Faculty	Department	Course Name	Content	ECTS	Theory	Practice	Total Credit	Code
Faculty of Architecture	Urban and Regional Planning	Urban Sociology	Includes dualistic models of urban life, settlement dynamics, survival strategies of urban households, and responses to global restructuring. Special emphasis on Turkish urbanization.	5	3	0	3	EXC1001012019
Faculty of Arts	Ceramics	Glasses, Glazes and Glass-Ceramics	Structure of glasses, Definition of glass and glassy, Structure of glasses and glazes, crystallization and stability of glasses in relation to structure Glazes and glasses formation Glazes and glasses components Glazes and glasses components Physical and mechanical properties of glasses and glaze Type of the glazes and glasses Chemical durability of glasses Raw materials for glassmaking and glaze Glaze and glass preparation methods Application of glaze and glasses Industrial glaze and glasses	5	2	1	3	EXC0703012019
		Ceramic Technology	This course includes ceramics description and history, development of ceramics, classification of ceramics, technological developments, body and glaze raw materials, ceramic glazes, oxides and their properties, Seger and calculations.	5	2	1	3	EXC0703022019
ciences	Accounting Information Systems	Accounting II	Functions of Financial Management, Time Value of Money, Financial Analysis and Techniques, Ratio Analysis, Comparative Analysis Technique- Percentage Analysis, Financial Planning and Control, Regression Model, Profit Planning and Breakeven Analysis, Operating Leverage, Financial Leverage Degree and Combined Leverage, Fund Flow Table and Pro-Forma Financial Tables, Cash Bugdet.	4	3	0	3	EXC1503012019
		Accounting I	Functions of Financial Management, Time Value of Money, Financial Analysis and Techniques, Ratio Analysis, Comparative Analysis Technique- Percentage Analysis, Financial Planning and Control, Regression Model, Profit Planning and Breakeven Analysis, Operating Leverage, Financial Leverage Degree and Combined Leverage, Fund Flow Table and Pro-Forma Financial Tables, Cash Bugdet.	4	3	0	3	EXC1503022019
		Accounting Standars II	Central bank, Financial markets. Financial Institutions and Securities	4	3	1	4	EXC1503032019
		Accounting Standars I	Basic and supplementary additional financial statements, analysis and interpretation means.	4	3	1	4	EXC1503042019
		Managerial Accounting	To give information about accounting, finance and cost information systems in companies.	3/3	3	0	3	EXC1503052020
		Cost Accounting	Cost management, which is the significant part of the corporate governance and financial reporting process, will be discussed as a theoretical view. While the importance of cost, expense and consumption concepts are discussed, the distribution of the expenses among the company departments will be made in order to determine the so-called expenses.	5/3	3	0	3	EXC1503062020
		Financial Management-I	This course teaches you how to do empirical work by using examples from different fields of the economy. Also different types of economic data focuses on how to obtain them and how to use it also, regression analysis, simple and general the method of least squares classical regression model, hypothesis testing, model building problems.	5	3	0	3	EXC1501012019
		Financial Management-II	This course is offered as the second part of econometrics course. This course teaches hypothesis testing, model building problems, autocorrelation, multicollinearity, heterocedasticty.	6	3	0	3	EXC1501022019

Faculty of Applied Sc

Banking and Finance	Capital Markets and Financial Institutions	Type of strategies,Game definition, Classification and formulation of games, Zero sums games, Positive sum games, Cournot model, Bertrand model, Choice competition, Mixed Strategies, Crime confession, Stackelberg model, Schemes and International Competition, Coalition games, Ownership and welfare distribution, Exchange of different houses, Covert agreement in the Cournot model, Effective fee and time consistent monetary policy, Cournot model under asymmetric information, Public goods procurement, Auction, Bargaining,	5	3	0	3	EXC1501032019
	Financial Statement Analysis	Management: Basic concepts, importance for enterprises. Comparison of management concept with similar concepts. Development of Management Science: Classical, behavioral, Modern management approaches and comparison. Management system: Characteristics, importance for businesses. Planning and Decision Making: Planning process, types of plan. Organization concept: Characteristics, Principles, Organization process. Organization concept: Comparison with the planning process. Authority and power concepts. Authority migration. Audit process and features. Current management techniques and applications . Current management techniques and applications	5	3	0	3	EXC1501042019
	Econometrics-I	Issues such as motivation, behavior, decision processes, comunication, small group behavior, cooperation and conflict are discussed in this course. Students will be encouraged to explore organisational identity as a main variable to explain organisational behavior.	6	3	0	3	EXC1501052019
	Econometrics-II	Sets, Numbers, Equalities, Equations, Ratio and proportion, Percent account, Simple interest, Compund interest, Functions	6	3	0	3	EXC1501062019
	Service Marketing	Functions, limit, continuity, Derivation and its rules, applications of derivation, exponantial and logaritmic functions, definit and indefinit integrals and its applications, linear equation systems, supply and demandt functions and linear model for balance, multi variable functions.	4	3	0	3	EXC1501072019
International Logistics and Transportation	Game Theory	Deposit issues, accrual issues, depreciation issues, short and long term liabilities, shareholder accounts, profit and loss accounts and the cost accounts are considering in this course. There are many practises are done to facilitiate to learn subjects. Also some special issues such as deprication is considered solely. At the end, all issues about trial balance, profit and loss statement and also financial position statement will have been tought.	5	3	0	3	EXC1505012019
	Management and Organization	The course, the basic equivalence of accounting (assets = source equivalent), accounting and accounting process, accept the General Accepted Accounting Principles, the Uniform Chart of Accounts systematic, cash flows, stock movements, movements of commercial goods,VAT transactions and commercial debit / credit accounting procedures will be explained.	5	3	0	3	EXC1505022019
	Organizational Behavior	Accounting and financial reporting standards in Turkey	4	3	0	3	EXC1505032019
International Trade	Business Mathematics I	Accounting and financial reporting standards in Turkey	4	3	0	3	EXC1507012019
	Business Mathematics II	To apply marketing mix intruments to their professional life.	4	3	0	3	EXC1507022019
	Consumer Behavior	An overview of basic marketing topics; perception; learning and memory; motivation and involvement; attitudes (attitude formation and change); self-concept and personality; values; life styles and culture; reference groups, family and gender; decision-making process in buying; marketing communications an persuasion.	4	3	0	3	EXC1507032019

		Marketing Research	Basic concepts and approaches, Scientific Method and Research Universe and Sampling, Data collecting, Observation Historical Method, Processing, analysis and interpretation of data results	4	3	0	3	EXC1507042019
Karahallı Vocational School	Office Management and Executive Assistance	Economy I	Basic Concepts Related To Marketing, Consumer Behavior, Marketing Environment, Marketing İnformation System And Marketing Research, Marketing And Marketing Process Control.	4	2	0	2	EXC1855012019
	Logistics	Principles of Marketing	Basic Concepts Related To Marketing, Consumer Behavior, Marketing Environment, Marketing Information System And Marketing Research, Marketing And Marketing Process Control.	3	3	0	3	EXC1858012019
	Computer Education and Instructional Technologies	Human Computer Interaction	The class structure is a mix of classroom design activities, lectures, and design critiques of student work by peers and instructor.	5	3	0	3	EXC0403012019
		Community Service Practices	Importance of service applications to society, determine the current problems of society and prepare projects towards to produce solutions. Participate to panel, conference, congress, symposium as a spectator, speaker. Join to projects which needs social responsibility as a volunteer, give some basic knowledge and skills about service studies to society which are applied at schools.	5	1	2	2	EXC0403022019
		Material Development and Teaching Technology	Instruction analysis, sorting the aims, analysis of aims, analysis of learner, planning content, planning practices and feedback, planning evaluation, two dimensions visual learning and teaching devices, classic educational technology, modern educational technology, procedure of choosing instructional material, principles of designing and developing materials, designing items, methods of developing material, developing materials related to field, developing visual, auditory and visual-auditory materials, examples of instructional materials in educational environments.	5	2	2	3	EXC0403032019
		Measurement and Evaluation	Fundamental concepts of measurement and evaluation; scale and types of scales. Status of evaluation in education system, purposes of evaluation, types of evaluation, essential characteristics of measurement instruments; error and error types, reliability, and reliability calculation methods; types and calculations of validity, traditional measurement instruments, complementary measurement and evaluation approaches, measurement of cognitive, affective and psychomotor skills and its difficulties. Statistical calculations on measurement results, evaluation and grading.	4	3	0	3	EXC0403042019
		Community Service Practices	Importance of service applications to society, determine the current problems of society and prepare projects towards to produce solutions. Participate to panel, conference, congress, symposium as a spectator, speaker. Join to projects which needs social responsibility as a volunteer, give some basic knowledge and skills about service studies to society which are applied at schools.	5	1	2	2	EXC0403052019
	Educational Sciences	Assessment and Evaluation	Basic concepts related to measurement.Types of scales. Errors in measurement. Reliability of scales. Validity of scales. Standard error. Types of tests. Item analysis and test statistics. Scoring. Evaluation and assessment.	5	3	0	3	EXC0408032019
		Physics	Electric area, Gauss law, electric potential, capacity and di-electricity, current and resistance, magnetic areas, the sources of magnetic areas, Faraday laws, inductor, alternative current circuits, electromagnetic waves, semiconductors, transistors, amplifier circuits, oscillators.	5	4	0	4	EXC0408042019
		Teacher Education in Turkey since 1923	Teacher Education on Society, evaluate the consistency of national needs with appointment of teachers based on educational policies, analyze the teaching fields and appointments	5	3	0	3	EXC0408052019

