO ELECTRONICS	3	0	3.00	5.00	Compulsory

Course Content

Computer System, Coputer Evolution and Performance, Central Processing Unit Design, Cache, Cache Optimization, Virtual Memory, Instruction-Level Parallelism, Pipeline, Data-Level Parallelism, GPU Architectures, Thread-Level Parallelism, Multicore Processors

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 204	LOGIC DESIGN	3	1	3.50	5.00	Compulsory

Course Content

Number Systems; Boolean Algebra; Basic Digital Gates, Simplification of Logic Functions; Karnaugh Maps; Quine-McClusky Method; Combinational Circuit Analysis; Combinational Circuit Design; Synchronous and Asynchronous Circuits; Sequential Circuit Analysis; Sequential Circuit Design; Registers, Counters, Memory Units.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 206	PROGRAMMING LANGUAGE CONCEPTS	3	1	3.50	6.00	Compulsory

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 208	FORMAL LANGUAGES AND AUTOMATA THEORY	3	0	3.00	5.00	Compulsory

Course Content

Alphabet, Language, Grammar, Grammar Classes, Chomsky Hierarchy, Regular Grammar, Context Free Grammars, CFG and BNF Notation, Parse Tree, Left Recursion and Removal, Pumping Theorem, Decision Problem, Normal Forms, Stacked Automata, Context Dependent Grammars, Linear Dependent Automata, Unconstrained Languages, Turing machine, Curch Turing Hypothesis, Codes, Schutzenberger Criterion, Sardinas Patterson Algorithm, Prefix

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 210	OCCUPATIONAL HEALTH AND SAFETY II	2	0	2.00	3.00	Compulsory

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 212	BUSINESS ENGLISH	2	0	2.00	2.00	Compulsory

Course Content

Frequently used words and patterns in business life, considerations in team work and organizations, cultural diversity and socializing in business life, telephoning, interviewing, question-answer floods, recruitment procedures, input on delivering presentations, holding an interview with an employee/employer, writing a report and delivering a presentation on the interview.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
TM 204	NUMERICAL ANALYSIS	3	0	3.00	4.00	Compulsory

Course Content

This lesson contains solution methods of nonlinear equations, methods of numerical integral calculation, etc.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 301	SIGNALS AND SYSTEMS	3	0	3.00	5.00	Compulsory

Course Content

Continuous and Discrete-Time Signals and Their Properties, Continuous and Discrete-Time Systems and Their Properties, Linear and Time-invariant Systems, Convolution, Difference Equations, Fourier Analysis, Fourier Series Expansion, Fourier Transform, Laplace Transform, Discrete-Time Fourier Transform, DFT, FFT, z-Transform, Sampling Theorem.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 305	ALGORITHMS	3	0	3.00	5.00	Compulsory

Course Content

Introduction, algorithm analysis, algorithm design, overview of NP-hard problems

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 307	OPERATING SYSTEMS	3	0	3.00	5.00	Compulsory

Course Content

Operating Systems Concepts, Unix Operating System and Shell programming. Categorization of operating prompts. Basic Hardware Units, Hardware Building Blocks, Main Units of a Digital Computer. Central Processing Unit (CPU) Memory Unit. Transactions. Process Definition, Process Scheduling: Main Memory Organizations, Virtual Memory Management, Address Translation Methods Modern Virtual Memory Management.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 303	DATA MANAGEMENT AND FILE STRUCTURES	3	0	3.00	5.00	Compulsory

Course Content

Structured Query Language; Relational Computational Query Language; Example-Based Query Language; English Based Query Language; Queries in DB2&ORACLE&SQL SERVER Databases and Their Properties; Database System Catalogue; Optimizing Queries and Increasing Their Performance; Introduction to Optimization Techniques in Queries; Optimization of Rules Based Queries; Optimization of Cost-Based Inquiries; Optimization of Semantic Configuration-Based Queries

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 302		3	0	3.00	6.00	Compulsory

Course Content

Intro to Embedded systems, Microcontrollers, Embedded C, Real time operating systems and Embedded, Operating system design, Multistate Systems, Interfacing external devices, Serial I/O applications, Advanced Microcontroller Applications

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 306	SIGNALS AND SYSTEMS	3	0	3.00	6.00	Compulsory

Course Content

Introducing the fundamental software engineering subjects

Course Unit Code	Course Name	T	U	Credit	ECTS	Type

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 304	DATABASE MANAGEMENT SYSTEMS	3	0	3.00	5.00	Compulsory

