DATA GOVERNANCE

Bachelor in Data and Business Analytics BDBA SEP-2023
DG-DBA.4.M.A

Area Others

Number of sessions: 15

Academic year: 23-24

Degree course: FOURTH

Number of credits: 3.0

Semester: 2º

Category: COMPULSORY

Language: English

Professor: **ALFONSO FERNÁNDEZ REVENGA**

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In over 15 years of experience in the discipline of data architectures, I have played several roles in the field of Data Management and Big Data. During my time in KPMG and EY, I helped to build and consolidate the corporete Data Lake environment as the corporate decision-making system and as a manager of Big Data architecture. In 2017 I joined as Product Owner and Head of Data Governance at Stratio, where we built a full Augmented Data Fabric producto that covers the whole lifecycle of data management: Auto-discovering the data, virtualizing it, providing it with metadata and intelligently giving it semantic meaning and, finally, mining it with MLOps. All with a unique platform that ensures the best integration among the different parts.

Data Management and Data Governance expert, based on DAMA Framework (DMBOK2).

Specialized in project management with agile methodologies (scrum and kanban).

Office Hours

Office hours will be on request. Please contact at:

On demand, via zoom mmeting

Before or after the classes

Professor: **SILVINA ARCE GIL**

E-mail: sarce@faculty.ie.edu

Experienced Chief Data Officer, establishing a robust and integral Data Strategy & Governance model, with a demonstrated history of working in the banking&retail industries. She has been involved in Banking transformations for more than 20 years, projects related to Core Banking and Digital transformation. She has been leading this kind of projects in different financial institutions worldwide.

Office Hours

Office hours will be on request. Please contact at:

On demand, via zoom mmeting

Before or after the classes

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 Managment, Data Strategy, Security, etc. and the relationships between them will be explained to get a full knowledge of data Managment.

LEARNING OBJECTIVES

The objective of the course is to provide students with necessary skills that wolud 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	26.67 %	20.0 hours
Discussions	6.67 %	5.0 hours
Group work	26.67 %	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 Managment & Governance:

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

SESSION 2 (LIVE IN-PERSON)

Data Managment fundamentals:

- Introduction to Data Managment and fundamentals
- Essential concepts
- Data Managment 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 Arquitecture:

- 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 matrity 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

BIBLIOGRAPHY

Compulsory

- Deborah Henderson, Susan Early, Laura Sebastian-Coleman, elena Sykora, Eva Smith. *DAMA - DMBOK.* Second edition. Techincs publications. BASKING RIDGE, NEW JERSEY. ISBN 1634622340 (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.