Course Title	**Business Analytics**				
Course Code	**MBA 601**				
Course Type	**ELECTIVE**				
Level	**MASTER**				
Year / Semester	**YEAR 2 / SEMESTER 5 or 6**				
Teacher's Name	**Christakis Charalambous/Aristidis Samitas**				
ECTS	**6**	Lectures / week		Laboratories / week	
Course Purpose and Objectives	Business analytics refers to the ways in which enterprises such as businesses, non-profits, and governments can use data to gain insights and make better decisions. Business analytics is applied in operations, marketing, finance, and strategic planning among other functions. The ability to use data effectively to drive rapid, precise and profitable decisions has been a critical strategic advantage for companies as diverse as WalMart, Google, Capital One, and Disney. With the increasing availability of broad and deep sources of information — so-called "Big Data" — business analytics are becoming an even more critical capability for enterprises of all types and all sizes. In this course, students will learn to identify, evaluate, and capture business analytic opportunities that create value. Toward this end, students will learn basic analytic methods and analyze case studies on organizations that successfully deployed these techniques. In the first part of the course, the focus will be on how to use data to develop insights and predictive capabilities using machine learning, data mining and forecasting techniques. In the second part, the focus will be on the use of optimization to support decision-making in the presence of a large number of alternatives and business constraints. Finally, the course will explore the challenges that can arise in implementing analytical approaches within an organization.				
Learning Outcomes	Upon the successful completion of this course, students will be able to: • provide real insights and improve the speed, reliability, and quality of decisions. • identify opportunities in which business analytics can be used to improve performance. • be alert to the ways that analytics can be used — and misused — within an organization. • think critically about data and the analyses based on those data — whether conducted by you or someone else. • enable you to identify opportunities for creating value using business analytics.				

	• help you estimate the value created using business analytics to address an opportunity. • provide you with the foundation you need to understand and apply these methods to drive value.		
Prerequisites	**ALL COMPULSORY COURSES**	Required	NOE
Course Content	• Predictive Analytics • Predicting outcomes I / lending analytics • Predicting outcomes II / recommendation analytics • Quality of predictions I / healthcare analytics • Quality of predictions II / financial analytics • Predictions and skill versus luck / sports analytics Prescriptive Analytics • Testing / retail analytics • Simulating the future / pension analytics • Optimizing complex decisions / salesforce analytics • Optimizing with multiple objectives / portfolio analytics Implementation • Decision-support systems -from concept to deployment- / supply chain analytics		
Teaching Methodology	Highly interactive class with discussions on organizations using “big data” and how they use them to make decisions. Case studies will be analyzed in class and presentations will be given by the students. Guest speakers will be invited.		
Bibliography	• Siegel. E. (2016). Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie or Die. Wiley. • Kelleher, J.D.; Namee B. M. and D’Arcy, A. (2015). Fundamentals of Machine Learning for Predictive Data Analytics. Algorithms, Worked Examples and Case Studies. The MIT Press.		
Assessment	Participation 10% Projects 30% Case analysis 20% Final Exam 40%		
Language	English		