

Program Records

About the Program	<p>Data Science for Business and Economics Program is designed and run as a Master's Program with thesis by Abdullah Gül University Social Sciences Institute. The program is taught 100% English, and international students and students from different disciplines are accepted to the program. In addition to compulsory courses such as Introduction to Data Science, Statistics and Data Analysis; elective courses that have equivalent contents with their internationally recognized examples, such as Time Series Analysis, Strategic Thinking, etc., are also offered in the program. The program aims to help students to obtain knowledge and gain skills related to analyzing newly developing types of data such as big data through using software programs such as Phyton, R, and Stata. During the program, students complete graduate level courses which help developing statistical knowledge and skills, and also choose elective courses that are found in the curriculum content and belong to various subfields of interest. Before graduation, students write, present and defend a master's thesis, which complies with the academic criteria determined by the Social Sciences Institute and are generally used, by using the knowledge and expertise gained through theoretical and applied courses, and by the supervision of a thesis advisor.</p>
Program Outcomes	<p>To educate highly qualified, innovative, entrepreneurial managers, researchers and academics who are able to contribute to science and society by forming partnerships with the competence of converting knowledge into value; and who focus on both domestic and global issues via interdisciplinary and transdisciplinary approaches.</p> <p>To contribute to Abdullah Gül University's vision of becoming a recognized institution which adopts innovativeness and originality as primary qualities, which contributes to science and society through converting the knowledge into value; by adopting advanced and international education, and interdisciplinary and transdisciplinary research approaches</p>
Qualification Awarded	Master's Degree
Length of Program & Credits	2 years 120 ECTS
Level of Qualification	Second Cycle (Master's) Degree; EQF-LLL Level 7, QF-EHEA Level 2
Mode of Study	Full Time
Field of Study	Social and Behavioral Sciences
Admission Requirements	<p>Holding a Bachelor's Degree and meeting additional requirements announced by the Abdullah Gül University Social Sciences Institute.</p> <p>For international students, also meeting additional requirements announced by Abdullah Gül University, International Office.</p>
Recognition of Credit Mobility	Courses taken outside of the program can be transferred in accordance with the associated principles of Abdullah Gul University Undergraduate Education and Examination Regulation rules, and with the respective management board.
Graduation Requirements & Regulations	Students are expected to complete all courses in the program curriculum with a minimum GPA of 3.00, write and defend a Master's thesis, and meet other requirements announced by the Social Sciences Institute.

Occupational Profiles of Graduates Students who graduate with the ability to analyze data by using software programs such as Python, R, and Stata can generally find employment in the following sectors:

- IT
- Economics / Finance
- Education
- Telecommunication
- Consultancy

Access to Further Studies Graduates may apply to third cycle (Level 8) degree programs.

Assessment & Grading Policy Based on Abdullah Gul University Graduate Education and Examination Regulation rules.

<u>Letter Grade</u>	<u>Coefficient</u>	<u>Letter Grade</u>	<u>Status</u>
A	4,00	NA	Not Attended
A-	3,67	W	Withdrawn
B+	3,33	I	Incomplete
B	3,00	T	Transferred
B-	2,67	S	Satisfactory
C+	2,33	U	Unsatisfactory
C	2,00	P	In Progress
C-	1,67	EX	Exempt
D+	1,33	NI	Courses outside of Program
D	1,00	RM	Complementary scientific preparation course
F	0,00	Q	Preparing for qualifying examinations
NA	0,00	T	Passed qualifying examinations, at thesis stage

Program Outcomes

- PO1. Have working knowledge of statistical concepts and methods,
- PO2. Define and analyze social, legal and ethical problems in data science,
- PO3. Have the ability to extract data from existing data sources and create databases,
- PO4. Be able to use statistical, mathematical and econometric methods in data analysis with the focus on global issues,
- PO5. Be able to use programs such as Python, R, Stata for solving statistical, mathematical and econometric problems,
- PO6. Be able to analyze big data sets in the context of global problems,
- PO7. Be able to construct models and interpret statistical findings,
- PO8. Be able to determine and evaluate the appropriate legal and ethical standards related to communication and network security,
- PO9. Possess knowledge on the principles and methods required for making analyses on subjects such as financial decision making, capital investment, and budgeting,
- PO10. Be able to understand and analyze how data can be used to develop competitive advantage.