Faculty of Education		Cognitive-Behavioral Pscyhotherapies	Developing the therapeutic relationship, planning treatment and structuring sessions, the cognitive model, beliefs, automatic thoughts, problems and solutions, goals and activation, assessments	5	3	0	3	EXC0408012019
		Crisis Intervention	The definition of psychological crisis, the crisis of the process stages, adults' and children's crisis response differences in developmental perspective, crisis intervention techniques, and case examples, interventions to stop suicide attempts.	5	3	0	3	EXC0408022019
	Mathematics Education	Basic Mathematics	Definition, nature and structure of mathematics; sets and set operations (intersection, union, difference etc); arithmetic operations in natural numbers (addition, subtraction, division and multiplication); various counting systems (base arithmetic), the structure and characteristics of the integers (divisibility etc.); the concept of fractions and rational number; arithmetic operations in rational numbers; the concept of real number; the set of real numbers; operations with real numbers (root, power vb.)	5	4	0	4	EXC0417012019
		Calculus I	Numbers, numerical systems and their properties, induction principle, range and absolute value, relation, paired relations, Cartesian product, Definition of relation, Properties of relation, Inverse Relation, equivalence relation, Order relation, Functions: Definition and properties of function, Types of functions, Inverse function, Compound function, Trigonometric functions, Exponential functions, Logarithmic functions, Inverse trigonometric functions, Special functions, Limit: Limit of a variable, Limit of functions, Limit of trigonometric functions, Continuity: Definition of continuity, Limit from the left and Limit from the right, Properties of continuity functions, Types of continuity, Derivative: Definition of derivative, Geometrical interpretation of derivative, Rules of Derivation, Higher order derivatives.	5	4	2	5	EXC0417022019
		Calculus II	Applications of derivative; maxima and minimal definite problems, indeterminate exponential function, graphics, differential equation, differential equation. Indefinite integral: definition of indefinite integral, integral which is detachable to its basic form, integration by parts, calculation integral by proper fraction, integration of trigonometric function, integration of irrational functions. Definite integral: properties of definite integral, area and volume calculation, length of arc, improper integral.	5	4	2	5	EXC0417072019
		Diferential Equation	The concept of differential equation, the classification of the differential equations, Initial value problems, general solutions, Separable differential equations, homogeneous equations, the equations that can be turned into the homogeneous state, total differential equations, the equations that can be turned into the integration multipliers and the total differential equations, primary linear differential equations, Bernoulli and Riccati-type differential equations. Primary high-level equations, secondary level equations not including any one of the variables, the applications of the secondary level differential equations. High-level differential equations and linear differential equations and their solutions.	4	4	0	4	EXC0417032019
		Lineer Algebra	Vectors in R^2 and R^3, matrixes; addition and scaler multiplication in matrix space, linear freedom in matrix space, a short introduction to the concept of vector space. Linear equation systems, Gauss elimination, subspaces. Linear freedom and dimension. Linear transformations, the relationship between the linear transformations and the matrixes, matrix multiplication, the opposites of matrixes and application	3	3	0	3	EXC0417042019
		Introductory Mathematics	Set of natural numbers, set of integers numbers, set of rational numbers, set of real numbers; concept of function, kinds of functions: trigonometric functions, exponential functions and logarithmic functions; induction; symbols of summation and product; concept of progression and series and applications; complex numbers, the polar form of a complex numbers and applications.	6	4	2	5	EXC0417052019

		Mathematics for Life	The applications of the equations and the inequalities in the daily life (physics, chemistry, biology, economy, health, sports, statistics, meteorology) ; some examples to the linear relations in our physical world and some solutions of the related problems; the applications of polynomials functions in the daily life; the applications of trigonometric and exponential functions in the daily life; the applications of probability and statistically in the daily life.	5	3	0	3	EXC0417062019
	Science Education	Nature of Science and Scientific Inquiry	Scientific Inquiry- Research Question, Nature of Science-Tentativeness, Nature of Science-Experiment versus Observation	5	3	0	3	EXC0416012019
		Astronomy	Definition of astronomy, historical development and change of astronomy data in history. In addition, our contribution to our lives in the process. Handling of changes in the solar system.	5	2	0	2	EXC0416022019
		Science Teaching	Science teaching, basic objectives of science teaching, science literacy, concept teaching (misconceptions, concept maps, conceptual cartoons, V diagrams, etc.), methods and materials used in science teaching, Science and Technology Curriculum examination (themes, achievements, learning situations, assessment techniques, etc.). Examination of the course, teacher and student workbook samples.	5	2	2	3	EXC0416032019
		Decision Making Competencies in the 21st Century	The purpose of this course is to provide insights about the nature of decision making in controversial issues.	5	3	0	3	EXC0416042019
		Measurement and Assessment in Science Education	This course covers the fundamentals of assessment approaches and measurement tools for the effective science instruction so that science teacher candidates develop the knowledge and skills about measurement and assessment with an emphasis on constructs and how to measure them. Teacher candidates will learn and practice the formative assessment approach and techniques used in the field of science education.	5	3	0	3	EXC0416052019
		Nature Of Science and Teaching	This course is designed to assist science teacher candidates to develop the knowledge and skills about nature of science and scientific Inquiry, including how to teach NOS and SI-embedded science in elementary and middle school classrooms. This involves sound understanding of the content knowledge, basic facts, principles and processes underlying the nature of science and scientific inquiry along with its historical and socio-cultural construction, and related subject specific pedagogy.	5	3	0	3	EXC0416062019
		Interdisciplinary Teaching and Learning in Classroom	This courses is designed for active participation of undergraduate students. Each week, students will actively participate and discuss the pre-determined articles about integration, interdisciplinary teaching and learning, develop a lesson plan focusing on interdisciplinary teaching and microteaching sessions will be conducted.	5	3	0	3	EXC0416072019
	Social Studies Education	Human Rights and Democracy	Basic and fundamental concepts of human rights and democracy, historical developments of human rights and democracy, the limitations, problems and challenges faced by democracy and human rights in today's world, the skills and expertise required to teach this issues in elementary and middle schools.	5	2	0	2	EXC0410012019
		Scientific Research Methods	This course offers an introduction to the theory and practice of research methods in the social sciences. It will take up the purposes, principles and applications of both quantitative and qualitative methods in a very basic level. It will cover basic concepts of the social research, phases of a research processes, sampling methods, questionnaires, different types of interviews, systematic and participant observation, and documentary methods. The processes and procedures of a research project, collection and analysis of different sorts of data and writing up a brief research report are also included.	5	2	0	2	EXC0410022019
	Elementary Education	Teaching Principles and Methods	Students will first learn teaching principles and then practice and implement these ideas.	5	3	0	3	EXC0413012019
		Media Literacy	To raise conscious individuals who can read media in a correct way; the ones who avoid the negative effects and benefit from the positive effects of media.	5	3	0	3	EXC0413022019

		New Methods in Qualitative Research	Learning and using the new qualitative research methods in the literature.	5	3	0	3	EXC0413032019
Faculty of Agriculture	Department of Animal Science	Poultry Science I	Commercial Chicken Meat and Egg Industries in World and Turkey. Modern Breeds of Chicken. Biology of Chicken. Behavior of Chicken. Formation of Egg and Egg Quality. Poultry Meat and Quality. Poultry Manure and Waste Management. Development of the embryo and incubation. Poultry Housings, conditions of poultry housing and equipments. Broiler productions. Poultry Processing. Layer production. Poultry nutrition. Poultry Genetic end Breeding. Poultry Health and disease. Turkey production. The introduction to alternative poultry (goose, duck and quail etc.) production.	4	2	2	3	EXC0805012019
		Organic Animal Breeding	Organic farming and animal production, anydrug, hormone, etc. without the use of chemicals.	5	2	0	2	EXC0805022019
	Department of Field Crops	Legume Forage Crops	Importance of foragecrops, beneficial of foragecrops for agriculture, classification of foragecrops in terms of usage and cultivation, species recognition and classification, agricultural features and foragecrops cultivation practices, usage areas of foragelegumes will be discussed.	5	1	2	2	EXC0803012019
		Meteorology	Meteorological and Agricultural Meteorology definition and importance. Atmosphere Composition and Structure, climatic factors and the effects of agriculture, agricultural meteorological phenomena, AirMasses, Meteorological Observations, Agricultural Meteorological Applications.	5	2	0	2	EXC0803022019
		Warm Climate Cereals	Economic importance of the warm climate cereals, adaptation, morphology, physiology, one of the hot climate of grainstorage and standardization; corn, rice, millet and canary grass cultivation techniques of plant diseases.	5	2	2	3	EXC0803032019
Faculty of Communication	Journalism	Social Psychology	Students will be prepared for the communication sciences and public relations .	5	3	0	3	EXC0605012019
		Communication Theories I	This course includes every theoritical approaches to communication studies which consist of two main parts.	5	3	0	3	EXC0605022019
	Public Relations and Advertising	Interpersonal Communication	Interpersonal communication is the process by which people exchange information, feelings, and meaning through verbal and non-verbal messages: it is face-to-face communication. Interpersonal communication is not just about what is actually said - the language used - but how it is said and the non-verbal messages sent through tone of voice, facial expressions, gestures and body language.	5	3	0	3	EXC0601012019
		Introduction to Communication	The basic concepts of communication, types of communication, basic communication models.	5	3	0	3	EXC0601022019
	Radio Television and Cinema	Film Criticism and Analysis	Viewing of diffirent film genres and analysing them.	5	3	0	3	EXC0603012019
		Communication History	The lecture is carried out by the lecturer and the participation of students is tried with the base of discussion practices. For the lesson to reach at its aim, it is necessary that the students continue attending classes and finish the weekly obligatory reading.	5	3	0	3	EXC0603022019
		Communication Theories II	In this course, critical theory, cultural studies, audience research, such as the major trends in feminist theory and political economy are examined within their periods.	5	3	0	3	EXC0603032019
		World Cinema History	Basic concepts related to the field of journalism, ethical behavior of the journalistic profession theories.	5	3	0	3	EXC0603042019
		Basic Journalism	Basic concepts related to the field of journalism, ethical behavior of the journalistic profession theories.	5	3	0	3	EXC0603052019
		Cinema Theories	The development of the cinema within the framework of theories.	5	3	0	3	EXC0603062019
s	English Language and Literature	Research Methods in Social Sciences	The basis of theorical background which will be formed for social researches, qualitative and quantitative research planning, sampling theory, data collection, measurement and evaluation, report writing.	5	3	0	3	EXC0923022019
		English Grammar I	Nouns, pronouns, determiners, adjectives, adverbs, comparative and superlative degrees, verbs and English tenses, subject-verb agreement and inverted structures	6	3	0	3	EXC0923032019

