



<b>Code - Course</b>	<b>064620 – Big Data Management</b>				
<b>Type</b>	Elective		<b>Year</b>	3 <sup>rd</sup> /4 <sup>th</sup>	
<b>Thematic Area</b>	Digital Business		<b>Credits</b>	3 ECTS	
<b>Teacher in charge of the course</b>			Javier Cohen Montoya		
<b>In-class</b>	30 hours	<b>Teacher-led</b>	20 hours	<b>Individual</b>	25 hours

## BRIEF COURSE DESCRIPTION

Today, the importance of data is undeniable. A large percentage of companies, referred to as digital companies, base their business model on collecting, storing, and analyzing important data for the business. This philosophy represents a radical change in the way organizations manage their operations and requires the digitization of all their business processes (for example, the creation of computer systems to interact with customers or suppliers).

The application of Big Data in tourism offers a wide range of possibilities for companies, which have the opportunity to define and optimize strategies to increase sales. This course will introduce the management of data derived from the use of new technologies, as a key to ensuring business success. For this, the available Big Data technologies for storing and visualizing this data will be analyzed, as well as the tools for effective management and correct interpretation.

The variables for managing Big Data in tourism companies, known as the 5Vs: volume, velocity, variety, veracity, and value, will also be analyzed, as well as their application to the different objectives of the company.

## BASIC SKILLS

BS05- Students must develop the necessary learning skills to undertake further studies with a high grade of autonomy.

## GENERAL SKILLS

GS04- Have a commitment to ethics.



## SPECIFIC SKILLS

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SS09- Understand and use information technology and information management systems in tourism.

## LEARNING OBJECTIVES

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1. Know and understand the main digital and mobile tools for marketing tourism products.
2. Understand the operation and advantages of Big Data management systems applied to tourism.
3. Know the new tendencies of application of the artificial intelligence in tourism.

## ACADEMIC CONTENTS

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1. Introduction to Data Analysis and Big Data
  - 1.1. The relevance of data
  - 1.2. Types of data
  - 1.3. The data life cycle
  - 1.4. Types of Data Analysis
  - 1.5. Analytical domains of data
  - 1.6. The concept of Big Data
  - 1.7. The new paradigm of Big Data
  - 1.8. Technological ecosystem of Big Data
2. Big Data applied to tourism
  - 2.1. Data and emotions
  - 2.2. Data-driven companies
  - 2.3. The concept of Thick Data
  - 2.4. Applications of Big Data in tourism
  - 2.5. Where to apply Big Data in tourism
  - 2.6. Some cases of Big Data
3. Data collection
  - 3.1. From the web
  - 3.2. From social networks
  - 3.3. From APIs
  - 3.4. From sensors (Internet of Things)
  - 3.5. From Artificial Intelligence
4. Data storage and management
  - 4.1. Data privacy
  - 4.2. Types of databases
  - 4.3. Data organization (ontologies, taxonomies...)



- 4.4. Content management systems (CMS)
- 4.5. Cloud resources
- 5. From data to information
  - 5.1. Web 3.0
  - 5.2. Defining the purpose of analysis
  - 5.3. Presentation of case studies
- 6. Visualization and analysis of information
  - 6.1. Reporting
  - 6.2. Dashboarding
  - 6.3. Data discovery
  - 6.4. Data storytelling
  - 6.5. Types of data visualization
- 7. From information to knowledge
  - 7.1. DIKW pyramid
  - 7.2. Data mining tools

## LEARNING METHODOLOGY

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The learning methodologies planned for the subject combine a number of processes being the most remarkable the cognitive methods related to the comprehension of the principles of tourism and the global tourism system as well as the inclusion of a set of skills, mainly technical.

The activities and methodologies -both group and individual- designed for this subject are the following:

- Lectures
- Case studies
- Directed discussion
- Practical exercises
- Project -and problem- based learning

## ASSESSMENT SYSTEM

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The assessment system measures the student's achievement of learning outcomes regarding the subject's competences and contents.

Students may choose continuous assessment or single assessment:

**Continuous Assessment:** the teaching-learning process is assessed by a continuous monitoring of the work done by the students throughout the course and a final individual examination. Students must attend classes in order to be assessed by continuous assessment.



**Single Assessment:** for those students who cannot come to class regularly, they can choose to be assessed by single assessment. The teaching-learning process is assessed by means of the assessment of all activities and in-person individual examination at the end of the course.

To qualify for this form of assessment, students must apply within the first 15 days of the start of the course through the assessment section of Virtual Campus.

The assessment activities planning will be public for the students from the start.

Activities	Type	Continuous	Single	Week deadline
Case (Dossier)	Study Individual	7,5%	5%	Week 10
Case (Defense)	Study Individual	7,5%	5%	Week 11
Innovation Project (Dossier)	Group	15%	10%	Before the final exam
Innovation project (Presentation)	Group	30%	20%	Final presentations week
Final examen	Individual	40%	60%	Exam week
<b>Total</b>		<b>100%</b>	<b>100%</b>	

To pass the course, it is mandatory to have obtained a minimum final grade of "5", as long as the student has completed the individual exam/s or work/s established in the course. This exam/s or final work/s must be graded with a minimum of "4" in order to be able to calculate the average of all the assessment activities carried out during the course.

### **Revision and Reassessment of the Course**

The student has the right to revise all the evidences that have been designed for the assessment of learning.

If a student fails to achieve the learning objectives of the course, in order to opt for the subject reassessment, it will be necessary to have obtained a final grade of the subject between "4-4.9", and to have attended the individual final exam/s or final work/s of the course.



The reassessment process will only involve the modification of the final grade in the case that the new assessment activity is passed and, in any case, the maximum grade will be "5". This grade will be averaged with the other grades of the assessment activities carried out by the student during the corresponding academic period, considering the percentages established in each subject, setting the final grade for the course.

## REFERENCES

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