TQF-HE & Program Outcomes Coverage	Knowledge	Skills	Competences			
			Theoretical Conceptual	Cognitive Practical	Work Independently and Take Responsibility	Learning
	PO1	X	X	X	X	
PO2	X	X	X	X		X
PO3	X	X	X	X		X
PO4	X	X	X	X		X
PO5	X	X	X	X		X
PO6	X	X	X	X		X
PO7	X	X	X	X	X	X
PO8	X	X	X	X	X	X
PO9	X	X	X	X	X	X
PO10	X	X	X	X	X	X

Institutional & Program Outcomes Coverage	IO1	IO2	IO3	IO4	IO5	IO6	IO7
	PO1						
PO2					X		X
PO3		X			X		
PO4	X		X	X	X		
PO5					X		
PO6	X	X	X	X	X		
PO7		X			X	X	
PO8	X				X	X	X
PO9	X	X	X		X	X	
PO10	X	X	X		X	X	

Curriculum

FIRST SEMESTER					
Course Code	Course Title	T	P	Credits	ECTS
DSBE 510	Introduction to Data Science	3	0	3	10
DSBE 591	Social Science Research Methods and Publication Ethics	3	0	3	10
XX XXX	Elective Course	3	0	3	10
	Total	9	0	9	30
SECOND SEMESTER					
Course Code	Course Title	T	P	Credits	ECTS
DSBE 511	Statistics and Data Analysis	3	0	3	10
DSBE 500	Seminar	0	2	0	5
XX XXX	Elective Course	3	0	3	10
XX XXX	Elective Course	3	0	3	5
	Total	9	2	9	30
THIRD SEMESTER					
Course Code	Course Title	T	P	Credits	ECTS
DSBE 597	MSc Special Topics	4	0	0	5
DSBE 599	MSc Thesis	0	1	0	15
XX XXX	Elective Course	3	0	3	10
	Total	7	1	0	30
FOURTH SEMESTER					
Course Code	Course Title	T	P	Credits	ECTS
DSBE 597	MSc Special Topics	4	0	0	5
DSBE 599	MSc Thesis	0	1	0	15
XX XXX	Elective Course	3	0	3	10
	Total	7	1	0	30
	Program Total	32	4	24	120

Curriculum Summary

% Total		Courses	Credit	ECTS
0,00	AGU Signature Courses	0	0	0
7,69	YÖK/HEC Courses DSBE 591	1	3	10
53,85	Compulsory DSBE 510, DSBE 511, DESBE 500, DSBE 597, DSBE 599	7	6	65
38,46	Electives XX XXX	5	15	45
0,00	Summer Practice	0	0	0
100,0	TOTAL	13	24	120

Program Course Code Descriptions

Compulsory / Elective			
DSBE	X	X	X
	5- MSc Courses	-	-

Courses Descriptions

Code	DSBE 500
Name	Seminar
Hours per week	2(0+2)
Credit	0
ECTS	5
Level/Year	Graduate/1
Semester	
Type	Compulsory
Prerequisites	
Content	Course consists of a series of seminars given by guest-speakers and students who are conducting academic studies in the field of data science. Main aims are to give students an idea about current research and, as well as, to strengthen students' ability to communicate their work through effective communication methods. The seminar course must be taken as "Seminar" in any semester during the program and it must be passed.

Code	DSBE 510
Name	Introduction to Data Science
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Compulsory
Prerequisites	
Content	The aim of the course is to teach subjects of data collection, grouping, data management, fast and efficient access to reliable data, and Python and R programs at basic level. In this way, it is aimed to introduce these programming languages and to teach basics of coding aimed at students who are graduates of programs in fields of social science and who have a lack of computer and programming knowledge. In addition, it is aimed to enable students to apply the knowledge and experience that is gained throughout the course in sub-branches of business and economics disciplines.

Code	DSBE 511
Name	Statistics and Data Analysis
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1

Semester	
Type	Compulsory
Prerequisites	
Content	Fundamentals of statistics, importance of data analysis, how to analyze data and how to interpret results, basic probability rules, random variables and their uses in real life are examined throughout the course. In addition, sampling distributions, hypothesis testing and confidence intervals for one and two populations, and simple linear regression model are examined.