Faculty of Arts and Science	Western Languages and Literatures	English Grammar II	Modals, noun clauses, adjective clauses, adverb clauses, conditional clauses, passive voice, causativity, indirect speech, gerunds, infinitives, participles and elliptical sentence structures	6	3	0	3	EXC0923042019
		Reading Skills I	Texts from English newspapers, weekly and monthly magazines and similar literary or non-fictional texts are read and analysed in terms of their form, style and meaning. At this point, some exercises are done so as to develop the student's reading comprehension, critical thinking and vocabulary skills.	6	3	0	3	EXC0923052019
		Reading Skills II	Texts from English newspapers, weekly and monthly magazines and similar literary or non-fictional texts are read and analysed in terms of their form, style and meaning. At this point, some exercises are done so as to develop the student's reading comprehension, critical thinking and vocabulary skills.	6	3	0	3	EXC0923062019
		German I	To teach students German grammar and make them use them effectively. To provide the students with the necessary skills which are required to use German effectively and fluently.	5	3	0	3	EXC0923072019
		German II	To teach students German grammar and make them use them effectively. To provide the students with the necessary skills which are required to use German effectively and fluently.	6	3	0	3	EXC0923082019
		Mythology	Theories about my thology and legends, Archetypalcriticism, Norse mythology and legends, Greco-Roman mythology and legends, Celtic mythology and legends, Middle Eastern mythologies and legends, Indian mythology and legends, Creation and Destruction myths from the Old and New Testament	5	3	0	3	EXC0923092019
		Writing Skills I	Introduction to the paragraph, Types of paragraphs, Introduction to the essay, Types of Essays, Outline, Citation.	6	3	0	3	EXC0923102019
		Writing Skills II	Literature review, thesis statement, summarizing, paraphrasing, quotation, MLA and APA citation rules.	6	3	0	3	EXC0923112019
	Mathematics	Differential Equations I	To investigate the origin and the general theory of differential equations, existence and uniqueness. Solution methods for first order differential equations. Applications. Introduction to high order differential equations. Reduction of order and Wronskian. Homogeneous and nonhomogeneous differential equations with constant coefficients. Undefined coefficient method, Variation of parameters method and Cauchy-Euler differential equations.	4	4	0	4	EXC0901012020
		Differential Equations II	To investigate differential equations with variable coefficients, system of differential equations, Higher order differential equations, Existence and Uniqueness Theorems.	4	4	0	4	EXC0901022020
		Partial Differential Equations I	To investigate Fundamental Concepts, Classification of Equations, Constructing Equitions of some Problems, Linear and Nonlinear forst order Partial Differential Equations and their solution methods.	4	4	0	4	EXC0901032020
		Partial Differential Equations II	To investigate Nonhomogeneous Equations, Linear Partial Differential Equations with Variable Coefficients, Euler Type Partial Differential Equations.	4	4	0	4	EXC0901042020
ces	Business Administration	Behavioral Sciences	This course focuses on behavioral aspects of individuals in organizations. Thus, this course gives ideas regarding psychological and sociological perspectives for individuals who work in an organization .	5	3	0	3	EXC3502012019
		Organization Theory	This course covers structures of organizations and theories regarding the organizations.	5	3	0	3	EXC3502022019
		Business Management	To identify and solve the main problems of business. Communication process , leadership, motivation, conflict management, group dynamics, management functions.	5	3	0	3	EXC3502032019
		Research Methods in Social Sciences	Designing qualitative and quantitative research; research writing, ethics in research.	5	3	0	3	EXC3502042019
		Cultural Diversity Management	This course identifies and discusses diversity, diversity management, discrimination, equality, exclusion , inclusion in organizations through considering differences amongst individuals such as race, gender and age.	5	3	0	3	EXC3502052019

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	Strategic Management and Business Policy	This course covers strategy, strategic management process and planning.	5	3	0	3	EXC3502062019
Economics	Introduction to Economics I	What is economics?, The science of economics, Departments of economics, The basic method of economics, the economic problem .Scarcity, Choice and Utility, Alternative cost, Alternative economic systems.Demand, Supply and Price, Demand curve, Supply curve, Determination of price by demand and supply.Elasticity, Price elasticity of demand, other demand elasticities, Elasticity of supply, Determinants of supply and demand elasticity.Supply and demand in action, Government controlled prices, Rent controls, The determination of imports and exports, Agricultural stabilization in supply and demand theory, Consumer s and Producer s surplus.Markets and pricing, Competitive markets, The theory of perfect competition, Short run and long run equilibrium.Monopoly, A single price monopolist and short-long run monopoly equilibrium.Imperfect competition, The theory of monopolistic competition, Charasteristics of oligopoly.	5	3	0	3	EXC3511012019
	Mathematical Economics I	Economic models, comparativ e analysis, comparative stationarity and derivative concept, partial derivatives. Market model , input - output model, derivatives of implicit functions, optimization problems. Continuous and steady growth, optimization for equality constraints. Heterogeneous functions, investment and capital formation, balancing dynamic stability, nonlinear difference equations.The market is modeled by Price.	5	3	0	3	EXC3511062019
	Introduction to Economics II	A First Look at Macroeconomics, Measuring GDP and Economic Growth, The Economy in the long run: The classical model, Economic Growth, Money, the price level and inflation, The exchange rate and the balance of payments, Expenditure multipliers: The Keynesian Model, inflation and Unemployment in Turkey, Business Cycles in Turkey, Macroeconomic Policy: Fiscal Policy, Monetary Policy, Trading with the world : Export and import	5	3	0	3	EXC3511022019
	Mathematical Economics II	Economic models, comparativ e analysis, comparative stationarity and derivative concept, partial derivatives. Market model , input - output model, derivatives of implicit functions, optimization problems. Continuous and steady growth, optimization for equality constraints. Heterogeneous functions, investment and capital formation, balancing dynamic stability, nonlinear difference equations.The market is modeled by Price.	5	3	0	3	EXC3511072019
	Linear Algebra	Matrices: Definition of matrix, Types of matrices, matrix equality, Sum and difference of matrices, The product of scaler and matrix and their properties , Transpose of matrix and its properties - Some Special Matrices and Matrix Applications - Elementary row and column operations in matrices, Reduced row–echelon form, Rank of a matrix, The inverse of a square matrix, - Determinants: The determinant of a square matrix, Laplace's expansion, Properties of determinants -Sarrus rule, Additional matrix, Calculation of the inverse of a matrix with the aid of additional matrix - Systems of Linear Equations: Solving systems of linear equations with the aid of equivalent matrices, Linear homogeneous equations, -Cramer's method, The solution with the help of coefficients matrix -Vectors: Vector definition, the sum of vectors, the difference, the analytical expression vectors, scalar product of vectors, properties of the scalar multiplication Scalar product and its features, the mixed multiplication and properties, and properties of double vector product, -Vector spaces: Definition of vector spaces and theorems. Subspaces. Span concept and fundamental theorems. Linear dependence and linear independence of vectors and some theorems about linear dependence and linear independence. -Bases and dimension concepts and fundamental theorems. Definition of coordinates and transition matrices and some theorems. -Eigenvalues and Eigenvectors: The Calculation of Eigenvalues and Eigenvectors of a square matrix, - The calculation of Inverse and power of a square matrix with the help of the Cayley-Hamilton theorem	5	3	0	3	EXC3511112019

