Master in Big Data Solutions

www.barcelonatechnologyschool.com

eurecat
Centre Tecnològic de Catalunya

Program co-organized by BTS and Eurecat

Welcome

If you're passionate for technology and want to contribute to drive the digital transformation, Barcelona Technology School is your place.

The digital ecosystem in Barcelona is now warmer than ever. The strategic alignment of the government, the industry and educational institutions like BTS, are mixing the best ingredients to boost the European capital of innovation.

The results of the Barcelona's digital strategy are excellent, international companies are landing in Barcelona to relocate their digital and tech headquarters. To mention a couple of examples: Zurich Insurance Group has opened its International Big Data Centre in the city; Nestlé has launched its Global Digital Hub in order to lead digital services from Barcelona, the European Capital of Innovation.

A healthy startup environment also feeds this innovative ecosystem; the city concentrates 60% of the total investment on startups in Spain. This, supported by initiatives like the Mobile World Congress, makes the city an ideal place for international entrepreneurs. More and more startups, accelerator programs, venture capital players and tech educational projects choose the city to develop its activity.

Thanks to this healthy tech ecosystem, there has been a high demand of digital talent which permits Barcelona Technology School to ensure you professional experience through paid internships and job opportunities during master programs that will help you to develop the most demanded digital skills.

Now, you have the opportunity to join the digital transformation from one of the hottest international tech spots.

Josep Clotet
General Manager

BTS Student Profile

20
Countries Represented

27 - 40
Age Range

Gender 54% - 46%

55%
Engineering & Computing

27%
Economics & Management

9%
Sciences

9%
Others

Strategic Advisory Board

Ricardo Baeza
Yahoo!
VP of Research

Aleix Valls
Mobile World Capital
CEO

Marko Gargenta
Twitter
Director of Twitter
University

Sudha Jamthe
Ebay
Mobile Business Leader

Andy Feierfeil
Target
Senior Mobile Manager

The members of the BTS Strategic Advisory Board are well known industry leaders who take care of the quality and contents of the programs.

Academic Directors

Sandro Mancuso
London Software
Craftsmanship Founder

Carlos Castillo
Director of Research for
Data Science at Eurecat

Marc Torrens
CIO at Strands

Professors

Marc Planagumà
Big Data

Miquel Rodríguez
Agile

Saul Tessler
Entrepreneurship

Jorge Blasco
Digital Business

Javier Domingo
Cloud Computing

Pablo Sordo
Android Development

Gaby Prado
User Experience

Michele Trevisiol
Big Data

Sonia García
Web Development

José Carlos Gil
Software Craftsmanship

José E. Rodríguez
Web Development

Pedro Fernandes
Creative Technology

Martí Escursell
Venture Capital

Marc Boquet
iOS Development

Alfred Maeso
Project Management

3D Learning

Barcelona Technology School has developed its own practical, active and participatory methodology with emphasis on "learning by project" where participants generate their own digital solutions. This methodology reflects digital industry demand for new professionals with skills such as:

Business and Innovation Skills

> DIGITAL TRANSFORMATION

> DIGITAL & MOBILE BUSINESS

> CREATIVE TECHNOLOGY

> INNOVATION

> ENTREPRENEURSHIP

> FINTECH

> LEGAL TECH

> CHANGE MANAGEMENT

> DIGITAL TALENT&CULTURE

🌐 Core Skills

> EMPATHY AND COMMUNICATION

> INTERNATIONAL SCOPE

> FLEXIBILITY

> COLLABORATION & NETWORK

> TRANSVERSAL VISION

> CURIOSITY

> COMPROMISE & RESPONSIBILITY

⚙️ Technical Skills

> WEB DEVELOPMENT

> MOBILE DEVELOPMENT

> USER EXPERIENCE

> BIG DATA

> MACHINE LEARNING

> CLOUD COMPUTING

> INTERNET OF THINGS

> CYBER SECURITY

> SOFTWARE CRAFTSMANSHIP

> BLOCKCHAIN

BTS
TECH INDUSTRY
ECOSYSTEM

Barcelona Technology School has assembled an ecosystem of companies that supports BTS programs, providing industry exposure and bring professional experience to students trough internships and job opportunities.

With the support of
Academic Partners / Industry Partners / Spanish and Catalan Goverment

eurecat Centre Tecnològic de Catalunya	Technology Research Centre of Catalonia	ALTRAN	Innovation and High-tech Consulting
MOBILE WORLD CAPITAL BARCELONA	Mobile Transformation for Society	nae_ doing ahead	Digital Transformation Services
iCEX INVESIN SPAIN	Spanish Government for Internationalization	Generalitat de Catalunya	Government of Catalonia
ntent	Powering Content, Search & Data	SPLENDIA LUXURY & CHARACTER HOTELS	Best Luxury Hotels around the world

BTS

Academic Board
High qualified instructors and well known professionals

IT Labs &I+D+i
IT Labs & innovation projects exposure

Career Mentors
Get professional orientation for your digital career

Project Mentors
Real & experienced Professionals will mentor your digital projects

Entrepreneurs & Incubators
Inspire your own projects and new disruptive digital business

University
Ensures academic accreditation, quality and certification

Digital Companies
Visit and learn from the tech leaders.

