

# DATA GOVERNANCE

## Dual Degree in Business Administration & Data and Business Analytics BBADBA SEP-2024 DG-NBDA.5.M.A

Area Data Science

Number of sessions: 15

Academic year: 24-25

Degree course: FIFTH

Number of credits: 3.0

Semester: 1º

Category: COMPULSORY

Language: English

Professor: **ALFONSO FERNÁNDEZ REVENGA**

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Alfonso is the Data Governance Lead and Product Owner of the Data Governance module at Stratio since 2017. He is passionate about technology focused on data lifecycle management. In addition to his role at Stratio, he teaches Data Management and Data Governance at IE University and serves as the Chief Technological Officer at DAMA Spain on a voluntary basis. Alfonso holds a degree in Computer Engineering from the Autonomous University of Madrid and has several CDMP certifications from DAMA International in Data Management fundamentals, Data Governance, and Metadata. Prior to his time at Stratio, Alfonso worked at two Big Four firms as a Senior Manager specialising in Big Data architectures and Data Management, undertaking projects and consultancy work for major companies in the financial sector.

### Office Hours

Office hours will be on request. Please contact at:

On demand and just after the classes.

Professor: **SILVINA ARCE GIL**

E-mail: [sarce@faculty.ie.edu](mailto:sarce@faculty.ie.edu)

Silvina is the Corporate CDO of the Falabella group and CDO of Banco de Chile and Banco Santander Spain since 2016. She is also a co-founder and board member of the CDOs Club in Spain. Silvina's role involves aligning processes, people, and technology to implement a unified information management strategy, thus maximising the value of one of the most strategic assets: data. With over 20 years of experience in technology and operations, her task is to lead transformation processes in banking and insurance, primarily. She is the founder of [www.speakleaders.com](http://www.speakleaders.com) and collaborates with various organisations in training and advising on different data domains for all areas of an organisation, including risks, finances, people, supply chain, and marketing.

### **Office Hours**

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## **SUBJECT DESCRIPTION**

In 2017, The economist publishes “The world’s most valuable resource is no longer oil, but data”. In 2021, a report from the World Economic Forum states that “data now constitute a new kind of economic asset, such as cash or gold “.

Since then, all organizations have tried to extract the value from this strategic asset to take better decisions regardless the size of the sector or their business purpose. Data, instead of intuition, will lead them to the right decisions. This is what we call Data Driven Companies.

The key driver to the adoption of data and intelligence to 100% in the organizations is to have an efficient management of the data in its life cycle. So what do the organizations do to manage such an important asset? A great amount of them invest to increase their capabilities in one or various of the stages of the data life cycle (collection, integration, storage, exploitation, etc.) rather than undertaking the issue under a holistic point of view.

Data Management and governance are the main drivers to ensure data is used for decision-making. While Data Governance establishes policies, procedures, roles, and responsibilities around data, Data Management applies those policies and procedures along the whole life cycle of data.

During this course, terms as Data Governance, Data Quality, Metadata Management, Data Strategy, Security, etc. and the relationships between them will be explained to get a full knowledge of data Management.

## **LEARNING OBJECTIVES**

The objective of the course is to provide students with necessary skills that would allow them to efficiently manage the life cycle of an organization's data.

At the end of the course, students will be able to:

- Apply Data Management as a whole, using one of the most recognized frameworks in the sector
- Know through real cases, the best practices carried out in organizations that allow obtaining value from their data assets

- Understand the best practices in different disciplines related to data management
- Avoid the most common mistakes and correctly apply the knowledge in this matter

## TEACHING METHODOLOGY

IE University teaching method is defined by its collaborative, active, and applied nature. Students actively participate in the whole process to build their knowledge and sharpen their skills. Professor's main role is to lead and guide students to achieve the learning objectives of the course. This is done by engaging in a diverse range of teaching techniques and different types of learning activities such as the following:

Learning Activity	Weighting	Estimated time a student should dedicate to prepare for and participate in
Lectures	26.7 %	20.0 hours
Discussions	6.7 %	5.0 hours
Group work	26.7 %	20.0 hours
Individual studying	40.0 %	30.0 hours
TOTAL	100.0 %	75.0 hours

## PROGRAM

### SESSION 1 (LIVE IN-PERSON)

Introduction to Data Management & Governance:

- Presentation
- Data as an asset
- Key Business Questions and KPIs

### SESSION 2 (LIVE IN-PERSON)

Data Management fundamentals:

- Introduction to Data Management and fundamentals
- Essential concepts
- Data Management frameworks