Faculty of Economic	Political Science and International Relations	International Relations	The course includes major topics and issues in international relations to encourage further examination in more advanced classes. Major topics include international cooperation, security and conflict, trade, and international law, human rights and main approaches in IR.	5	3	0	3	EXC3509012019
		European Union-Turkey Relations	This course analyses Turkey's relations with the EU from political, economical, cultural and social dimensions. It provides the historical background of these relations dating it back to the post World War II order. The course covers the Ankara treaty, Association Agreement, Customs Union and the phases of Turkey's association with the EU. Turkey's position in the EU's enlargement process, and Turkish candidacy are also elaborated in detail	5	3	0	3	EXC3509022019
	Public Administration	Local Goverments I	Examining theoretical background and withstanding values of local government which is a vital part of public administration discipline, and within this framework analyzing all sides of local government including duty, authority, establishment, organization, financial structure, intergovernmental relations in Turkey.	5	3	0	3	EXC3507012019
		Local Goverments II	The course aims to provide the students with a general knowledge on Local Governments in Turkey.	5	3	0	3	EXC3507022019
		Public Administration	To examine the structure and the functioning of the Turkish public administration, inter-institutional relations, the new management paradigm, and the reflection of the Turkish public administration.	5	3	0	3	EXC3507032019
		Management Science	To provide students be able to understand that the basic concepts of the discipline of management science, the nature of management process and the main problems ofadministrative science.	5	3	0	3	EXC3507042019
		Public Personnel Administration	Subject, aim, and characteristics of personnel administration, historical evolution of public personnel administration, main principles of modem public personnel administration, Personnel systems, manpower planning, recruiting to public service, in service training, evaluation and promotion of personnel, status of public servants, motivation, rewarding and administrative ethics are subject to examination in this course. Furthermore problems of public personnel regime and its reorganization will be examined in Turkey.	5	3	0	3	EXC3507052019
		Turkish Political Life	To understand Turkish political life chronologically, to comprehend political cases persistent in politics, to present perspective about the future, to improve the vision of comprehending today by learning the past in terms of political history and making inferences about the future	5	3	0	3	EXC3507062019
		History of Political Thought II	Modern age political thought: Machiavelli, Socialist state system and reformation movements: Thomas Mores, Jean Bodin, Absolute Monarchies: Thomas Hobbes, Jacques Benigne Bossuet, Enlightenment Era: Liberalism: John Locke, 18. century: Montesquieu, Jean Jacques Rousseau, National sovereignty and German idealism: Immanuel Sieges	5	3	0	3	EXC3507072019
	Public Finance	Public Debts	Reasons and Causes of Government Borrowings, Public Debt Structure and Types, Government Debt Management (Consolidation and Payment Methods), Macroeconomic Effects of Government Debt, Government Debt Crisis.	5	3	0	3	EXC3504012019
		Public Economics	Public Economics and Ideology, Economic Functions of Government, Public Expenditures and Revenues, Public Goods, Externalities and other Market Failures, Political Decision Making, Social Welfare.	5	3	0	3	EXC3504022019
Faculty of Health Sciences	Health Management	Principles of Marketing	Marketing Concept. The Importance of Marketing, Marketing Approaches, Environment of Marketing, Strategic Marketing, Marketing Researches, Customer Behavior, Market Segmentation, and Marketing Mix.	5	2	0	2	EXC1407012019

	Chemical Engineering	Chemical Engineering Design	Design, which is one of the most striking and essential functions of engineering, is applied to various manufacturing processes every year. All the necessary calculations required for raw materials used for the production of the final product / products in the process, dimensioning of the different units are carried out together with the economic point of view. In this sense, this course is an application of the general chemical engineering	5	3	2	4	EXC0503022019
		Chemical Reaction Engineering	Reaction rate concept in chemical reaction engineering, reaction thermodynamics, mole balances, batch reactors, continuous flow reactors, conversion and reactor sizing, rate laws and stoichiometry, reversible reactions, reactor sizing and design, isothermal batch and continuous reactor (CSTR, PFR, PBR) design, acquisition and analysis of rate data, multiple (parallel, series and complex) reactions, selectivity, reaction mechanisms.	5	3	0	3	EXC0503032019
		Environmental Chemistry	To give information about; Introduction to environmental chemistry, Componenent of Atmosphere, photochemical and chemical reactions, Global warming, Greenhouse Effect, Photochemical Smog, Acid Rains, Air and Air pollution, Determination of Air quality, Water and water contamination, Determination of Water Quality, Soil chemistry, Soil Pollution, Nuclear Chemistry, reactions of radioactive substances and radioactive waste.	4	3	0	3	EXC0503052019
		Fuel Cells	Basic principles of fuel cells and type of cells. Fundamental principles of fuel cell systems. Fuel processing and Fuel cell system properties. The understanding, improving and application principles of of Alkaline, phosphoric acid and solid state and solid polymer electrolyte fuel cells will be covered.	4	3	0	3	EXC0503072019
		Heat Transfer	Fundamental concepts of heat transfer. Heat transfer mechanisms: conduction, convection, radiation. General energy equation. Steady state and transient heat transfer. Forced convection. Natural convection. Boiling and condensation. Heat exchangers.	5	3	0	3	EXC0503082019
		Mass and Energy Balances	Chemical processes, units and dimensions, conservation of mass for single- and multi-component closed and open systems, energy and material balances around single and multiple process units, multiphase systems, phase equilibria, stoichiometry (chemical reactions, conservation of atomic species, material balances for reactive systems, multiple reactions: conversion, selectivity and yield, combustion reactions, energy balances on closed and open systems, mechanical energy balances, state properties, phase change operations.	5	4	0	4	EXC0503102019
		Process Control	The Laplace Transform, System modeling methods. Models of first and higher order systems. Process transfer functions. Chemical process control requirement. Dynamic modeling and definition of variables. Analysis of the dynamic behavior of chemical processes. Nonlinear systems and their transfer functions. The dynamic behavior of the first and higher order chemical processes. Feedback control systems And their dynamic behavior. Stability analysis and design principles of feedback control systems. Frequency response and Bode stability analysis of linear processes. Feedback process control systems design using different tuning techniques.	4	3	0	3	EXC0503122019
		Technical Thermodynamics	General principles of thermodynamics: Thermodynamics and energy. Closed and open systems. State and equilibrium. Processes and cycles. Properties of pure substances. Diagrams of phase changes. Equations of states. First law of thermodynamics for closed and open systems. Second law of thermodynamics. Heat engines. Heat pumps. Reversible and irreversible processes. Carnot cycle. Carnot heat engines and pumps. Clasius inequality. Entropy. Principle of entropy increase. Exergy. Second law efficiencies of flow systems.	5	4	0	4	EXC0503132019

	Civil Engineering	Active and Passive Dampers	Vibration control principles of passive and active dampers, dynamic models, types, differences between passive and active vibration control, installation to structures, advantages to structures during earthquakes.	10	3	0	3	EXC0513012019
		Airports	Giving the basic engineering knowledge about the airport planning, design, construction and maintenance. To recognize and classify aircrafts, air transport properties and activities. To describe necessary facilities and features for aviation infrastructure.	10	3	0	3	EXC0513022019
		Earth Works	The course will provide methodologies and applications for the preparation of construction areas before the structural works.	10	3	0	3	EXC0513032019
		Finite Element Method	This course provides an introduction to finite elements method with a focus on one and twodimensional problems in structure, static and dynamics.	10	3	0	3	EXC0513042019
		Pavement Design	Determination of equivalent wheel loads and Calculation of equivalent wheel loads, equivalent axle loads. CBR method, AASHTO method and applications	10	3	0	3	EXC0513052019
		Structural Dynamics	The objective of the course is to understand the behavior of structure especially buildings to various dynamic loads: such as wind, earthquake, machine vibration and ambient vibration.	10	3	0	3	EXC0513062019
	Food Engineering	Conscious Nutrition Culture	Relationship between health and nutrition, healthy nutrition concepts, food processing methods, effect of food processing on nutritional value of foods, food additives, effect of food additives on health, food pacakging materials and basic concepts of food packaging, effect of packaging on nutritional value of foods and health, legislative regulations on food labelling, information that must be found on food labels, proper food storage and shelf life of foods.	5	3	0	3	EXC0523012019
		Control System Design	Introduction to Control Systems: Basic terms. Examples of control systems. Feedback concepts. Mathematical Background and Design Tools: The Laplace Transform. Background for MATLAB. Mathematical Modeling of dynamic systems: Transfer functions. Block diagrams. Modeling in state space. Linearization. Transient and steady-state response analysis. Stability analysis. Root Locus Based Analysis and Design: Root- locus plots. Lead, lag, and lag-lead compensator design by the root-locus method.	4	3	0	3	EXC0523022019
		Food Biotechnology	Introduction to Biotechnology, applications of biotechnology in food and non-food area, bioprocesses, downstream and upstream processes, bioreactors, fermentation processes and systems, recombinant DNA technologiesand applications in food science.	5	3	0	3	EXC0523032019
		Food Chemistry and Biochemistry	This course covers major chemical reactions that occur in foods; the chemistry of food components; basic cell knowledge, bioenergetics and carbohydratemetabolism, structure, function and metabolism of lipids, protein and amino acid metabolisms in cells, nucleic acid metabolism, hormones, water and lipid soluble vitamins, minerals, electrolites andwater biochemistry.	5	3	0	3	EXC0523042019
		Food Packaging	The role, function and selection of packaging materials, the physical and chemical properties of the packaging materials used for foods in relation to food properties and processing.The principles of design and technology used to produce laminated packaging materials, active and smart packaging, and edible films.Advances in packaging science and technology and regulatory aspects of packaging and labelling.	5	3	0	3	EXC0523052019
		Fruit and Vegetable Processing Technology	Biological, chemical and nutritional properties of fruit and vegetables, postharvest changes in biochemical properties and nutritional quality of fruit and vegetables, drying technology, fruit juice processing, canning technology, jam production technology, tomato paste production technology,cold storage technology.	5	3	0	3	EXC0523062019