Course Content

ER/UML Model in Conceptual Design; Relational Model in Logical Design; Relational Algebra; Structured Query Language (SQL); Data Integrity Programming (Checking Functions, Trigger Functions); Database Programming (Stored Procedures, Embedded SQL, JDBC); Semi-structural Data Modeling; XML; XML Programming Languages (XPath, XQuery)

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 308		2	0	2.00	3.00	Compulsory

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
OD 111	ATATURK PRINCIPLES AND HISTORY OF TURKISH REVOLUTION I	2	0	2.00	2.00	Compulsory

Course Content

Atatürk's Principles and Revolution History-I expresses the historical conditions of Turkish Revolutions and includes purpose and meaning of the revolution.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
OD 112	ATATURK PRINCIPLES AND HISTORY OF TURKISH REVOLUTION II	2	0	2.00	2.00	Compulsory

Course Content

The course of Atatürk's Principles and History of Turkish Revolution-II includes political, economical, cultural, social developments during the historical process from the foundation of Turkish Republic up to now. It deals with the changes that Turkey has experienced by being predicated on the important turning points of our recent history. The principles of Atatürkist thought and Atatürkism as a modern thought are included to the course content properly according to the aim of the course.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 401	DATA COMMUNICATIONS AND NETWORKING	3	1	3.50	6.00	Compulsory

Course Content

OSI Reference Model; Signaling and Encoding Techniques; Serial and Parallel Transmission; Communication Media Specifications; Error Detection and Correction; Flow Control Techniques; Synchronous and Asynchronous Transmission; Connection Oriented and Connectionless Services and Their Specifications; Switching; Local Area Network Technologies; Wide Area Network Technologies; IP, TCP and UDP;

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 403	INTRODUCTION TO COMPUTER GRAPHICS	2	1	2.50	5.00	Compulsory

Course Content

System Programming Concepts; 2-Tier, 3-Tier and N-Tier Application Development Models; Client/Server Architectural Model; HTML; CSS; Scripting; XML; XSLT; DTD; W3C-Schema; DOM; SAX; General Structure of RPC-based Applications; General Structure of RMI-based Applications; Web based Application Development Tools, System Security;

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 405	COMPUTER ENGINEERING DESIGN	2	4	4.00	9.00	Compulsory

Course Content

To be able to produce solutions to social and global problems with the subjects studied by the student in hardware and software.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 402	INTRODUCTION TO EMBEDDED SYSTEMS	3	1	3.50	6.00	Compulsory

Course Content

Introducing the fundamental software engineering subjects

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 406	GRADUATION PROJECT	1	6	4.00	10.00	Compulsory

Course Content

To be able to produce solutions to social and global problems with the subjects studied by the student in hardware and software.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 404	INTERNET PROGRAMMING	3	0	3.00	4.00	Compulsory

Course Content

Recognition of necessary software for web-based programming. Preparing a web page with the basic commands of the web programming language.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM GS I	GENEL SEÇMELİ I	2	0	2.00	3.00	

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 001	RESEARCH METHODS	2	0	2.00	3.00	Seçmeli

Course Content

This course includes information about scientific research, research process, identification of research problem, literature review, data collection methods, creating hypothesis, universe, sample, analysis methods and research report.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 003	TECHNICAL COMMUNICATION	2	0	2.00	3.00	Seçmeli

Course Content

The content of this course; definition of communication concept, communication types and classification, functions of communication, and effective communication ways.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 005	STRESS AND TIME MANAGEMENT	2	0	2.00	3.00	Seçmeli

Course Content

This lesson; historical development of occupational health and safety, occupational accident and occupational diseases and costs, the concept of occupational safety, the importance of occupational safety studies in terms of workforce efficiency, basic factors in occupational safety, sources of hazards, the concept of occupational health, psychosocial risk factors, ILO conventions, events that disrupt security Includes fire, earthquake and flood issues.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 009	PUBLIC ADMINISTRATION	2	0	2.00	3.00	Seçmeli

Course Content

The nature of public administration, Central government organizations, Local administrations; Subjects such as special provincial administration and the concept of bureaucracy constitute the content of this course.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 011	VOLUNTEERING STUDIES	2	0	2.00	3.00	Seçmeli