Code	DSBE 512
Name	Data Visualization and Management
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Main objectives of the course are to examine the basic concepts related to data management and visualization, and to apply what is learned in the course. In this context, data management and visualization tools and softwares, univariate and multivariate tables and graphs, visual perception, cognitive issues, multivariate visualization, principles of visual design, graphs and networks, visualization and presentation of big data are studied throughout the course.

Code	DSBE 513
Name	Time Series Analysis
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Main aim of the course is to teach time series analysis techniques and their applications to analysis and estimation with time series data. Autocovariance, autocorrelation, stationary and non-stationary time series, unit root tests, cointegration tests, causality tests, and related subjects are examined throughout the course.

Code	DSBE 514
Name	Panel Data Econometrics
Hours per week	3(3+0)

Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Main aim of the course is to teach panel data analysis techniques and their applications to analysis and estimation with panel data. Dynamic panel data models, dummy variables, panel models for qualitative choice, panel unit root tests, panel cointegration tests, panel causality tests, and related subjects are examined throughout the course.

Code	DSBE 515
Name	Forecasting in Business and Economics
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Aims of the course are to examine forecasting, forecasting methods, characteristics and specialties associated with these methods, and to have students develop the ability to use theoretical and practical knowledge about forecasting methods in disciplines of business and economics. Subjects related to understanding moving averages, exponential smoothing, trend curves and auto regression, and usage of these modeling techniques in forecasting are examined.

Code	DSBE 516
Name	Input-Output Analysis
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Aims of the course are to teach technical and basic concepts related to input-output analysis, to have students able to model problems that business and economics disciplines target with the help of input-output analysis methods, and to analyze and interpret these problems by using computer techniques. In addition, it is aimed to enable students to make future predictions and to foresee possible results of applied policies.

Code	DSBE 517
Name	Decision Making
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Main aims of the course are to examine the basic concepts of decision making and to apply what is learned in the course. Topics include rational choice theory, individual decision making processes, consumer theory, decision making under risk, system 1 and system 2 theories, multi-person decision making processes, and behavioral decision making theories.

Code	DSBE 518
Name	Business Analytics & Big Data for Business and Economics
Hours per week	3(3+0)
Credit	3
ECTS	10
Level /Year	Graduate/1,2
Semester	Fall, Spring
Type	Elective
Prerequisites	DSBE 511 or consent of the instructor
Content	

The course is an introduction to concepts of machine learning and big data analytics and it is a combination of topics related to statistical data analysis, data mining, machine learning and artificial intelligence. Students are directed to work on projects which include solving real-world problems involving big data sets which are especially related to real/business sector. Completing the course will help the participants apply the concepts of big data analytics and statistical applications to varied aspects of managerial decision making and analyses. It is aimed that the participants will understand how big data technologies and data mining techniques improve data-driven decisions.

Code	DSBE 519
Name	Financial Data Modelling
Hours per week	3(3+0)
Credit	3
ECTS	10
Level /Year	Graduate/1,2
Semester	Fall

Type	Elective
Prerequisites	
Content	<p>The course is aimed at presenting financial models that are widely used by finance professionals, and showing how these models can be implemented by using Excel spreadsheets and R libraries. Therefore, the course is also an introduction to investment theory and its applications in hedging and pricing for data analysts. Selected subjects such as modern portfolio theory, capital asset pricing model, options trading, interest rate risk, stochastic finance and risk measurement are included in course content. Thus, the course is designed in a way to encourage graduate students to analyze financial asset dynamics and to model their risks through applied models provided by different computational libraries of R computer program. After the course is completed successfully, graduate students are expected to be able to confidently structure their own portfolios, measure risks and develop their own hedging strategies.</p>

Code	DSBE 591
Name	Social Science Research Methods and Publication Ethics
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Compulsory
Prerequisites	
Content	<p>Course content includes subjects related to research ethics in all kinds of scientific/artistic research and studies, in all kinds of scientific/artistic activities, in scientific/artistic research and development projects supported and/or carried out, and in thesis and scientific publications and scientific research and development projects produced during graduate education. In addition, issues of publication ethics and ethical violations related to any publication published or submitted for publication in audio and visual publication channels, topics of plagiarism, forgery, distortion, republishing, slicing and unfair writing are also included in the course content.</p>