Faculty of Engineerin								
		Sensory Evaluation of Foods	Course Contents:Theory of Sensation, Sensory evaluation techniques, Understanding of consumer perception on Food Choices, statistical analysis of sensory data, correlation between sensory and analytical results.	5	3	0	3	EXC0523072019
	Geomatic Engineering	Cartometry in Geomatics Engineering	Introduction, General Terms and Measurement Units, Overview of Large Scale Maps, Reading of Coordinates From Maps, Reading Angle and Length from Maps, Calculation of Slope from Maps, Calculation of Area from Maps, Calculation of Soil Volume from Maps, Maps for Development Planning, Project Planning on Map.	6	2	0	2	EXC0519022020
		Global Positioning with Artificial Satellites (GNSS) in Geomatics Engineering	Introduction, Basics of Positioning with Satellites and Uses, Advantages and Disadvantages of Positioning with Artificial Satellites, GPS Satellites, Glonass Satellites, Galileo Satellites, Positioning Methods With Satellites.	6	3	0	3	EXC0519032020
		Surveying	The difference between plane surveying and geodetic surveying, the differences between random error, systematic error and mistakes, the errors, standard deviations, standard errors of the mean, accuracy ratio or relative precision of a set of measurements in terms used by the surveyor, the difference between a horizontal plane and a level surface, the coordinates of travers points, the differences in elevation using differential leveling, setting-up a total station and accurately measure distances and angles, setting-up an automatic level and accurately read level rod.	6	3	0	3	EXC0519012019
	Materials Science and Nanotechnology Engineering	Life Cycle Assessment and Its Application in Engineering	General concepts of live cycle assessment (LCA) methodology and related standards, goal and scope, system boundaries, use of the LCA software, environmental impact, results and interpretation, application of LCA in textile, leather, building and material engineering.	7	3	0	3	EXC0527012019
		Production and Characterization at Nanoscale	Basic concepts of production and characterization at nanoscale, Introduction to 0D, 1D, 2D, and 3D nanomaterial production, Top down and bottom up nanomaterial production methods, Properties of the materials produced at nanoscale, Characterization methods of materials produced at nanoscale.	7	3	0	3	EXC0527022019
		Production and Characterization of Nano Thin Films	This course covers both production and characterization of organic nano thin films by spin coating and Langmuir-Blodgett (LB)techniques.	7	3	0	3	EXC0527032019
		Scientific Research Methods And Publication Ethics	Basics of scientific research, problem identification, methods of sampling, data acquisition, quantitative and qualitative researches, reporting, publication ethics.	9	3	0	3	EXC0527042019
		Dynamics	• Kinematics of particles: Linear motion, curvilinear motion, Relative motion, Motion in different coordinate systems • Kinetics of particles: Force, mass and acceleration, Newton's second law, Work and energy, Impulse and momentum • Plane kinematics of rigid bodies: Rectilinear translation, curvilinear translation, fixed axis rotation, Plane motion, rotation centre. • Vibration and time response	6	4	0	4	EXC0505012019
		Mechanical Vibrations	Single-degree and Multi-degrees of Freedom Systems, Free Vibrations, Forced Vibrations, Unbalanced Forced Due To Inertia of The Moving, Vibration Isolation, Torsional Vibration, Critical Speed of Shafts	4	3	0	3	EXC0505022019

	Mechanical Engineering	Energy Management II	• Summary for the first part of lecture and efficient utilization of compressed air • Fundamentals of writing energy efficiency report • Energy efficiency research instrument • Constitution of energy flow chart of a plant • Specification of energy management opportunities: Efficient operation of boilers • Specification of energy management opportunities: Steam leak detection and cost calculation • Specification of energy management opportunities: Water leak cost • Specification of energy management opportunities: Energy efficiency gained by insulation of pipes • Specification of energy management opportunities: Energy efficiency gained by insulation of valves and flanges • Specification of energy management opportunities: Heat recovery from condensate • Specification of energy management opportunities: Efficient electric motor selection and savings • Specification of energy management opportunities: Utilization of efficient fluorescent lighting • Specification of energy management opportunities: Correction in power factor and savings • Specification of energy management opportunities: Savings through improvement in voltage instability and motor belts	4	3	0	3	EXC0505032019
		Renewable Energy Sources	General knowledge of renewable energy systems, Fundamentals of solar energy, available solar radiation, solar collectors and solar energy applications, Fundamentals of wind power generation, principles and applications, Fundamentals of hydroelectric power generation, principles and applications, Fundamentals of wave energy, principles and applications, Fundamentals of geothermal energy, principles and applications, Fundamentals of photovoltaic power generation, principles and applications, Fundamentals of biomass, principles and applications, Fundamentals of fuel cells, principles and applications.	4	3	0	3	EXC0505032019
		Strength of Materials II	• Principal stresses, • Beams, • Columns and buckling, • Energy methods, • The finite element method, • Plates and shells	4	3	0	3	EXC0505042019
		Strength of Materials I	• Stres, starin, deformation, • Axially loaded bars, • Bending, • Trosion, • Transversly loaded beams, • Thin walled members, • Stres and strain transformations.	6	4	0	4	EXC0505052019

		Energy Management I	• General introduction of lecture; General status of energy in Turkey; the structure of Turkish industry • Concepts of energy efficiency and energy management; the golden elements of energy management system • The way of constituting an energy management system • Practical approaches of fuels and burning • An introduction to steam systems and efficient designs • Mass and energy balance • Energy analysis in drying systems • Waste heat recovery • Energy efficiency in refrigeration systems • Cogeneration and Trigeneration • Electrical System Optimization • Insulation; Insulation Calculation for valves and flanges • Economic analysis methods • The ways of ensuring energy efficiency in facilities	4	3	0	3	EXC0505062019
		Industrial Acoustics and Noise	Fundamentals concepts of sound,Measurement of noise, Acoustical materials and structures, Standards, Industrial noise control and isolation	4	3	0	3	EXC0505072019
		System Dynamics and Control	The objectives of the lecture are to teach control systems and their components; and to teach computer aided modelling and automatic control of several dynamic systems, which students use during their profession. In lectures, different applications of engineering systems are solved in order that students understand subjects and apply his knowledge rapidly.	4	3	0	3	EXC0505082019
		Mechanisms	Position analysis of mechanisms, Instant centers of rotation, Velocity analysis of mechanisms,Acceleration analysis of mechanisms, Gear Mechanisms, Cam Mechanisms	4	3	0	3	EXC0505092019
	Textile Engineering	Principles of Spinning	Definition of yarn, basic concepts of yarn spinning systems, yarn numbering systems, fiber properties that affect yarn properties, basic processes of spinning (drawing, doubling, twisting), short and long fiber spinning systems, ring and rotor spinning systems, open loop and closed loop control systems, kinematic calculations, modern yarn spinning systems.	5	3	0	3	EXC0501012019
		Natural Fibers	Identification the use areas of textile fibers according to their definitions and properties , Classification of natural fibers, the physical and chemical properties and obtaining the methods, the physical and chemical processes applied to fibres, preparation for sale and standardization. In addition, laboratory classes will be carried out for distinguishing these fibers by visual microscopic features and burning test. In course content fibers such as cotton, linen, hemp, jute, ramie, sisal, Abakan, kapok, coconut, wool, mohair, cashmere, alpaca, llama, angora, silk, and asbestos will be examined.	5	2	0	2	EXC0501022019
		Spinning Technology I	All machine and technology that begins from (cotton and/or chemical) to yarn in cotton processes are explained.	5	2	1	2,5	EXC0501032019
		Spinning Technology II	All machine and technology that begins from (wool and/or chemical) to yarn in wool processes are explained.	5	2	1	2,5	EXC0501042019
		Modern Yarn Spinning	Modernization studies in conventional spinning machines, Open End spinning technique and Properties of Open End yarn, Friction and Air jet Vortex Spinning systems and properties of yarns.	5	3	0	3	EXC0501052019
		Introduction to Knitting Technology	The basic principles of weft and warp knitting, main elements of weft and warp knitting machines, stitch formation in weft and warp knitting, patterning principles using basic and different stitch structures in weft knitting, basic weft knitted structures and their properties.	5	2	1	2,5	EXC0501062019

		Weft Knitting Technology	Introduction to weft knitting principles, the weft knitted fabric structures and properties, patterning principles and mechanisms on flat and circular knitting machines, weft knitted fabric geometry, production calculations, weft knitted fabric defects.	5	2	1	2,5	EXC0501072019
	(These courses have to be taken only by thesis students who fulfilled the required courses in their programs)	Thesis Study (Master's Degree)	To enable the graduate student to study with the aims of gathering, assessing and interpreting data to solve a specific problem current in the field in which the student study within ethical limits.	20	0	1	1	EXC43000012020
		Directed Field Studies (Master's Degree)	To equip the graduate student with information and experience in the field in which the advisor studies, ethical and study discipline and ability to monitor and assess current literature	10	4	0	4	EXC43000022020
		Thesis Study (PhD)	To enable the graduate student to study with the aims of gathering, assessing and interpreting data to solve a specific problem current in the field in which the student study within ethical limits.	20	0	1	1	EXC43000032020
		Directed Field Studies (PhD)	To equip the graduate student with information and experience in the field in which the advisor studies, ethical and study discipline and ability to monitor and assess current literature	10	4	0	4	EXC43000042020
	Chemical Engineering	Colloid and Surface Chemistry	A survey of various colloidal systems (suspensions, emulsions, self-assembly systems); an introduction into interfacial phenomena (surface tension, wetting, capillarity, adsorption, electrostatic characteristics of the interfaces, electrical double layer) and intermolecular (van der Waals) forces of significance for colloidal stability; fundamental principles for experimental methods for measuring the phenomena; examples of the practical significance of colloidal systems in everyday life and industrial processes, the concepts which allow understanding physico-chemical phenomena involving dispersed systems and interfaces (surfaces, colloids, nano-scale and supramolecular systems), and their impact on the behavior of such systems at the macroscale, structure and characteristics of the self-associated amphiphilic molecules (surfactants).	8	3	0	3	EXC43042012020
		Drinking Water Treatment	Freshwater resources, global warming effects on water resources, water demand and forecasting, quality of water, standards, water quality index, water distribution networks; physical, chemical, and biological processes in water treatment (coagulation, flocculation, sedimentation, settling, granular and membrane filtration, disinfection), theory and conceptual design of water treatment processes, sludge management	8	3	0	3	EXC43042022020
		Membrane Separation Technologies	Overview of membrane science and technology, types of membranes, membrane processes, membrane transport theory, membranes and modules (isotropic, anisotropic, metal, ceramic, liquid, hollow fiber membranes), concentration polarization, boundary layer film model; cross-flow, co-flow and counter-flow; reverse osmosis membranes, ultrafiltration membranes, microfiltration membranes, gas separation membranes, pervaporation membranes, carrier facilitated transport, medical applications of membranes (hemodialysis, blood oxygenators, controlled drug delivery), dialysis , membrane contactors and membrane distillation, membrane reactors; membrane materials, selectivity, fouling control, cleaning.	8	3	0	3	EXC43042032020