Course Content

The content of the course; corporate social responsibility concept and development, social responsibility areas, social responsibility plan, business ethics and social responsibility relationship, the impact of social responsibility practices on corporate success.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 013	ACADEMIC TURKISH	2	0	2.00	3.00	Seçmeli

Course Content

Definition of language, its characteristics, relations between language-nation / language-thought and language-culture. Language in the world; the place and importance of Turkish among them and its historical development. Ataturk's language revolution, concept and works. Sounds in Turkish. Phonology of Turkish. Spelling rules and application. Punctuation rules and application. Vocabulary. Productiveness of Turkish.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 015	CREATIVE DRAMA AND IMPROVISION	2	0	2.00	3.00	Seçmeli

Course Content

This course includes the sociological and psychological dimensions of drama, history of drama and its applications in education, drama in education, role play and improvisation, and the relationship of drama with creativity and communication concepts, drama practices and how to use drama activities in teaching different courses.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 017	HUMAN RESOURCES MANAGEMENT	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 021	BUSINESS LAW	2	0	2.00	3.00	Seçmeli

Course Content

This lesson; the emergence of labor law, sources of labor law, types of employment contract, termination of employment contract, working hours, Permissions and wages, etc. covers topics.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 023	ENTERPRISE RESOURCE PLANNING	2	0	2.00	3.00	Seçmeli

Course Content

The content of this course is the development of Enterprise Resource Planning (ERP), basic concepts about ERP; The importance of ERP for businesses; Basic modules of ERP systems, management of ERP projects, challenges and critical success factors in ERP projects, future of ERP systems.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 025	HUMAN RIGHTS	2	0	2.00	3.00	Seçmeli

Course Content

Historical Development of Human Rights, European Convention on Human Rights and International Fundamental Documents on the Protection of Human Rights, European Court of Human Rights and its Case Laws, Fundamental Rights and Freedoms, Generational Rights.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 027	ENTREPRENEURSHIP	2	0	2.00	3.00	Seçmeli

Course Content

Basic terms in entrepreneurship; Preparing a business plan; Basics of marketing research; Preparing a marketing plan; Production plan; Organization plan; Financial plans; Financial statement

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 031	HISTORY OF SCIENCE	2	0	2.00	3.00	Seçmeli

Course Content

Science. Science from the perspective of civilizations: Nile and Anatolian civilizations; Asian, Chinese, Indian, Roman, Greek and Islamic civilizations. European, American, Asian, Far East, Middle-Eastern civilizations. Turkish World History of Science and Technology; History of glass, textile and ceramic technology; history of iron-copper and casting technology.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 033	SOCIAL PSYCHOLOGY	2	0	2.00	3.00	Seçmeli

Course Content

Psychology science, fields of psychology, the place of social psychology in psychology, social psychology field and methods, human nature, socialization, social perception, attitudes and change, social impact, individual behavior in the group, interpersonal attraction and love.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 035	COMMUNICATION	2	0	2.00	3.00	Seçmeli

Course Content

Introduction to Communication; Language, Culture and Communication; Types of Communication (Written, Verbal, Nonverbal); Communication Models; Mass Media (Television, Radio, Press, Social Media); Communication and Public Relations; Political Communication; Media Literacy; You Have The Word; Communication and Ethics.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 037	FINANCIAL LITERACY	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 039	SIGN LANGUAGE	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 041	DISASTER AND CRISIS MANAGEMENT	2	0	2.00	3.00	Seçmeli

Course Content

The principles of disaster and crisis management, concepts, definitions and standards, elements of the emergency plans and emergency management, emergency situations, the communication, the importance of evacuation, examination of mitigation-preparation-intervention improvement phase, the next desk applications; The objective of crisis management, identification of the crisis, characteristics, stages, aspects of crisis management, history

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 043	CITY AND SOCIETY	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 045	ENVIRONMENTAL PROTECTION	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 047	BEHAVIORAL SCIENCES	2	0	2.00	3.00	Seçmeli

Course Content

Behavior, Behavioral Sciences, Development of Behavioral Sciences and Their Relationship with Other Social Sciences, Behavioral Plane and Social Institutions, Needs and Related Theories as the Main Source of Behaviors, Personality and Personality Traits, The Concept of Learning, Perception and Perception, Social Impact and Adaptation, Attitude Concept and Attitudes, Communication and Impressive Communication, Group Structure and Dynamics, Teaming, Group Team Decomposition, Effect of Culture and Behavior.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 049	HISTORY OF CLOTHING	2	0	2.00	3.00	Seçmeli