Code	DSBE 597
Name	MSc Special Topics
Hours per week	4(4+0)
Credit	0
ECTS	5
Level/Year	Graduate/2
Semester	
Type	Compulsory
Prerequisites	

Content	<p>Students who pass the course will be able to:</p> <ol style="list-style-type: none"> 1. Determine the literature related to their research topic. 2. Make literature review. 3. Define the problem they are working on. 4. Determine appropriate methods for solving the problem. 5. Collect necessary data. 6. Interpret the results. 7. Report the work effectively. <p>MSc Special Topics course is followed in accordance with the decision of the Board of Institute.</p>
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Code	DSBE 599
Name	MSc Thesis
Hours per week	1(0+1)
Credit	0
ECTS	15
Level/Year	Graduate/2
Semester	
Type	Compulsory

Prerequisites	
Content	<p>Students who pass the course will be able to:</p> <ol style="list-style-type: none"> 1. Determine the literature related to the research topic. 2. Make literature review. 3. Define the problem they are working on. 4. Determine appropriate methods for solving the problem. 5. Collect necessary data. 6. Interpret the results. 7. Report the work effectively. 8. Defend the work orally effectively.

The course is taken by each student in the master program with thesis who is at the thesis stage of the program; and the result is evaluated as "Pass / Fail" by the thesis advisor.

Code	ECE 555
Name	Artificial Intelligence
Hours per week	3(3+0)
Credit	3
ECTS	7,5
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	

Content	The course is an introduction to topic/area of artificial intelligence. Topics include: problem solving with search, unknowingly and intuitive search methods, search in competitive environments, information representation, propositions logic, logic of predicates, inference, learning, supervised learning, unsupervised learning, probability inference and natural language processing.
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Code	ECE 562
Name	Machine Learning
Hours per week	3(3+0)
Credit	3
ECTS	7,5
Level/Year	Graduate/1
Semester	
Type	Elective

Prerequisites	
Content	In the course, which can be classified as an introduction to machine learning, it is aimed to examine the mathematical principles underlying machine learning algorithms and to have students gain practical knowledge and skills by applying these techniques to specific problems.

Code	ECE 565
Name	Data Mining
Hours per week	3(3+0)
Credit	3
ECTS	7,5
Level/Year	Graduate/1
Semester	
Type	Elective

Prerequisites	
Content	In the course, which is an introduction to data mining, basic pattern discovery methods such as frequent item set detection and determination of association rules, as well as data structures and algorithms that can work effectively in large databases, and basic classification and clustering algorithms are examined. It is also aimed that the methods learned throughout the course are applied to a real problem by using a data mining program.

Code	IE 511
Name	Modelling and Optimization
Hours per week	3(3+0)
Credit	3
ECTS	7,5
Level/Year	Graduate/1

Semester	
Type	Elective
Prerequisites	
Content	The course is designed as a comprehensive introduction to mathematical modelling and softwares used to solve these models. Topics include: linear programming, integer programming, layout/network and transportation models, nonlinear programming and Karush-Kuhn-Tucker conditions.

Code	IE 526
Name	Big Data Analytics
Hours per week	3(3+0)
Credit	3
ECTS	7,5
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	INFORMS (Operations Research and Institution of Managerial Science) defines business analytics as the scientific process of transforming data into predictions in order to make better decisions. The aim of the course is to introduce analytical methods in descriptive, estimative and predictive business analytics. In this framework, the course can be considered as a combination of statistics, operations research, data mining and machine learning. Related topics such as big data, data storage, OLAP and Hadoop / MapReduce are covered throughout the course.

Code	IE 534
Name	Risk Modelling, Assessment and Management
Hours per week	3(3+0)
Credit	3
ECTS	7,5
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Risk-based decision making and consequently risk analysis have important applications in many areas such as engineering, science, production, health, homeland security, business administration, management and public policy; and subjects are developing rapidly. Aims of the course are: (1) to introduce the most recent developments in risk analysis, (2) to teach how to quantify risk and assign probabilities in real-life decision-making problems, (3) to discuss institutional, organizational and political issues in risk analysis and management with real life case studies, (4) to observe and study the implementation of risk management in a real problem of an organization. Risk assessment and management processes, single- and multi-purpose decision making, error trees, terrorism and extreme event risk modeling and related topics are examined throughout the course.

