

**COURSE DATA****Data Subject**

<b>Code</b>	44927
<b>Name</b>	Business Analytics
<b>Cycle</b>	Master's degree
<b>ECTS Credits</b>	5.0
<b>Academic year</b>	2023 - 2024

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. Period year</b>
2069 - Master's Degree in International Business Administration	Faculty of Economics	1 First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
2069 - Master's Degree in International Business Administration	14 - Business Analytics	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
CURRAS PEREZ, RAFAEL MARTIN	43 - Marketing and Market Research

**SUMMARY**

This module introduces the student to the fundamental concepts of the growing area of business analytics in a global context. It will explain vital concepts and techniques in understanding how descriptive, predictive and prescriptive analytics could help to optimise business and operational functions in both private and public sector organisations. Students will learn to apply basic business analytics techniques, communicate with analytics professionals, and effectively use and interpret analytic models to make better business decisions. Appropriate software (e.g. Excel, R) will be used to support learning.

**PREVIOUS KNOWLEDGE**



### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

## COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

### 2069 - Master's Degree in International Business Administration

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Conocer y evaluar distintas aproximaciones conceptuales y saber utilizar con destreza métodos, técnicas y herramientas en el contexto empresarial global.
- Ser capaz de identificar y analizar información compleja y con incertidumbre.
- Ser capaz de tomar decisiones en situaciones de complejidad internacional y valorar sus consecuencias.
- Identify the sources of data, both digital and offline, and their analysis.
- Develop the skill of selection of variables of interest, analysis of data and proposals for the decision making by means of data mining techniques.

## LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

By the end of this module you will be able to:

1. Assess and recommend business analytics approaches to aide in business analysis and decision making for global success
2. Structure data into information to support decision making
3. Design, build and apply models to obtain solutions and enhance business performance
4. Reflect upon the results from these models and explore the implications for solving business challenges in an international context

## DESCRIPTION OF CONTENTS



1. Introduction to Business Analytics (definitions, types of data, sources of data and data management)

2. Problem structuring, preparation and data mining

3. Descriptive Analytics - visualizing and exploring data, descriptive statistical measures

4. Predictive Analytics regression, forecasting, classification

5. Prescriptive Analytics - optimization, simulation

## WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Computer classroom practice	20,00	100
<b>TOTAL</b>	<b>50,00</b>	

## TEACHING METHODOLOGY

Lectures on key topics, supported by seminars or workshops, including: student introduced seminars based on pre-reading, individual and group working on questions and case studies and class discussions. Learning methods place specific emphasis on participation, interaction and active learning.

## EVALUATION

Achievement of learning outcomes will be assessed through an in class **final exam** (50% of the final mark) and four **individual/team assignments** during the course (50% of the final mark).

For a retake within the same academic year, the following rules are applied:

- The grades of tasks approved in the first round are kept with the same value for the second round.
- The non-passed exam is re-evaluable in the second round.



## REFERENCES

### Basic

- Albright, S.C. and Winston, W.L. (2015). Business Analytics: Data Analysis for Decision Making, Cengage Learning.
- Anderson, D., Sweeney, D., Williams, T. and Wisniewski, M. (2009). An Introduction to Management Science: Quantitative Approaches to Decision Making. Cengage Learning.
- Camm, J., Cochran, J., Fry, M., Ohlmann, J. and Anderson, D. (2018). Essentials of Business Analytics. Cengage Learning.
- Hillier, F. S., Liebermann, G. J., Bodhibrata, N. and Preetam, B. (2014). Introduction to Operations Research. McGraw Hill.
- James, G., Witten, D., Hastie, T. and Tibshirani, R. (2013). An introduction to statistical learning, Volume 112. New York: Springer.
- Pidd, M. (2003). Tools for Thinking. Wiley.
- Pochiraju, B. and Seshadri, S. (2019). Essentials of Business Analytics. An Introduction to the Methodology and its Applications. International Series in Operations Research & Management Science, Volume 264. New York: Springer.
- Powell, S.G. and Baker, K.R. (2016). Business Analytics: the art of modeling with spreadsheets. John Wiley & Sons, Inc.
- Provost, F. and Fawcett, T. (2013). Data Science for Business: What you need to know about data mining and data-analytic thinking. O'Reilly Media.
- Rosenhead, J. and Mingers, J. (2001). Rational Analysis for a Problematic World Revisited: Problem Structuring Methods for Complexity, Uncertainty and Conflict. Wiley.
- Saxena, R. and Srinivasan, A. (2013). Business Analytics. A Practitioners Guide. International Series in Operations Research & Management Science, Volume 186. New York: Springer.
- Shmueli, G., Bruce, P., Inbal, Y., Patel, N. R. and Lichtenberg Jr., K. C. (2017). Data Mining for Business Analytics (R Edition). Wiley.