BUSINESS DATA ANALYTICS

ENGIN645	3 Credits
Professor	*Sid Bhattacharyya*
Assitant	-

COURSE DESCRIPTION

It will provide an overview of data analytics in business, essential understanding of key methods and their application in business contexts. Methods covered inlcude decsiion trees, random forests, boosted trees, clustering, recommender systems and basic text-mining.

I.- COURSE LEARNING OBJECTIVES

This course provides an introduction to data analytics (data mining) approaches for business, focusing on machine learning techniques widely in use for business insights and decisions.

1.	Understand how data mining/analytics can help businesses leverage data assets for insights and decisión-making	
2.	Understand commonly uses methods, their application to business problems, and performance evaluation.	
3.	Hands-on application to business problems using current software.	

II.- CONTENTS

Topic	Content	Activities /Reading
1	Data mining overview, Introduction to data, models, performance.	Lecture. Introduction to R use
2	Decision tree based models for classification. Classifier performance evaluation.	Lecture. Using R for decisión tree analyses and classifier performance Evaluation. Case.
3	Bias-variance tradeoff, Random forest models, Boosted tree models	Lecture. Case on classification models, evaluation, using R.
4	Clustering, market segmentation	Lecture. Case of market segmentation, using R

5	Recommender systems	Lecture
6	Basic text -mining	Lecture Case example.

III.- METHODOLOGY, EVALUATION AND BASIC REGULATIONS

3.1.- Methodology:

It includes hands-on experience through business cases, using software like R.

3.2.- Evaluation:

- Hands-on assignments: 50%.
- Final exam: 50%.

3.3.- Basic Regulation

1. Students must have at least 75% attendance in the course to be able to pass it.
2. The classes will be the days and hours indicated by the program address.
3. For each class, the students must have read and studied in advance the corresponding bibliography.
4. The qualification of all the evaluations will be done with a score from 1 to 7.
5. The teacher reserves the right to add, delete or replace bibliography during the course of the program if he deems it appropriate for the course of the course.
6. The unjustified absence of a student to a requirement will be scored with note 1.
7. It is important to emphasize that each student must assume his / her own responsibility in fulfilling the program, especially in relation to:
8. to. Be up to date on the development of the subject and the various indications given by both the teacher and the course coordinator. For example, absence from a class session does not exempt you from the academic obligations indicated on that day.
9. Ensure the faithful compliance with the dates and deadlines established for the different evaluation activities. Once fixed and known, they will not be modified.
10. Obtain the support material indicated for the chair when appropriate.
11. All work submitted during the course of the program will only be of value to the extent that the author is able to explain and endorse them personally. Deliveries that contradict the above are not accepted. All medical justification corresponding to non-attendance to a requirement must be presented through the regular channels established by the University.
12. All forms of copy and / or plagiarism are penalized drastically, failing the chair with a grade of 1.0. To avoid any inconvenience, please check the relevant regulations here.

IV.- BIBLIOGRAPHY

Mandatory Readings

- On Contents

*Syllabus subject to changes