Code	IE 542
Name	Decision Analysis
Hours per week	3(3+0)
Credit	3
ECTS	7,5
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Course subjects include decision theory, risk and uncertainty, value of information, preference criteria, prioritization of alternatives, multi-purpose and hierarchical decisions, multi-purpose decision making, utility theory, analytical hierarchy process (AHP), analytical network process (ANP) methods and various case studies.

Code	ECON 521
Name	Strategic Thinking
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Subjects of economics, strategic management, and game theory are examined in connection with each other throughout the course. More specifically, strategic and mutual decision making processes of individuals, firms, and political actors are examined. Basic tools of game theory are introduced which help forming an understanding of different strategic situations and predicting the most likely outcome. Links between theory and practice are formed by examining "case studies". In addition, subjects of decision making in situations involving risk and uncertainty are examined throughout the course.

Code	ECON 522
Name	Firms and Markets
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	

Content	Topics such as market competition, internal human resource management and organization, and strategy and structural planning relationships are included in the course content. The main purpose of the course is to have students gain necessary skills for analyzing subjects in the science of business administration with the help of analytical and microeconomic tools.
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Code	ECON 523
Name	Health Economics
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective

Prerequisites	
Content	Course content is focused on topics such as economic analysis of healthcare sector, economic evaluation techniques in healthcare sector, production and cost functions in healthcare services, impact of healthcare sector on economic growth and development, financing of healthcare sector, economic objectives of healthcare system, production and output in healthcare sector, cost in healthcare firms and organizations, demand of healthcare services and goods, supply of healthcare services and goods, market types in healthcare sector, economic evaluation in healthcare services, social security, state intervention in healthcare market, and healthcare labor force.

Code	ECON 524
Name	Behavioral and Experimental Economics
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective

Prerequisites	
Content	The course is divided into two parts. The first part is focused on the assumptions of neoclassical/mainstream economics on decision-making of economic agents, assumption of rationality (rational choice) in decision-making mechanisms, behavioral decision theory, social preferences, time preferences, behavioral game theory, bounded rationality, and current developments in behavioral economics. The second part includes the historical origins of experimental approaches in economics discipline, construction and testing of hypotheses, theoretical and experimental analysis of individual decisions, social behaviour, experimental analysis of distribution, equity and reciprocity, programming of experiments on computer, and laboratory applications.

Code	ECON 525
Name	Political Economics
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Course is mainly focused on the analysis of political institutions through a rational choice perspective. In addition, effects of institutions and political actors on the decision-making processes and related consequences for economic development are presented throughout the course with the most convenient tools for the political arena and in a way that is based on game theory and microeconomic theory.

Code	ECON 526
Name	Energy Economics and Policy
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	The main purpose of the course is to provide and examine necessary information for understanding basic problems in energy economics. Subjects are developed in order to cover policy tools for analyzing market failures and solving related problems. In addition, topics such as energy and electricity markets, definition and analysis of resource and energy trading markets are examined.

Code	ECON 527
Name	Environmental Economics and Policy
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	The main purpose of the course is to provide and examine necessary information for understanding basic problems in environmental economics. Subjects are developed in order to cover policy tools for analyzing market failures and solving related problems. In addition, topics such as common area usage theory, pollution market, definition and analysis of

customer behavior are examined.

Code	ECON 528
Name	Spatial Economics
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	ECON 521
Content	The course is aimed at providing students skills that are necessary to analyze socio-economic configurations in geographical context and frameworks in subjects that are related to and are analyzed in the economics discipline. Basic theoretical concepts in urban and spatial economics, tools such as geographical information systems (GIS) and related software are studied. It is aimed that, at the end of the course, students will have acquired knowledge on the geographical concepts such as distance, interaction, scale of location and neighborhood, and their relations and implications related to macroeconomics and microeconomics.