Course Content

Clothing in Prehistoric Societies; A.D. Clothing Culture in Various Regions of the World (Anatolia, Asia, Europe, Australia, Africa, America...) from the 5th Century to the 20th Century; the Latest Situation of Clothing Culture in the 21st Century.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 051	FINANCIAL INVESTMENT ANALYSIS	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 053	SPECIAL EDUCATION	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 055	INTERNATIONAL POLITICS	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 057	HISTORY OF TURKISH DEMOCRACY	2	0	2.00	3.00	Seçmeli

Course Content

Democracy, Political Party and Parliament; Parliamentary System, Presidential System, Parliamentary Government System; Emergence of Parliament: England; Emergence of Parliament: France; Turkish Modernization and Democratization: From Nizam-ı Cedid to the First Constitutional Monarchy; I. Constitutional Monarchy and II. Abdulhamid Eras; II. Constitutional Era; War of Independence and Parliamentary Government System; Early Republican Era; From Transition to Multi-Party Life to the Constitution of 61; Political Developments from the Adoption of the Constitution of 61 to the 12 March Regime; Political Developments from 1971 to the 12 September Regime; Political Developments from 12 September Regime to the 28 February; Political Developments Since the 28 February.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 059	CREATIVITY MANAGEMENT AT THE WORKPLACE	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 061	HISTORY OF MATHEMATICS	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit	Course Name	T	U	Credit	ECTS	Type

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 063	ANALYZING THE ECONOMICAL INDICATORS	2	0	2.00	3.00	Seçmeli
Course Content						

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 065	ENGLISH-TURKISH TRANSLATION	2	0	2.00	3.00	Seçmeli
Course Content						

This course follows a process consisting of material sharing that facilitates students' basic vocabulary knowledge and foreign language reading and writing skills, as well as provides guidance for translating the target language to the native language. It also includes regular assignments to practice and apply what they have learned.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 067	NEUROMARKETING	2	0	2.00	3.00	Seçmeli
Course Content						

The basic topics in this course are; determining the methods of neuroscience methods on marketing strategies, using neuroscience data in the process of consumer protection, neuromarketing strategies and ethical side of neuromarketing.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 069	COMMUNICATION WITH DISABLED INDIVIDUALS	2	0	2.00	3.00	Seçmeli
Course Content						

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 071	ADDICTION AND FIGHT AGAINST ADDICTION	2	0	2.00	3.00	Seçmeli
Course Content						

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 073	INFORMATION LITERACY	2	0	2.00	3.00	Seçmeli
Course Content						

The importance of information literacy Information literacy: Concepts, definitions Legal and ethical issues in the scientific research process The scientific research process (wonder, research, select, binding, transfer and evaluation) Information access tools (library catalogs, databases, search engines) Information Search Strategies Principles of quotation, footnote and bibliography

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM TS I	TEKNİK SEÇMELİ I	3	0	3.00	5.00	

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 321		3	0	3.00	5.00	Seçmeli
Course Content						

Fuzzy Sets; Fuzzy Set Operations; Fuzzy Relations and Calculations; Fuzzy Graphs and Relationships; Fuzzy Numbers; Fuzzy Functions; Probability and Uncertainty; Fuzzy Logic; Fuzzy Inference; Fuzzy Control; Fuzzy Expert Systems; Combination of Fuzzy Systems and Artificial Neural Networks; Combination of Fuzzy System and Genetic Algorithm

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 323	DIGITAL SIGNAL PROCESSING	3	0	3.00	5.00	Seçmeli
Course Content						

Discrete-Time Signals and Systems; Discrete-Time Fourier Transform (DTFT); Discrete Fourier Transform (DFT); Discrete-Time Processing of Continuous-Time Signals; z-Transform; Frequency-Domain Analysis of Linear and Time-Invariant Systems; Digital Filter Design Techniques.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 325		3	0	3.00	5.00	Seçmeli
Course Content						

Basic Concepts in Computer Programming and Python Programming Language. Problem Formatting and Algorithm Development: Data Types and Variable Definitions. Basic Command Structures. Condition and Loop Commands. Functions. Classes and Objects. Files and Directories. Module creation. Apps

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 327	MATHEMATICAL PROGRAMMING	3	0	3.00	5.00	Seçmeli