		Adsorption and Absorption	Principles of mass transfer, mass transfer between phases; vapour-liquid, solid-liquid and solid-vapour mass transfer processes; adsorption equilibrium and kinetic models, adsorbents and their properties, design of absorption and adsorption separation processes.	8	3	0	3	EXC43042042020
		Porous Solids	Structures and types of porous solids (zeolites, metal organic frameworks, activated carbons etc.), synthesis and modification of porous solids for different applications (adsorption, separation, catalysis etc.), characterization methods, textural properties (pore analysis models, total pore volume, mean pore size, pore size distribution, surface area, micropore analysis models), surface characterization methods, thermal analysis methods, applications of porous solids in environmental and energy applications.	8	3	0	3	EXC43042052020
	Food Engineering	Characterization of Aroma in Foods and Chromatographic Analysis Methods	This course covers both qualitative and quantitative determinations of aroma compounds found in foods by gas chromatography including headspace, solvent extraction, distillation, thermal desorption system, solid phase micro extraction technique and others.	8	3	0	3	EXC43021012020
		Genetically Modified Foods	Production of genetically modified organisms, basic concepts related to the animal and plant biotechnology and genetics, status of transgenic products both in Turkey and in the World, transgenic plants used as a food material, the effect of transgenic plant-based foods on health, environment, biodiversity and socio-economic structure, determination methods of GMO in foods, biosafety, national and international regulations.	8	3	0	3	EXC43021022020
		Nanobiotechnology	Biological and food grade nanoparticles, production and applications of of various types of nanoparticles and nanostructured materials with potential use in biotechnology,production and aplication of biomaterials and biomolecules, characterization of nanoparticles and their applications within bioseparation, diagnostics, transport and delivery, enzyme reactors based on nanostructured materials.	8	3	0	3	EXC43021032020
	Materials Science and Nanotechnology Engineering	Life Cycle Assesment and its Application in Engineering	General concepts of live cycle assessment (LCA) methodology and related standards, goal and scope, system boundaries, use of the LCA software, environmental impact, results and interpretation, application of LCA in textile, leather, building and material engineering.	7	3	0	3	EXC43049012020
		Production and Characterization at Nanoscale	Basic concepts of production and characterization at nanoscale, Introduction to 0D, 1D, 2D, and 3D nanomaterial production, Top down and bottom up nanomaterial production methods, Properties of the materials produced at nanoscale, Characterization methods of materials produced at nanoscale.	7	3	0	3	EXC43049022020
		Scientific Research Methods and Publication Ethics	Basics of scientific research, problem identification, methods of sampling, data acquisition, quantitative and qualitative researches, reporting, publication ethics	9	3	0	3	EXC43049032020
		Production and Characterization and Nano Thin Films	This course covers both production and characterization of organic nano thin films by spin coating and Langmuir-Blodgett (LB) techniques.	7	3	0	3	EXC43049042020
		Biomaterials:Design and Applications	Biological active materials, Analysis of biomimetic surfaces, Adhesion in biomaterials, Biocompatibility, Biodegradation, epithelization, endothelization, standards and tests of biomaterials, comparison of material performance with design of a specific medical device, introduction of relevant material subjects to students, relationship between structure and properties of biomaterials, measure of fulfilling a desired function.	7	3	0	3	EXC43049052020

Graduate Educatio

	Fiber Science and Tecnology	Basic concepts of fiber science and technology, Introduction to fiber structure, Classification of fibers (natural- synthetic and semi-synthetic fibers), requirements of fiber formation, Chemistry, synthesis and production processes of fibers, Properties of fibers, Characterization methods of macro- and micro -structure of fibers, applications of fibers, advanced fibers and technologies: smart fibers, high performance fibers, functional fibers, hollow fibers, super conductive fibers, microfibers and nanofibers.	7	3	0	3	EXC43049062020
	Advanced Operations Researsh I	Definition of efficiency and productivity terms, Introduction to Data Envelopment Analysis (DEA), Presentation of basic DEA models and their applications, Introduction to Stochastic Frontier Analysis (SFA), Presentation of basic SFA model and its applications, Introduction to Malmquist Index (MI), Presentation of MI method and its applications , Introduction to Window Analysis (WA), Presentation of WA method and its applications.	7	3	0	3	EXC43049072020
	Advanced Strength of Materials	• Basic concepts and definition • Conditions of plane stress and applications • Theory of thin plates and plate girders, their applications • Bending of plates and beam systems • Bending of isotropic plates and applications • Bending of anisotropic plates and applications • Characteristics of beam systems and applications	7	3	0	3	EXC43046012020
	Boundary Element Method	Approximate solution methods for engineering problems, method of weighted residuals, collocation methods, method of least squares, ritz and galerkin methods, finite difference method, boundary and domain methods, advantages and disadvantages of methods, weak formulations, fundamentals of boundary element method, fundamental solutions, boundary elements, potantial problems, elasticity problems, bending of thin elastic plates with boundary elements.	7	3	0	3	EXC43046022020
	Contact Mechanic	Hertzian elastic contact. Elastic-plastic behavior under repeat loading. Friction. Dynamic loading. Surface roughness effects. Conduction of heat and electricity across interfaces. Thermal and thermoelastic effects in sliding and static contact.	7	3	0	3	EXC43046032020
	Meshless Methods	Comparison with the Finite Element Methods. Fundamentals of Meshless Methods. Strong and Weak Form Expressions. Weight Functions for meshless Methods. Element Free Galerkin Method. Meshless Petrov-Galerkin Method. SSPH Method. Point Interpolation Method. Analysis of Beams. Analysis of Plates. Analysis of Heat Transfer Problems. Boundary Condition Application Methods.	7	3	0	3	EXC43046042020
	Mechanics of Composite Materials	• Properties of Unidirectional Long Fiber Composites, • Linear Elasticity for Anisotropic Materials, • Rotations of Stresses, Strains, etc., • Failure Criterion, • Laminate Analysis, • Fracture Mechanics of Composites, • Design with Composites	7	3	0	3	EXC43046052020
	Fundamentals of Solar Energy	Waste heat recovery potential in industry, waste heat utilization methods, energy recovery techniques, gas-gas heat recovery systems, gas-liquid and liquid-liquid heat recovery systems, use of heat pipes, heat exchangers and heat pumps in energy recovery, energy-exergy analysis of waste heat recovery systems, waste water evaluation, sample applications.	7	3	0	3	EXC43046062020
	Advanced Thermodynamics of Internal Combustion Engines	Advances thermodynamics analysis, Internal combustion engines, Efficiency.	7	3	0	3	EXC43046072020
	Advanced Fluid Mechanics	Advances thermodynamics analysis, Internal combustion engines, Efficiency.	7	3	0	3	EXC43046082020