Code	BA 521
Name	Corporate Finance for Data Science
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	2019-2020
Type	Elective
Prerequisites	
Content	Following subjects are covered throughout the course: introduction to financial assets, investment decision rules, valuation of securities, portfolio selection theorem, and investment performance measurements. Therefore the course content covers the basics of risk management, financial derivatives and financial engineering. In addition, it is aimed to teach how to make financial decisions and express these decisions using various computer programs. Course content can be divided into three main parts: Investment decision making, security valuation, and risk and return.

Code	BA 522
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Name	Numerical Methods for Advanced Finance
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	In this course, it is aimed to provide necessary theoretical and practical background for devising financial analysis and financial models, and solving financial problems by using basic statistical and mathematical concepts and tools. Subjects such as implementations of financial calculations and models in real problems, implementations of models and analysis techniques learnt throughout the course in financial problems by collecting data from existing sources, and related topics are covered.

Code	BA 523
Name	Linear Programming for Data Science
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	The main purpose of the course is to introduce the theory, algorithm and calculation methods in linear programming. Topics such as modelling linear programming problems, mathematical analysis of linear programming (polyhedral theory, duality, optimality conditions, level of complexity), network flow models, simplex algorithm and its variations, decomposition techniques, and interior point methods are examined throughout the course.

Code	BA 524
Name	Advanced Supply Chain Management
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	The main purpose of the course is to teach the analysis of a business or a process which includes the basic topics of supply chain management such as purchasing, production, distribution and after-sales services. Students are provided with knowledge on the concepts, techniques, and tools that are necessary for designing, analyzing and developing operational

capabilities of an organization. By the end of the course, students will have acquired knowledge on basic functions of supply chain management (transport costs, storage location selection, distribution, production, after-sales, etc.) in business processes.

Code	BA 525
Name	Advanced Cost Accounting
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Cost Accounting can be defined as a branch of accounting and it consists of subjects related to identifying all aggregate and unit costs incurred in a business, auditing of business costs, examination of prices, and determination of sale prices. Course is aimed at equipping students with skills and knowledge on determining cost of goods, evaluating costs of inventories, developing methods to decrease costs within boundaries of keeping the quality standards met and expenses controlled. In addition, it is aimed that students will have gained knowledge on coordinating planning activities and making special management decisions on future investment plans of the business enterprise through reporting structured, regular, effective and reliable information on costs.

Code	BA 526
Name	Advanced Financial Statement Analysis
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	

Course can be qualified as a first step into the world of accounting theory and it covers subjects related to preparation of financial statements. Subjects such as the conceptual framework, processes of record keeping and reporting, and development of accounting standards are covered. Course content is mainly focused on the analysis, summarization, reporting and interpretation of financial information. It is aimed that, by the end of the course, students will be able to prepare financial statements.

Code	BA 527
Name	Marketing Management for Data Science
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	Throughout the course, “Marketing” is introduced as the art and science of creating customer value and market place exchanges that benefit the organization and its stakeholders. In this framework, information on planning, pricing, promotion, and distribution of ideas, goods, and services is provided. In addition, the course is also focused on the importance of identifying and measuring consumers' needs and wants, and on evaluation of the competitive environment. Finally, topics such as market segmentation, targeting, positioning, and factors affecting consumer behavior are examined.

Code	BA 528
Name	Strategic Management for Data Science
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	
Type	Elective
Prerequisites	
Content	The main purpose of the course is to introduce and explain the role of “strategic manager” whose primary responsibility is the overall and long-term welfare of the business enterprise. The concept of strategic management and its characteristics, phases of strategic management processes, relations between strategy and similar concepts, the system of strategic planning and objectives, essential economic and non-economic purposes of the enterprise, environmental opportunities and limitations (business analysis), portfolio analysis in strategy selection, a general overview of business strategies, strategies developed at the level of top/highest business management are among main topics examined throughout the course.

Code	BA 529
Name	Advanced International Business
Hours per week	3(3+0)
Credit	3
ECTS	10
Level/Year	Graduate/1
Semester	

Type	Elective
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Prerequisites	
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Content	Course is aimed at introducing the basic concepts and principles of international trade. In addition, globalization, international trade, customs, foreign environment in overseas operations, international trade policies and programs, international economic policies, North American Free Trade Agreement (NAFTA), European Union and other economic integrations, management decisions and international marketing, related implementations in management and finance are also examined.
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