Course Unit Code	Course Name	T	U	Credit	ECTS	Type

General introduction to computer algebra packet such as Mathematica, Maple, Matlab, Mathcad....Grammar and syntax in Mathematica. Assigning value to symbols. Lists. Defining functions.Plotting functions. Symbolic calculations. Loops and conditional statements. The use of special functions. Finding root by using symbolic calculation.The solution of system of linear equations. Calculation of Taylor's series. Least square method. Symbolic and numerical derivative and integration calculus by using computer algebra such as Mathematica. To find the solution of ordinary differential equations by using symbolic calculus. Solution of the system of differential equations by using packet programmes.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 329	INTRODUCTION TO DATA SCIENCE	3	0	3.00	5.00	Seçmeli

Course Content

Role of data scientist, business analyst, vertical use cases of data science and business applications. Where and how to obtain data, data sources and evaluation methods, data transformation and preparation. Statistical models and methods: prediction-definition, exploratory data analysis, communication, visualization, data preparation, data engineering; big data, coding, ethical values, asking the right question.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM GS II	GENEL SEÇMELİ II	2	0	2.00	3.00	

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 002	MEDIA AND COMMUNICATION	2	0	2.00	3.00	Seçmeli

Course Content

Communication concept, process and features; basic elements of the communication process; communication skills; types of communication; forms of communication; model concept; basic communication models; models used in the communication process; communication theories; the adventure of communication studies; critical media studies; feminist media studies; media and public opinion; the concept of democracy; opinion polls; media, politics and propaganda; digital media.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 004	DICTION AND EFFECTIVE SPEAKING	2	0	2.00	3.00	Seçmeli

Course Content

The content of the course includes communication, communication techniques, language usage, body language, word selection, sentence structure, improving rhythm, emphasis, tone of voice, speech tempo, stage usage, and etiquette rules.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 006	BUSINESS ETHICS	2	0	2.00	3.00	Seçmeli

Course Content

The lesson contains these topics: Ethical and moral concepts - Ethical systems - Professional Concept and Professional Ethics - Ethical and Unethical Behaviors in Business Life - Professional Corruption and Ethics - Social Responsibilities of Business and Ethics etc.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 008	PROTOCOL AND SOCIAL BEHAVIOR RULES	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 010	PRODUCTION MANAGEMENT	2	0	2.00	3.00	Seçmeli

Course Content

Basic Economic Concepts, National Income, Inflation, Unemployment, Interest Rate, Exchange Rate and Balance of Payments, Money-Making and Non-Money-Creating Financial Institutions.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 012	VOLUNTEERING STUDIES	2	0	2.00	3.00	Seçmeli

Course Content

The content of the course; corporate social responsibility concept and development, social responsibility areas, social responsibility plan, business ethics and social responsibility relationship, the impact of social responsibility practices on corporate success.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 014	ACADEMIC TURKISH II	2	0	2.00	3.00	Seçmeli

Course Content

Definition of language, its characteristics, relations between language-nation / language-thought and language-culture. Language in the world; the place and importance of Turkish among them and its historical development. Ataturk's language revolution, concept and works. Sounds in Turkish.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 016	CREATIVE DRAMA AND IMPROVISATION	2	0	2.00	3.00	Seçmeli

Course Content

This course includes the sociological and psychological dimensions of drama, history of drama and its applications in education, drama in education, role play and improvisation, and the relationship of drama with creativity and communication concepts, drama practices and how to use drama activities in teaching different courses.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 018	HUMAN RESOURCE MANAGEMENT	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 020	FIRST AID	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 022	BUSINESS LAW	2	0	2.00	3.00	Seçmeli

Course Content

This lesson; the emergence of labor law, sources of labor law, types of employment contract, termination of employment contract, working hours, Permissions and wages, etc. covers topics.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 024	POLITICAL MANAGEMENT	2	0	2.00	3.00	Seçmeli

Course Content

Definition of Political Science; Power; Legitimacy; Sovereignty; State; Democracy; Political Participation; Forms of Participation and Political Behavior; Political Parties; Bureaucracy; Pressure Groups-Public Opinion; Concept of Election.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 026	SUSTAINABILITY	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 028	PROBLEM SOLVING AND DECISION MAKING	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 030	TECHNOLOGY ADDICTION	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 032	BUSINESS ADMINISTRATION	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 034	FACTORY ORGANIZATION	2	0	2.00	3.00	Seçmeli