4YFN
The Mobile World Congress Startup Platform

startupbootcamp
Smart Transportation& Energy
Global Network of Startup Accelerators

PAL ROBOTICS
Leading Company in Humanoid Robots

[|||] netmind
Empowering IT Teams

BIGDATACoE
Barcelona Big Data Centre of Excellence

STRANDS
Fintech Leader Monetizing Data

learnlight
EdTech Company for Learning Experience

capside
Cloud Computing for Digital Society

Digital companies need your talent

1 M more jobs than students by 2020 in US[1]

1.4 MILLION computing jobs

400K talent avalaible

Millions of Jobs

1.4
1.2
1
0.8
0.6
0.4
0.2
0
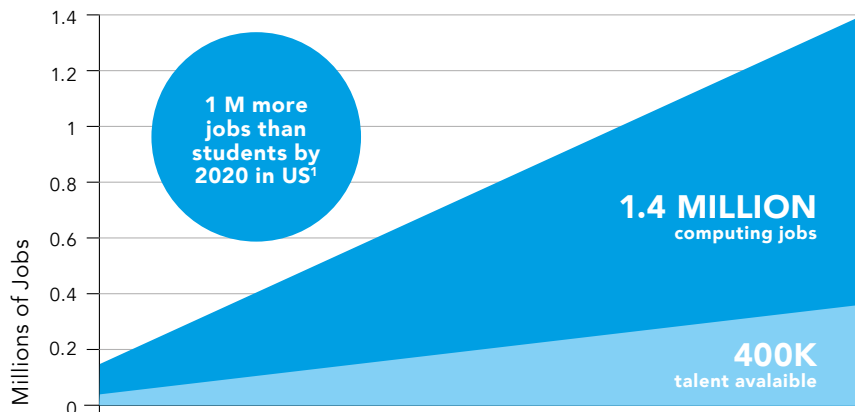
[1]Source: BLS, NSF, Bay Area Council Economic Institute; [2]Source: Bureau of Labor Statistics' Occupational Outlook, Handbook and Career Guide to Industries.

By **2024** there will be **4.500.000** unfilled computer science jobs worldwide[2]

Tech industry is exploding and the key digital companies need your talent. Barcelona Technology School connects your career with the digital sector while offers you the most demanded digital knowledge & skills.

Thanks to the agreements Barcelona Technology School has with the digital industry, you will have the chance to live a professional experience trough paid internships in some of the top digital companies that are part of the BTS Ecosystem.

Your Talent

BTS

Digital Industry

Paid Internships & Jobs Opportunities

Sports

All the BTS students enrolled into a Master program have free access to one of the best sport clubs in the city which is located in front of the beach. Enjoy swimming pools, gym and lead classes, spa, paddle courts and much more.

Play sports, make friends or simply take a relaxed bath on the sea.

Global Chapters

The Global Chapters programs are an international experience for students & entrepreneurs that want to discover the epicenters of the world's digital ecosystems:

CHAPTER 1	CHAPTER 2	CHAPTER 3
New York	Shanghai	San Francisco & Silicon Valley
1 Week	1 Week	2 Week
English	English	English
December 2017	April 2018	July 2018
3.000 €	3.000 €	5.000 €

This experience exposes students to how business is done in those ecosystems and creates long lasting relationships between students, companies, and business leaders.

Sample Week Itinerary

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Visit large digital corporations	Tour in Silicon Valley	Entrepreneurship culture immersion	Visit the Palo Alto Research Center	Network building	Private VC and Startup parties	Free
Meals with digital leaders						

Students visit companies like

Google · LinkedIn · TESLA · twitter · TARGET · YouTube
WhatsApp · ORACLE · YAHOO! · facebook · UBER · ebay
Microsoft · amazon · salesforce · Apple

Master in Big Data Solutions. MBDS

Goals

The main goal of MBDS is to help you boost innovation applying the most demanded analytics and big data skills.

During this program you will learn to extract relevant insights from data and to generate strategic solutions for any kind of organization or industry using the most advanced analytics and data technologies.
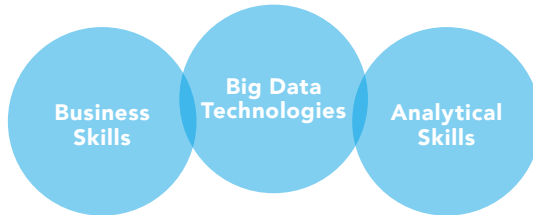
Become an international professional able to discover insights and drive innovation in any organization.

Exciting Big Data Opportunities

Combine

Business Skills

Big Data Technologies

Analytical Skills

Identify

Transform Data

Collect

Master in Big Data Solutions

Discover insights
Drive opportunities
Boost innovation

Understand

Analyze

4,4 M
Jobs created by Big Data

Health care, Finance, Technology,
Public Administration, Internet of Things, Marketing...