	Mechanical Engineering	Fuel Cell Systems	Definitions, Historical developments of fuel cells,Energy Requirements and Emissions, Alkaline fuel cells and design principles, phosphoric acid fuel cells, Molten carbonate fuel cells, Solid oxide fuel cells, Solid Polymer fuel cells, Electrochemistry of fuel cells, Fuel Production methods for Fuel Cells, Example fuel cell Problems and application problems.	7	3	0	3	EXC43046092020
		The Finite Element Method	Time dependent problems, Numerical integration, Error analysis, Plane elasticity problems, Plate bending, Plate and shell analyses, Composite elements	7	3	0	3	EXC43046102020
		Theory of Elasticity	• Basic Concepts • Kinematics of continuums (General) • Special consideration of kinematics of continuum • Conditions of compatibility • Statics of continuum • Hooke's Law • Equation of Navier and Beltrami • Equation of Equilibrium of Elementary Tetrahedron • Condition of Plane Stress • Equation of Thin Plates • Equation of Thin Plates Concerning Change of Temperature • Airy Function and Applications • Theory of Thin Plates in Polar Coordinates	7	3	0	3	EXC43046112020
		Theory of Energy	3-D stress state. 3-D strain state. Virtual work principle. Betti-Maxwell reciprocity theory. - Influence coefficients. Castigliano theorem. Total potantial energy principle. Complementary energy principle.	7	3	0	3	EXC43046122020
		Advanced Solar Energy Applications	Solar active and passive heating systems, thermal storage, solar cooling, distillation, high temperature applications, industrial process temperature, photovoltaics, combined systems with other renewable and conventional energies, design of active systems by f-chart method	7	3	0	3	EXC43046132020
		Low Exergy Heating and Cooling Systems	Introduction to Low Exergy concepts. Calculating low exergy of various energy resources. Low exergy optimized building design. Low exergy technologies. Strategies for designing low exergy systems in buildings. Applications of low exergy heating and cooling systems.	7	3	0	3	EXC43046142020
		Energy Stroge Systems	Thermal analysis of energy storage, Energy storage systems, Thermal energy storage methods, Sensible heat storage systems, Latent heat storage systems, Thermochemical energy storage systems, Electrical energy storage systems, Exergy analysis of thermal energy storage systems, Energy storage case studies	7	3	0	3	EXC43046152020
		Heat Pumps and Applications	Basic concepts and introduction, Working principle of heat pumps; its thermodynamic analysis, Heat pump types, Components of heat pumps, Throttling devices and equipment, Refrigerant types and properties, Preparation of a heat pump project, Domestic and industrial heat pump applications.	7	3	0	3	EXC43046162020
	Occupational Health and Safety	Principles of Marketing	Marketing Concept. The Importance of Marketing, Marketing Approaches, Environment of Marketing, Strategic Marketing, Marketing Researches, Customer Behavior, Market Segmentation, and Marketing Mix	4	3	0	3	EXC43031012020
		Advanced Education Statistics I	Frequency distribution graphs, Arithmetic mean, mode, median. ranj, standard deviation, ,u.iun"., Distribution Curve, Relativity coefficient, skewness coefficient. t-point, statistical concept, data, data types, measurement, scale types and scales , Z Score, coırel ation, regression	8	3	0	3	EXC43017012020

	Science Education	Advanced Education Statistics II	T-tests (Single sample, Independent groups and dependent groups t-test), variance analysis, difference control analysis, nonparametric tests, chi-square, mann whitneY u test. wilcoxon test, kruskal-wallis H test.	8	3	0	3	EXC43017022020
		Technological Pedagogical Content Knowledge for Science Teacher Education	This course covers the fundamentals of Technological Pedagogical Content Knowledge for science teacher education so that graduate students develop the knowledge and skills about effective teaching of science through appropriate Information Communication Technologies (ICT). The students will learn and p.u.ii.. irow to integrate ICT into their knowledge of instructional strategies and assessment approaches and techniques used in the field of science education.	7	3	0	3	EXC43017032020
	Zootechnics	Incubation Techniques	Hatching eggs production. Factors affecting quality of hatching eggs. Embryo development at pre-laying stages. Embryo development during incubation. Fertility and determined. Embryonic membrane. Stages of embryo development. Incubation and hatching management. Determined incubation problems and measures to be taken. Hatchery and equipments. Incubation conditions. Incubation management. Records to be kept incubation. Disinfection.	8	3	0	3	EXC43083012020
	Agriculture Science	Quality Facts of Grain Legumes and New Types	Taxonomy, genetic and sytogenetic of the pea, faba bean, chickpea, lentil, faba bean genus, yield and guality characters in this genus, reproduction biology, breeding strategies and breeding methods, stress factors and their breeding, new cultivars for our country.	3	3	0	3	EXC43069012020
		Tissue Culture at Filed Crops	Introduction to tissue culture, laboratory organization, plant nutrient contents and tissue culture media, sterilization. Basic principles in tissue culture, types of tissue culture and application areas in field crops.	3	3	0	3	EXC43069022020
		Topology	Understanding the basic concepts of General Topology. The content of the couse includes the followings: Topological spaces; Fundamental concepts; neighborhood; Base and Subbase; Subspaces; Continuous Functions; Product Spaces; Quotient Spaces; Convergence; Nets; Filters; Separation and Countability Properties; Compact Spaces; Locally Compact Spaces; Compaction; Metrizability; Complete Metric Spaces; Baire category theorem; Connected Spaces; Path and Local Connectedness; Disconnected Spaces.	5	3	0	3	EXC43051012020
		Advanced Functional Analysis I	The purpose of this course is to teach the students the basics of Hilbert and Banach spaces, the basics of the operators defined on Hilbert spaces, as well as the four important theorems - Hahn-Banach theorem, Uniform Boundedness Theorem, Open Mapping Theorem, and the Closed Graph Theorem.	6	3	0	3	EXC43051022020

	Mathematics	Measure Theory I	The purpose of this course is to teach the concepts that form the basis of the Lebesgue integration theory. The content of the course includes the followings: Preliminaries: infimum, supremum, liminf, limsup. The pointwise and the uniform convergence of function sequences and series. A short summary of the Riemann integral. Algebras and sigma-algebras of sets. Premeasures, outer measures and measures. Caratheodory criterion. Borel sigma-algebra, Lebesgue measurable sets, and the Lebesgue measure on R. Measurable functions and their sums, products and limits. Almost everywhere convergence and the convergence in measure. Simple functions. The Lebesgue integral and its basic properties. Egoroff's theorem. Monoton convergence theorem, Fatou's lemma, and the Lebesgue dominated convergence theorem. Product measures. Tonelli and Fubini theorems. n-dimensional Lebesgue integral.	6	3	0	3	EXC43051032020
		Applied Mathematics I	Understanding the basic concepts of Applied Mathematics. The content of the course includes the followings: Principles of Applied Mathematics; Linear Spaces; Function Spaces; Fourier and Polynomial Bases; Integral Equations; Differential Operators and Boundary Value Problems; Theory of Distributions; Green's Functions; Calculus of Variations; Analytic Function Theory; Generating Function Theory; Transformation and Approximation Methods.	5	3	0	3	EXC43051042020
		Indroduction to Nonlinear Optimization Theory	An introduction related to the basic concepts and derivatives for nonlinear optimization problems. The content of the course includes Existence Theorems for Minimal Points; Problem Formulation, Existence Theorems, Set of Minimal Points, Generalized Derivatives; Directional Derivative, Gateaux and Frechet Derivatives, Subdifferential, Quasidifferential, Clarke Derivative, Tangent Cones; Definition and Properties, Optimality Conditions, A Lyusternik Theorem	5	3	0	3	EXC43051052020
		Advanced Functional Analysis II	The purpose of this course is to teach the students the basic theorems pertaining to the weak and weak* topologies, as well as the operators on Banach spaces.	6	3	0	3	EXC43051062020
		Measure Theory II	The purpose of this course is to teach the advanced fundamental theorems such as the Radon-Nikodym theorem, as well as the representation theorems pertaining to the Banach space duals of the Lebesgue spaces and the space of the continuous functions on compact Hausdorff topological spaces	6	3	0	3	EXC43051072020
		Applied Mathematics II	Understanding the basic concepts of Applied Mathematics. The content of the course includes the followings: Generating Functionology; Mathematical Modelling; Dimensional Analysis and Scaling; Analytical Methods; Perturbation Methods; Calculus of Variations; Dynamical Systems ; Sturm-Liouville problems; Theory of Transforms ; Integral Equations.	5	3	0	3	EXC43051082020
		Vector Optimization I	Informing the students about the basic topics of convex analysis and vector optimization. The content of the course includes the followings: Linear Spaces and Convex Sets, Partially Ordered Linear Spaces, Topological Linear Spaces, Topological Linear Spaces, Convex Maps, Convex Maps, Differentiable Maps, Zorn's Lemma and the Hahn-Banach Theorem, Separation Theorems, James Theorem, Krein-Rutman Theorems, Contingent Cones and a Lyusternik Theorem	5	3	0	3	EXC43052012020