Course Content

Production, Production Planning, Quality Control, Procurement, R&D, Marketing, Sales, Maintenance, Finance, Accounting, Human Resources, and Personnel departments' responsibilities, interrelationships, performance metrics, required competencies for staff, stress management, conflict management, motivation management, and strategic planning.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 036	QUALITY MANAGEMENT SYSTEMS	2	0	2.00	3.00	Seçmeli

Course Content

The content of this course consists of the concept and meaning of quality, history and principles of quality management, the concept of total quality management, measurement and evaluation methods used in quality management, quality certification.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 038	TECHNOLOGY MANAGEMENT AND R&D	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 040	MARKETING	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 042	SERVICE MARKETING	2	0	2.00	3.00	Seçmeli

Course Content

Content of the Service Marketing course; The concept of service and amenities, the importance of the service sector, the reasons for the growth of the service sector, the service sector in Turkey. Classification of services, Product, Service as a product, Product mixed strategies in services, Distribution, Distribution channel options for service businesses, Pricing, Pricing approaches for services, Promotion, advertising, sales promotion, Public relations, Personal sales, Direct marketing, Service marketing and Human resources, Service and customer, Service marketing and physical evidence, Capacity and demand management strategies for services, Capacity management, Revenue management, Transactional marketing, Relational marketing.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 044	E-COMMERCE	2	0	2.00	3.00	Seçmeli

Course Content

Historical Development Process of Electronic Commerce, Basic Concepts of Internet and Electronic Commerce, Management of Marketing over the Internet, Electronic Logistics; Electronic Commerce Applications

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 046	CURRENT ECONOMIC ISSUES	2	0	2.00	3.00	Seçmeli

Course Content

Basic Economic Concepts, National Income, Income Distribution and Poverty, Factors of Production, Inflation, Unemployment, Interest Rate, Middle Income Trap, Cryptocurrency, Structural Reforms, Sustainable Development.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 048	PUBLIC RELATIONS	2	0	2.00	3.00	Seçmeli

Course Content

Concept of Public Relations; Historical Development; Methods and Techniques Used; Principles and Organization; Strategic Management in Public Relations; Public Relations in the Information Society

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 050	SOCIOLOGY	2	0	2.00	3.00	Seçmeli

Course Content

Within the scope of the course, the definition of sociology, its basic concepts, its emergence as a science will be emphasized. Afterwards, some topics of sociological interest (such as modernization, globalization, social stratification, class, gender) will be discussed.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 052	GLOBALIZATION READINGS	2	0	2.00	3.00	Seçmeli

Course Content

The course covers the modern and its conceptual concepts, the general outlines of the modernization process and evolution from the past to the present, 20th-century modernization theories and their criticism, the post-modern period, the emergence conditions and historicity of globalization, the large-scale changes that occurred in the post-globalization period and their economic, political discusses and discusses the topics that will reveal the social and cultural consequences of these developments, and finally question the effects, results, and meanings of these developments in Turkey.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 054	PHOTOGRAPHY	2	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 056	PROJECT MANAGEMENT	2	0	2.00	3.00	Seçmeli
Course Content						

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 058	INTRODUCTION TO BUSINESS SCIENCE	2	0	2.00	3.00	Seçmeli
Course Content						

Basic concepts of business organizations, organizations' objectives and environment, establishment and classification of organizations, expansion of organizations, the concept of international business and business functions.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 060	HEALTHY AND ACTIVE AGEING	2	0	2.00	3.00	Seçmeli
Course Content						

This course includes the concept of health and other related concepts, physical health, mental health, social health concepts, aging concept and active aging practices.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 062	SALES TECHNIQUES	2	0	2.00	3.00	Seçmeli
Course Content						

In addition to the theoretical information given in the preparation of pre-sales, performing the sales process and following the after-sales services, the student shares his / her knowledge with the class through a field study.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 064	DIGITAL TRANSFORMATION AND INDUSTRY 4.0	2	0	2.00	3.00	Seçmeli
Course Content						

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 066	HISTORY OF CLOTHING	2	0	2.00	3.00	Seçmeli
Course Content						

Clothing in Prehistoric Societies; A.D. Clothing Culture in Various Regions of the World (Anatolia, Asia, Europe, Australia, Africa, America...) from the 5th Century to the 20th Century; the Latest Situation of Clothing Culture in the 21st Century.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 068	ADDICTION AND FIGHT AGAINST ADDICTION	2	0	2.00	3.00	Seçmeli
Course Content						

