

**ANKARA YILDIRIM BEYAZIT UNIVERSITY – DEPARTMENT OF MANAGEMENT INFORMATION SYSTEMS
COURSE SYLLABUS**

Course Code	Course Title	Course Type	ECTS Credits	Prerequisite Information	Date of Preparation
MIS402	BUSINESS INTELLIGENCE AND DATA MINING	Compulsory	5	None	20.10.2025
Instructor of the Course & E-Mail Address	Doç.Dr. Keziban Seçkin Codal kseckin.codal@aybu.edu.tr				
Office Hours & Office Room	Office hours can be learned from the schedule posted on the instructor's office door.				
Course Content and Objectives	<p>Understanding the conceptual disciplines related to business intelligence and learning the basic concepts and techniques of business intelligence as well as business applications</p> <p>Course Content Business intelligence has a broad scope of application and technology, enabling the determination of the most appropriate decisions to be made based on comprehensive knowledge of all factors affecting the organization, such as customers, business partners, competitors, and the economic environment.</p>				
Textbook(s)	<p>Business Intelligence: Data Mining and Optimization for Decision Making, 2010, Vercellis</p> <p>Decision Support and Business Intelligence Systems, 2007, Turban et al.</p> <p>Business Intelligence for Telecommunications, 2007, Pareek</p> <p>Business Intelligence: A Managerial Approach, 2011, Turban et al.</p>				
Teaching Methods and Techniques	Face to face				
Course Learning Outcomes	1	Understands the fundamental concepts of business intelligence and the system development and implementation process.			
	2	Gains skills related to data warehousing, OLAP technologies, and data mining techniques.			
	3	Learns and applies web and text mining tools for extracting valuable insights from diverse data sources.			
	4	Understands the relationship between business performance management and business intelligence, and evaluates how BI supports strategic decision-making.			
	5	Understands the fundamental concepts of business intelligence and the system development and implementation process.			
	6	Gains skills related to data warehousing, OLAP technologies, and data mining techniques.			
	7	Learns and applies web and text mining tools for extracting valuable insights from diverse data sources.			
Program Outcomes Contributed by the Course	Program Outcomes (PO)				
		Understands the role of business intelligence and data mining in supporting data-driven decision-making.			
		Applies analytical thinking and quantitative methods to extract valuable insights from structured and unstructured data.			
		Utilizes modern BI tools, data warehousing systems, OLAP, and data mining techniques effectively in business environments.			
		Integrates business performance management principles with BI strategies to improve organizational effectiveness.			
		Demonstrates awareness of ethical, legal, and security considerations in data analysis and information use.			
		Communicates analytical findings clearly to stakeholders using visual and reporting techniques.			
		Works collaboratively in BI and data mining projects, applying project-oriented approaches to real-world problems.			

Contribution of the Course to Field Instruction	This course enables students to transform raw data into meaningful information that supports strategic and operational decision-making in businesses. Through practical BI and data mining applications, students develop essential analytical, technical, and managerial competencies for Information Systems environments. The course strengthens students' ability to evaluate data sources, build analytical models, interpret results, and propose data-driven solutions that enhance organizational performance. Additionally, the focus on security, ethics, and responsible data usage prepares students to operate professionally within modern digital business ecosystems.		
Topics Covered in the Course	1. Week	Introduction to Business Intelligence	
	2. Week	Components of the Decision-Making Process I	
	3. Week	Components of the Decision-Making Process II	
	4. Week	Fundamentals of Analytics	
	5. Week	Mathematical Models and Methods I	
	6. Week	Mathematical Models and Methods II	
	7. Week	MidTerm	
	8. Week	Mathematical Models and Methods III	
	9. Week	Mathematical Models and Methods IV	
	10. Week	Mathematical Models and Methods V	
	11. Week	Mathematical Models and Methods VI	
	12. Week	Business Performance Management	
	13. Week	Business Intelligence Applications I	
	14. Week	Business Intelligence Applications II	
	15. Week	Business Intelligence Applications III	
Course Evaluation Criteria	In-Term Studies	Quantity	Percentage %
	Mid-terms	1	%50
	Quizzes		%
	Assignments		%
	Attendance		%
	Practice		%
	Project		%
	Final examination	1	%50
	Total	2	100%
Disability Policy	If you have a documented disability (e.g., visual, hearing, or physical impairment, etc.) that may influence your performance in this course, it is recommended to meet with the Engelsiz AYBU (https://aybu.edu.tr/engelsiz/content_list-327-yildirim-beyazit-universitesi-engelsiz-universite-birimi-yonergesi.html) to arrange for reasonable conditions (such as accommodation, etc.) to ensure an equitable opportunity to meet all the requirements of this course. You may also contact the local authority of the Faculty of Humanities and Social Sciences. You should communicate your needs to the course instructor as soon as possible to ensure that any course needs concerning exams, lecture materials, etc. are met.		