Vector Optimization II	: Examination of the basic concepts of vector optimization and solution methods used in problems. The content of the course includes the followings: Optimality Notions, Necessary Conditions for Optimal Elements of a Set, Sufficient Conditions for Optimal Elements of a Set, Sufficient Conditions for Optimal Elements of a Set, Existence Theorems, Generalized Lagrange Multiplier Rule, Duality	5	3	0	3	EXC43052022020
Advanced Differential Equations I	To investigate high order non linear differential equations, Autonomous equations, Equations with equal dimensions with respect to x, invariant equations under scaling transformation, equations with equal dimensions with respect to y, Riccati's equation. Riccati's equation, second order Riccati's equation, Abel's equation, vector differential equation.	6	3	0	3	EXC43051112020
Advanced Differential Equations II	To investigate the relation between differential equations and singular point, singular points for single and multiple variable functions, separated singular point, relations between linear differential equations and their solutions and singular point, ordinary point, smooth singular points, Fucs equations, study on singular point's around, in infinity point, to remove singularities by changing independent variable, to remove singularities by changing dependent variable, analytical continuity, relation between nonlinear differential equations and their solutions and singular point, classification of special type second order nonlinear differential equations, first order Binom equations.	6	3	0	3	EXC43051122020
Difference Equation Theory and Applications I	To investigate the Difference Calculus, Linear Difference Equations, Stability Theory, Asymptotic Methods.	6	3	0	3	EXC43051132020
Difference Equation Theory and Applications II	To investigate The z-Transform, Stability Theory, Initial Value Problems for Linear Systems, Stability of Linear Systems, Fundamental Matrices and Floquet Theory, Stability of Nonlinear Systems, Chaotic Behavior.	6	3	0	3	EXC43051142020
Dynamic Equations on Time Scales I	To investigate the basic definitions, differentiation, integration, chain rules, polynomials, first order linear equations, Hilger's complex space, the exponential function, initial value problems.	6	3	0	3	EXC43051152020
Dynamic Equations on Time Scales II	To investigate second order linear equations on time scales, reduction of order, method of factoring and variation of parameter on time scales, Euler-Cauchy equations, Laplace transform, Self-Adjoint equations, The Ricati equation on time scales.	6	3	0	3	EXC43051162020
Fractional Calculus	To investigate Grunwald Letnikov fractional derivative-integral, Riemann-Liouville fractional derivative- integral, Caputo fractional derivative-integral, Conformable fractional derivative and integral, Conformable fractional derivative-integral, Beta fractional derivative-integral and their properties.	9	3	0	3	EXC43052032020
Mathematical Modelling	Problem solving and mathematical modeling, Software applications.	9	3	0	3	EXC43052042020
Oscillation Theory of Dynamical Equations on Time Scale	To investigate second order linear equations on time scales, reduction of order, method of factoring and variation of parameters on time scales, Euler-Cauchy equations, Laplace transform, Self-Adjoint equations, Riccati equation on time scales.	9	3	0	3	EXC43052052020
Introduction to Harmonic Analysis	Fourier Series and their absolute, pointwise, uniform, L2-norm, L1-norm convergence. Fourier Transform L1, L2 and LP Theory for Fourier transform. Bandlimited functions, Paley-Wiener spaces, Classical Sampling Theorem.	9	3	0	3	EXC43051172020
Wavelet Theory	Introductory wavelet theory.	9	3	0	3	EXC43051182020
Abstract Harmonic Analysis I	General theory of the Abstract Harmonic analysis on compact groups and locally compact Abelian groups. Introduction to modulation spaces on locally compact Abelian groups.	9	3	0	3	EXC43052062020
Abstract Harmonic Analysis II	Introductory material for the Abstract Harmonic Analysis on noncommutative locally compact groups.	9	3	0	3	EXC43052072020

Graduate Educatio

Archeology	History and Archaeology of Syria from the Neolithic Period to the Iron Age	The history and culture of ancient Syria influenced Mesopotamia as well as Anatolia. Especially the rich crop fields and pastures of Northern Syria attracted the Mesopotamian (e.g. theLate Uruk) and the Anatolian (e.g. theHittite) cultures. Starting in theNeolithic Age different cultures and historical developments will be discussed in chronological order.	6	3	0	3	EXC43002012020
	Relations of Northern Mesopotamian Chalcolithic Uruk Culture and Local Anatolian Cultures	The Chalcolithic material from the rescue excavations in the dam area of Southeastern Anatolia will be evaluated in thelight of thediscussions about the grade of theinfluence of the Uruk cultures on the neighboring regions.	6	3	0	3	EXC43002022020
Business Administration	Cultural Diversity Management	This course identifies and discusses diversity, diversity management, discrimination, equality, exclusion, inclusion in organizations through considering differences amongst individuals such as race, gender and age.	5	3	0	3	EXC43032012020
	Operations Research	This course aims to teach the operations research and modelling constructs. After an introduction to Operations Research, linear programming, modelling, graphical solution, simplex method, transportation and assigment problems, and project management subjects will be addressed.	5	3	0	3	EXC43032022020
	Research Methods in Social Sciences	Designing qualitative and quantitative research; research writing, ethics in research.	5	3	0	3	EXC43032032020
Economics	Micro Economic Analysis I	Individual demand curve, market demand curve, market supply curve, price and income elasticities, theory of consumer behaviour, indifference curve, utility functions (Cobb-Douglas, CES), concavity and convexity analysis in utility functions, indirect utility and expenditure functions, budget line, optimization, changes in consumer equilibrium, Hicks and Slutsky income and substitution effect, production functions, isoquant curves, elasticity of substitution , production with minimum cost, returns to scale, short-run and long-run costs, Sheppard's lemma, Hotelling's lemma, economies of scope and scale.	6	3	0	3	EXC43024012020
	Micro Economic Analysis II	Perfectly competition market, incomplete competition market, monopoly, oligopoly, monopolistic competition, general equilibrium and welfare economics, labor markets.	6	3	0	3	EXC43024022020
	Macroeconomic Analysis I	Short-run analysis in economics, Investment, Consumption, Aggregate demand, Aggregate supply, Monetary policy, Fiscal policy, Inflation, Unemployment, Business cycles, Stabilation policies, Open economy, Exchange rates.	6	3	0	3	EXC43024032020
	Macroeconomic Analysis II	In this course, macro-economic issues and practices by examining the national and international level, is to be analysed, together with the numeric variable into. Also examined in the course of events on topics of current economic and macroeconomic performance evaluated along with suggestions for ways to improve the solution is revealed.	6	3	0	3	EXC43024042020
	Advanced Micro Economic Theory	Supply and Demand, Consumer Theory, Producer Theory, Costs, Models of Market, Game Theory	6	3	0	3	EXC43024052020
	International Money Markets	This course covers the foreign exchange rate regime and foreign exchange rate regimes. Financial globalization and economic crises are also covered. All students will have the opportunity to practice Ewiest using real data.	6	3	0	3	EXC43024062020
	Financial Economics	Capital markets, efficient markets, derivative markets, financial system and interest rates, and international financial management	6	3	0	3	EXC43024072020
	Advanced Macroeconomic Theory	Consumption and Investment, Infinite horizon models, New growth theories, Keynesian conjuncture! theories, Economic cyde movements, Inflation and monetary policies.	6	3	0	3	EXC43024082020

		The World Economy	Tools of Analysis for International Trade Models, The Classical Model of International Trade, The Hecksher-Ohlin Theory, Alternate Proofs of Selected HO Theorems, The Specific Factors Model, Test of Trade Models : The Leontief Paradox and Its Aftermath, International Trade and Economic Growth, International Flow of Factors, Economics of Scale, Imperfect.	6	3	0	3	EXC43024092020
	History	Seljuks of Turkey	The political history, social and cultural structure of the Seljuq Sultanate of Turkey from its foundation to its dissolution, the Seljukid State before the Battle of Manzikert and Turkish settlements in Anatolia after the Manzikert; Beyliks (Danishmends, Mengujekids, Saltukids, Artuqids, Ahlatshahs); Foundation of Seljuq Sultanate of Turkey; Sultans of Seljuq Sultanate of Turkey and socio-economic, cultural, domestic& international political developments in their periods; the Crusades and the Seljukids; the Mongol invasion of Anatolia; the fall of Seljukids.	4	3	0	3	EXC43071032020
		Turkoman Principalities in Anatolia	The political history, social and cultural structure of the Turkoman Principalities from their foundation to its dissolution, and socio-economic, cultural, domestic& international political developments in their periods; Political and cultural history of the Karamanids, Germiyanids, Menteşe, Sarukhanids, Karasids, Jandarids, Hamidids, Teke, Eretnids, Sahib Ataids, Pervaneoğlu.	4	3	0	3	EXC43071042020
		Comparative World Literature II	Comparative Literature as literary theory and as academic practice. Nineteenth-century background and the rise of "literary studies"; traditional concepts of influence, periods, themes, genres, "extraliterary" relations, translation studies, and their development in modern theory. Questions of textuality, canonicity, cultural identity, the politics of cross-cultural literary images, metatheory, and institutional setting as they affect current practice	5	3	0	3	EXC43071052020
		Comparative World Literature I	Comparative Literature as literary theory and as academic practice. Nineteenth-century background and the rise of "literary studies"; traditional concepts of influence, periods, themes, genres, "extraliterary" relations, translation studies, and their development in modern theory. Questions of textuality, canonicity, cultural identity, the politics of cross-cultural literary images, metatheory, and institutional setting as they affect current practice	5	3	0	3	EXC43071062020
	Turkish Language and Literature	Popular Culture	Turkey in the Republican era of socio-cultural movement of modernization, economic and political factors will learn.	5	3	0	3	EXC43077012020
		Research Methods in Social Sciences	The basis of theorical background which will be formed for social researches, qualitative and quantitative research planning, sampling theory, data collection, measurement and evaluation, report writing.	5	3	0	3	EXC43077022020
	Banking and Finance – Accounting and Finance	FINANCIAL DATA ANALYSIS	The course builds on the fundamentals of financial data analysis and addresses statistical tools and techniques useful in applied research. The aim of the course is to explain the statistical bases of financial models and to discuss the assumptions of these models.	6	3	0	3	EXC43004142021
		TAXATION OF MONEY AND CAPITAL MARKETS SECURITIES	It is aimed to examine the economic effects of the taxation of capital market instruments, institutions and capital markets.	6	3	0	3	EXC43004152021
		Securities Analysis and Portfolio Management	To explain portfolio management by giving information about financial markets, investment tools. To examine the concept of portfolio management with information about different investment instruments in the light of developments in the financial markets. Transferring the subject to the student and reinforcing the issues with mutual discussions. Portfolio is analyzed with Modern Portfolio Theory.	6	3	0	3	EXC43004082020
		Advanced Accounting Applications	In this course, it is aimed to reinforce the issues related to reporting of financial statement items in financial statements within the framework of IAS / IFRS and SME FRS with detailed application examples.	6	3	0	3	EXC43004122020

		Accounting Period Applications	What is required to be done for the preparation of financial statements is to examine the end-of-period applications within the framework of accounting theory, principles, standards and related legal regulations.	6	3	0	3	EXC43004132020