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 070	CHILD RIGHTS AND FAMILY EDUCATION	2	0	2.00	3.00	Seçmeli
Course Content						

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
GS 072		2	0	2.00	3.00	Seçmeli
Course Content						

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM TS II	TEKNİK SEÇMELİ II	3	0	3.00	5.00	

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 336	OPTIMIZATION TECHNIQUES	3	0	3.00	5.00	Seçmeli
Course Content						

Static and Dynamic Optimization, Calculus of Variations, Optimal Control of Discrete-Time Systems, Optimal Control of Continuous-Time Systems,

Extensions of LQR, Final- Time-Free and Constrained Input Control, Dynamic Programming,.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 338		3	0	3.00	5.00	Seçmeli

Course Content

GPU for graphics, shaders and shading language, animation of objects, 3D affine transformations, koordinate transformations, perspective and orthogonal projections, texture mapping.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 340		3	0	3.00	5.00	Seçmeli

Course Content

İletişim güvenliği, ağ güvenliği, güvenlik yönetimi, yasal konular, siyasi konular ve teknik konular dahil olmak üzere siber güvenliğin tüm yönlerine temel bir giriş.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 342	INTERNET OF THINGS	3	0	3.00	5.00	Seçmeli

Course Content

Basic concepts, basic hardware, sensors, signal-image processing, data processing and compression, network and protocols, practical ready platforms, programming fundamentals, programming for data storage and communication, IoT and big data, IoT security.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 344	INTRODUCTION TO MOBILE PROGRAMMING	3	0	3.00	5.00	Seçmeli

Course Content

An Overview of Mobile Technologies ; Mobile Devices ; Mobile OS ; Introduction to Mobile Application Development ; Mobile App Components ; Application Lifecycle ; User Interface Design (Menus, Dialog boxes, etc.) ; ListView ; ViewPager ; ArrayAdapters; Databases on Smartphones and Data Management ; Sensors on Smartphones and Sensor Data Collection ; Broadcast Receivers ; Notifications, User Rights and Permissions ; Location-based Services ; Background Tasks.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM TS III	TEKNİK SEÇMELİ III	3	0	3.00	5.00	

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 421	COMPILER DESIGN	3	0	3.00	5.00	Seçmeli

Course Content

Compiler stages, lexical analysis, syntax analysis, semantic analysis, transform, code optimization, code generation

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 423	SCIENTIFIC COMPUTING	3	0	3.00	5.00	Seçmeli

Course Content

Introduction to Windows Programming; Microsoft Foundations Classes; Working with Documents and Views; Designing the Visual Interface; Concurrency and Synchronization.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 425	WIRELESS AND MOBILE NETWORKS	3	0	3.00	5.00	Seçmeli

Course Content

Introduction to wireless and mobile networks and network architectures, Cellular networks. Mobility and handoff management, Centralized wireless LANs and Mobile IP, Mobile transport protocols, Ad hoc wireless networks, Sensor networks, Satellite networks.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 427	CLOUD COMPUTING	3	0	3.00	5.00	Seçmeli

Course Content

The objective of the course is to provide the introduction to the current practices of cloud computing. Mainly focusing on cloud computing models, techniques, and architecture, this course will provide students with the knowledge and handson experience in designing and implementing cloudbased software systems. The students will be provided information on concepts such as Software as a Service (SaaS), Platform as a Service (PaaS), Infrastructure as a Service (IaaS), Identity as a Service (IdaaS) and major providers of those in the market today.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 429	DIGITAL IMAGE PROCESING	3	0	3.00	5.00	Seçmeli

Course Unit Code	Course Name	T	U	Credit	ECTS	Type

Course Content

Fundamentals of digital image, the pixel space, image enhancement, frequency domain image enhancement, image sharpening, color image processing, multi-resolution processing, image compression.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM TS IV	TEKNİK SEÇMELİ IV	3	0	3.00	5.00	

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 435		3	0	3.00	5.00	Seçmeli

Course Content

This course introduces students to human computer interaction by describing the main pillars of this interdisciplinary field – human and computer. Accordingly, this course introduces; introduction to interactive systems, interaction design basics, design rules, HCI in the software process, HCI evaluation techniques.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 437		3	0	3.00	5.00	Seçmeli

