CINPAA | INTERNATIONAL COOPERATIVE FOR TRAINING & CONSULTING

سينبا | التعاونية الدولية للتدريب والاستشارات



Training programme:

Mini Master's Programs in Big Data

Delivered in several cities and dates

OUR INTERNATIONAL PARTNERS:

ISDE Law Business School High Performance Education
Higher Institute of Law and Business (ISDE)

Professional Development Institute
Professional Development Institute

Universidad Camilo José Cela
Camilo José Cela University

SEK EDUCATION GROUP

ISO 29993:2017 Learning services for non-formal education and training

ISO 9001:2015

Mini Master's Programs in Big Data

About the programme:

Mini Master's Programs in Big Data ©⃝ INTRODUCTION Data can help companies improve their operations and make faster, more intelligent business decisions. However, as the volume of available data increases, it becomes more challenging to capture and manage it. The Mini Master of Big Data lecture series is a response to the expansive growth in data and the corresponding need to store, search, share and analyze massive data sets.. Objectives By the end of this seminar delegates will be able to: Gain an overview of Big Data topics. Expand knowledge of key concepts in Big Data, including

Objectives:

Developing participants' skills, knowledge, values and professional approaches in:

a. Gain an overview of Big Data topics.

b. Expand knowledge of key concepts in Big Data, including opportunities and trends

c. Learn concepts, techniques and methodologies in the field of data science

d. Compare data storage and processing approaches against the scale and type of a dataset.

e. Evaluate data quality and communicate the limitations of a big data analysis.

Target audience:

a. The Mini Master of Big Data is relevant to many business and information technology professionals. Participants who would benefit from this program include:

b. Professionals who are looking to increase their knowledge of a wide array of data science and big data topics.

c. Those in transition in industry or new to the data science profession.

d. Managers or team leaders who work on teams responsible for large data sets and are looking for solutions for their organizations..

Daily programme:

• Day 1: Big data concepts and artificial intelligence

a. Big data concepts, opportunities and trends: volume, velocity, variety and veracity

b. Artificial intelligence and its practical applications to organisational data

c. AI risk management: data quality, limitations, privacy and human oversight

d. Data science concepts, techniques and the analytics project life cycle

e. Case study: assessing the risks of applying an AI model to service-user data

f. Day output: big data opportunity and risk summary for the participant's organisation

• Day 2: Cloud computing and DevOps for data platforms

a. Cloud computing service models and their use for data platforms

b. Public, private and hybrid cloud deployment and questions of cost and data residency

c. DevOps practices for deploying and maintaining reliable data pipelines

d. Version control, automated testing and monitoring of data workflows

e. Workshop: outlining a deployment and monitoring routine for a recurring data pipeline

f. Day output: cloud and DevOps checklist for a data platform

- **Day 3: Database management systems and database design**

a. Database management systems and the principles of relational database design

b. Entity-relationship modelling, keys and normalisation of a business data model

c. Querying relational data with SQL: selection, joins and aggregation

d. NoSQL databases and when to use them for semi-structured and unstructured data

e. Workshop: designing and normalising a relational schema for a service request process

f. Day output: entity-relationship model and table design

- **Day 4: Data warehousing and business intelligence**

a. Data warehousing concepts: dimensional models and ETL processes

b. Fact and dimension tables, star schemas and slowly changing dimensions

c. Business intelligence reporting and self-service analysis from warehouse data

d. Defining business metrics consistently so that reports agree across departments

e. Workshop: designing a simple dimensional model for a reporting need

f. Day output: data model for a business intelligence report

- **Day 5: Big data architecture**

a. Big data architecture: data lakes and batch and stream processing

b. Distributed storage and parallel processing: the principles behind large-scale platforms

c. Comparing distributed storage and processing approaches with the scale and type of a dataset

d. Layered architectures that separate raw, refined and curated data

e. Case study: choosing a storage and processing approach for three datasets of different scale

f. Day output: architecture outline for a data platform

- **Day 6: Statistical methods for data science**

a. Statistical methods for data science: sampling, inference and regression

b. Descriptive statistics and exploring distributions before any modelling

c. Hypothesis testing, confidence intervals and the risk of false conclusions

d. Correlation versus causation and common statistical errors with large datasets

e. Workshop: exploring a sample dataset and testing a hypothesis about service demand

f. Day output: statistical analysis note with stated assumptions

- **Day 7: Machine learning**

a. Machine learning foundations: supervised and unsupervised learning

b. Building, validating and evaluating a predictive model on organisational data

c. Overfitting, training and test splits and choosing metrics that fit the problem

d. AI applications in practice: demand forecasting, anomaly detection and text classification

e. Workshop: training and evaluating a simple classification model on sample data

f. Day output: model evaluation note with accuracy and limitations

- **Day 8: Data visualisation and communicating with data**

a. Data visualisation principles and choosing the right chart for the message

b. Designing dashboards for different audiences: executives, managers and analysts

c. Avoiding misleading charts: scales, aggregation and selective presentation

d. Telling a clear story with data and supporting decisions with evidence

e. Workshop: building a dashboard and presenting findings with their stated limitations

f. Day output: dashboard prototype with a short narrative of key findings

• Day 9: Big data management, governance and quality

a. Big data management: governance, quality, security and metadata

b. Evaluating data quality and stating the limitations of a big data analysis to decision makers

c. Data ownership, stewardship roles and data catalogues in large organisations

d. Privacy, access control and retention rules for large and sensitive datasets

e. Case study: investigating a reporting error traced back to poor data quality at source

f. Day output: data governance and quality checklist

• Day 10: Programme review and integrated data project

a. Programme review: consolidating the key concepts covered across the ten days

b. Connecting architecture, analysis, models and visualisation in one data project

c. Prioritising big data initiatives by value, feasibility and data readiness

d. Presenting a data project proposal to managers in non-technical language

e. Workshop: presenting an integrated big data project plan for peer review

f. Day output: integrated data project roadmap with priorities and next steps

Training methods and certificates:

Our programmes are built on modern pedagogy that combines theoretical knowledge with practical application, in line with participants' needs and the demands of the workplace. Methods include:

- **Interactive workshops:** analysis of real data and group discussions that strengthen practical understanding.
- **Case studies:** examples from international organisations that highlight real successes and challenges.
- **Realistic simulations:** participants train through professional scenarios that mirror real situations requiring decisions and situation management.
- **Advanced tools and technologies:** hands-on practice with up-to-date training software and tools suited to each field.

Certificates:

On successful completion, participants receive a certificate issued by CINPAA, a training institute officially registered in the European Union, Spain and the United Kingdom.

CINPAA - Cooperative International for Training and Consulting

Our programmes are delivered within academic and professional partnerships, cooperation agreements and memoranda of understanding with a number of academic and professional institutions, including:

- **Camilo José Cela University - Spain**
- **ISDE - Law & Business School - International**
- **Professional Development Institute - United Kingdom**

These partnerships aim to exchange expertise, develop training content and raise programme quality in line with international best practice.

Kind regards,
International Programmes Department

"CINPAA" INTERNATIONAL COOPERATIVE FOR TRAINING & CONSULTING

Course details and registration

Course Details | Registration

Programme	**Mini Master's Programs in Big Data**	Course Title
Language	**English**	Course Language
Duration	**10 days**	Duration
Venue	**Several cities and dates – see the table below**	Venue
Financial offer	**Sent separately, according to the number of participants and the delivery conditions.**	Financial Offer

Registration and confirmation:

To register, please use one of the following:

a. Complete the programme request form on our website.

b. Or send an email from your training department.

c. Or a nomination letter from your organisation.

Send your confirmation by:

Email	info@cinpaa.org
WhatsApp	+34 635 867 686

Our team is ready to advise on accommodation and logistics before and during your stay.

Planned programme dates:

City	Dates
Madrid, Spain	14 - 25 Dec 2026
Madrid, Spain	04 - 15 Jan 2027
Barcelona, Spain	05 - 16 Apr 2027
London, United Kingdom	05 - 16 Jul 2027
Cairo, Egypt	04 - 15 Oct 2027

The programme can be delivered in other cities and on other dates to suit your organisation, at the length you need. The cities are listed on the last page.

Cities where we deliver our programmes:

This programme can be delivered in any of the following cities, and elsewhere on request.

Albania Tirana, Saranda	**Australia** Sydney	**Austria** Vienna, Hallstatt, Salzburg / Zell am See	**Azerbaijan** Baku
Bahrain Manama	**Belgium** Brussels, Bruges	**Bosnia and Herzegovina** Sarajevo	**Canada** Toronto, Montreal
China Hong Kong, Shanghai, Beijing, Guangzhou	**Croatia** Dubrovnik	**Cyprus** Nicosia, Limassol, Larnaca	**Czech Republic** Prague
Egypt Cairo, Sharm El Sheikh, Alexandria, Hurghada	**France** Paris	**Georgia** Tbilisi, Batumi	**Germany** Munich, Berlin, Düsseldorf, Frankfurt
Greece Athens, Rhodes	**Hungary** Budapest	**Indonesia** Bali, Jakarta	**Ireland** Dublin
Italy Rome, Florence, Milan, Venice, Como	**Japan** Tokyo	**Jordan** Amman, Aqaba	**Kuwait** Kuwait City
Malaysia Kuala Lumpur	**Maldives** Maldives	**Mauritius** Mauritius	**Montenegro** Budva, Kotor
Morocco Casablanca, Marrakech, Tangier, Rabat	**Netherlands** Amsterdam	**Oman** Muscat, Salalah	**Philippines** Manila
Poland Krakow, Warsaw	**Portugal** Lisbon, Porto	**Qatar** Doha	**Russia** Moscow
Saudi Arabia Riyadh, Jeddah, Dammam	**Serbia** Belgrade	**Slovenia** Ljubljana	**South Korea** Seoul
Spain Madrid, Barcelona, Valencia, Alicante, Benidorm, Malaga / Marbella, San Sebastian, Granada, Cordoba, Canary Islands, Seville, Bilbao	**Switzerland** Geneva, Luzern, Zurich, Interlaken, Zermatt, Lugano	**Thailand** Bangkok, Phuket	**Tunisia** Tunis
Turkey Istanbul, Antalya, Trabzon, Bursa, Izmir, Bodrum, Antakya (Hatay)	**United Arab Emirates** Dubai, Abu Dhabi	**United Kingdom** London, Edinburgh, Manchester, Birmingham	**United States** Miami, New York, Los Angeles, Washington