### SESSION 3 (LIVE IN-PERSON)

Data governance:

- Business drivers
- Goals and principles
- Activities
- Implementation guidelines
- Metrics

## **SESSION 4 (LIVE IN-PERSON)**

Data Strategy

- Introduction
- Business drivers
- Data maturity level with dataMat
- Data Strategy with dataToolkit

## **SESSION 5 (LIVE IN-PERSON)**

Data Architecture:

- Business drivers
- Activities, tools and techniques
- Data architecture governance: metrics

## **SESSION 6 (LIVE IN-PERSON)**

Data maturity assesmet and Data Strategy

A group research project in which students need to make a data maturity assesment using dataMat, and make a Data Strategy proposal using dataToolkit.

Reference material (Club CDO):

- dataMat
- dataToolkit

## **SESSION 7 (LIVE IN-PERSON)**

Data Modeling & Design:

- Business drivers
- Goals and principles
- Activities and tools
- Best practices in database design

## **SESSION 8 (LIVE IN-PERSON)**

Data Warehousing & Business Intelligence:

- Business drivers
- Goals and principles
- Essential concepts
- Activities, tools and techniques
- Implementation guidelines
- DW/BI Governance

## **SESSION 9 (LIVE IN-PERSON)**

Designing a Multidimensional model

Students will have to design a Star Schema or a Snowflake Schema for a given business model

## **SESSION 10 (LIVE IN-PERSON)**

Data integration and Interoperability

- Business drivers
- Goals and principles
- Activities and tools
- Best practices in database design

Reference material:

## **SESSION 11 (LIVE IN-PERSON)**

Data Security and Ethics :

- Business drivers
- Goals and principles
- Essentials concepts
- Activities, tools and techniques
- Implementation guidelines

## **SESSION 12 (LIVE IN-PERSON)**

Metadata Managment:

- Business drivers
- Goals and principles
- Essentials concepts
- Activities, tools and techniques
- Implementation guidelines
- Metadata Governance

## **SESSION 13 (LIVE IN-PERSON)**

Data Quality:

- Business drivers
- Goals and principles
- Essentials concepts
- Activities, tools and techniques
- Implementation guidelines
- Data Quality and Data Governance

## **SESSION 14 (LIVE IN-PERSON)**

Setting up the best Data Quality framework

In this session, students have to deploy a Data Quality Solution for the data model created in session number seven

## **SESSION 15 (LIVE IN-PERSON)**

Final exam

## EVALUATION CRITERIA

Your final grade in the course will be based on both individual and group work of different characteristics that will be weighted in the following way:

criteria	percentage	Learning Objectives	Comments
Final Exam	40 %		
Workgroups	15 %		Each group will send the proposal to the teacher within a maximum of seven days from the session #4
Individual Work	15 %		Each student must send the desing up to seven days from the finalization of session #7
Workgroups	15 %		Each group will send the proposal to the teacher within a maximum of seven days from the session #13
Class Participation	15 %		

## RE-SIT / RE-TAKE POLICY

### AI POLICY

In today's world, generative artificial intelligence (GenAI) is changing how we work, study and, in general, how we get things done. However, in the context of this course, the use of GenAI is not permitted, unless it is otherwise stated by the instructor. The use of GenAI tools would jeopardize the students' ability to acquire fundamental knowledge or skills of this course.

If a student is found to have used AI-generated content for any form of assessment, it will be considered academic misconduct, and the student might fail the respective assignment or the course.

## BIBLIOGRAPHY

### Compulsory

- Deborah Henderson, Susan Early, Laura Sebastian-Coleman, elena Sykora, Eva Smith. *DAMA - DMBOK*. Second edition. Techincs publications. BASKING RIDGE, NEW JERSEY. ISBN 9781634622349 (Digital)

This guide provides information on data governance, data architecture, data development, database operations, data security, reference and master data, data warehousing and business intelligence, document and content management, meta data management, data quality and professional development. DAMA-DMBOK2 provides data management and IT professionals, executives, knowledge workers, educators, and researchers with a framework to manage their data and mature their information infrastructure

### Recommended

- Robert S. Seiner. *NON-INVASIVE DATA GOVERNANCE*. ISBN 9781935504856 (Digital)

## **BEHAVIOR RULES**

Please, check the University's Code of Conduct [here](#). The Program Director may provide further indications.

## **ATTENDANCE POLICY**

Please, check the University's Attendance Policy [here](#). The Program Director may provide further indications.

## **ETHICAL POLICY**

Please, check the University's Ethics Code [here](#). The Program Director may provide further indications.