Course Content

Distributed System definitions. Resource sharing and Network. Features that Distributed Systems are intended to provide. Distributed System Types. Layered Structure. middleware. Threads and Tasks. Clients. servers. Inter-task communication. Calling the Remote Procedure. Naming and network services. Events and process states. File system architecture.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 439		3	0	3.00	5.00	Seçmeli

Course Content

Software and hardware of computer systems, parallel software design methodologies, parallel programming models, parallel algorithms, performance issues, practical experience with modern software/hardware systems.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 441		3	0	3.00	5.00	Seçmeli

Course Content

TTL and CMOS Gate Characteristics, Synthesis of Boolean Functions with SSI Gate Elements, MSI Decoders and Multiplexers, Combinatorial Circuit Synthesis with SSI and MSI Elements, Synchronous Sequence Analysis, Sequence Detector, Synchronous Sequence Circuit Synthesis, Asynchronous and Synchronous Printer Counters, Design of Addition and Subtraction Circuits with SSI and MSI Elements.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 443		3	0	3.00	5.00	Seçmeli

Course Content

Security concepts vulnerabilities, attacks and defenses in computer systems and networks.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM TS V	TEKNİK SEÇMELİ V	3	0	3.00	5.00	

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 422	INTRDUCTION TO COMPUTER VISION	3	0	3.00	5.00	Seçmeli

Course Content

Introduction to Computer Vision, image modalities, Image representation and introduction to Matlab/Octave, Binary Images and connected component labelling algorithms, morphological operations, Region properties, gray-scale, color images, Geometric and intensity transformations. Histogram and histogram equalization, Spatial filtering: linear and non-linear filters, Edge detection, Line detection, Hough transform, Image projections, template matching, similarity, normalized cross correlation, Fourier basis, transform, and frequency domain filtering, Image pyramids, local interest points, features and matching, Visual recognition, object detection, Pattern recognition/classification

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 426	INTRODUCTION TO DATA MINING	3	0	3.00	5.00	Seçmeli

Course Content

Data mining concepts, Data preparation techniques, Statistical learning theory, Naive Bayes classification and decision threes, Clustering methods, Associaition rules.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 424	INTRODUCTION TO NATURAL LANGUAGE PROCESSING	3	0	3.00	5.00	Seçmeli

Course Content

Morphological Analysis; Syntax Analysis; Grammer and Languages; Regular Language; Word Processing Algorithms; Machine Learning; Text Classification; Information Extraction; Information Retrieval; Question Answering Systems; Collacation

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 428	INTRDUCTION TO GAME DESIGN	3	0	3.00	5.00	Seçmeli

Course Content

Game design, game testing, search trees, path finding.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 430	INTRODUCTION TO ROBOTICS	3	0	3.00	5.00	Seçmeli

Course Content

Introduction to industrial robots, rigid motions and homogeneous transformations, forward and inverse kinematics, velocity kinematics and Jacobian, Path planning, robot dynamics, feedback control and computed torque control.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM TS VI	TEKNİK SEÇMELİ VI	3	0	3.00	5.00	

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 434		3	0	3.00	5.00	Seçmeli

Course Content

Introduction to Machine Learning, Supervised Learning and Applications, Unsupervised Learning and Applications, Reinforcement Learning and Applications.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 436	INTRODUCTION TO BIG DATA ANALYTICS	3	0	3.00	5.00	Seçmeli

Course Content

Big data algorithms, big data programming paradigms and platforms, big data analysis tools.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 438		3	0	3.00	5.00	Seçmeli

Course Content

Foundations of modern crytography, History of Cryptosystems, Basic Cryptographic Algotihms, Symmetric Key Cryptosystems, Hash Algorithms, Encryption Schemes, Open Key Cryptosystems, Digital Signatures, Key Distributions Systems, Key Agreement and Secret Sharing, Quantum Cryptography.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 442	DATABASE DESIGN AND APPLICATIONS	3	0	3.00	5.00	Seçmeli

Course Content

Database systems concepts, entity-relationship (VI) and extended entity-relationship (GVI) data modeling, relational data modeling, file organization and indexing structures, relational algebra, structural query language (SQL); database design: functional dependency and table normalization, introduction to database management.

Course Unit Code	Course Name	T	U	Credit	ECTS	Type
BM 440		3	0	3.00	5.00	Seçmeli

Course Content

Software product and process quality, software measurement and criteria, software standards, software validation and verification, software testing techniques, system testing, test design, error prevention, software review, software security.