Contents Master in Big Data Solutions

Data-Driven Business
1. Data economy
2. Lifecycle of data services
3. Managing Big Data Projects
4. Agile

Algorithms for Data Science
1. Classification
2. Neural networks
3. Social networks
4. Geospatial analytics

Statistics & Programming
1. Basic data operations
2. Data manipulation in Python
3. Probability
4. Estimation

Infrastructure & Cloud
1. Data engineering
2. Scalability systems
3. Architectural practices
4. Infrastructure management

Data Science
1. Foundations of data analytics
2. The data science pipeline
3. Main analytic techniques
4. Visual analytics

Data Visualization & Exploitation
1. Exploitation
2. Delivery models for data analytics
3. Interaction concepts
4. Visualization of graphs

Contents Master in Big Data Solutions

Big Data Solutions
1. Architectural solutions
2. Web development
3. Mobile development
4. User experience

Big Data Applications
1. Customer analytics
2. Social media
3. Logistics
4. Telecommunications

Digital Business
1. The digital transformation
2. Digital products
3. Online marketing
4. Creative strategy on the internet

Creative Technology
Ability to think creatively with a business frame of mind, focusing on bringing new innovations to market. It will instill an appreciation of the characteristics and motivations of creative people.

Entrepreneurship
Basics associated with innovation and building a new venture or initiative from scratch either inside an existing organization or as a new startup

Project
Hands-on training. Thanks to a Big Data transversal challenge, students combine business skills, Big Data technologies and analytical skills aimed to discover insights and drive innovation.

Contents can be modified according to the needs of the program.

Details Master in Big Data Solutions

TYPE	LOCATION	DURATION	LANGUAGE
Full Time Master degree	Barcelona, Spain	9 months (1 academic year)	English

ACCREDITATION	CREDITS	INTAKE	FEES
by Barcelona Technology School	60 ECTs	October	17.000€

PAID INTERNSHIPS & DIGITAL JOBS
BTS offers paid internships in leading digital companies to their students. Take advantage of the BTS ecosystem and get a professional experience during & after the program.

Ask for information: ✉ info@barcelonaitschool.com 📞 +34 933 041 721

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eurecat
Centre Tecnològic de Catalunya

Eurecat is a leading technology centre based in Catalonia, partner in 160 major local and international R&D&I consortium-based projects with high strategic value, and boasts 73 patents and seven spin-offs.

Eurecat also leads the Big Data Centre of Excellence of Barcelona, a centre driven by Oracle, the Government of Catalonia and the Barcelona City Council to empower Big Data projects and ecosystem. In addition, the centre offers services for specialized professionals (Data Scientists, Data Engineers and Data Business Analysts) and a dissemination programme focused on showing trends and Big Data success cases.

Introduction to Software Development. Pre-Course

For entry students without technical background that want
to enroll the Master in Big Data Solutions.

TYPE	STARTS	DURATION	FEES
Full time	September	4 weeks	2.200€

Technology background is not mandatory

Contents Introduction to Software Development

**Introduction to relational
Database & SQL**
1. Introduction to relational Database
2. Data management language
3. SQL (Structured Query Language)
4. Data definition language

Introduction to Java
1. Java basics
2. Flow of control
3. Composition and inheritance
4. Interfaces

**Introduction to Object-oriented
programming**
1. Introduction to software
   development lifecycle
2. Fundamentals of programming
3. Object-oriented programming

My first development project
1. Hands on work

The aim of this course is to provide the base knowledge that any
student needs to enroll the Master in Big Data Solutions.

How to apply

If you are passionate about Big Data and you would like to access to job opportunities, develop the best digital talent and have a master experience in Barcelona…we just ask you for 4 requirements:

1 Application Form
barcelonatechnologyschool.com

2 Motivation Letter & CV
Send the admissions office your CV as well as a motivation letter explaining how you think the digital industry will be in the next five years and how you could contribute to the digital transformation.

You can submit this documentation directly to info@barcelonaitschool.com

3 Interview
Our admission board, as well as the director of the program, will analyze your candidature and if you meet the profile of Barcelona Technology School, we will call you to have a chat.

4 Payment
To ensure your place on the Master, you must secure it by making the reservation payment.

MBDS
Data-Driven Busines, Statistics & programming, Data Science, Algorithms for data science, Infrastructure & Tools, Data Visualization & explotation, Digital innovation, Digital & Mobile Business and Entrepreneurship.

Full-Time Program

Barcelona

9 Months

English

Intake: October

60 ECTs

17,000€

Awarded by Barcelona Technology School.

Admissions Office
+34 933 041 721
info@barcelonatechnologyschool.com
www.barcelonatechnologyschool.com

73% of all jobs in the next **5 years** will require technology skills

Source: US-BLS Employment Projections

"We live in a data-driven world. Increasingly, the efficient operation of organizations across sectors relies on the effective use of vast amounts of data.

Making sense of big data is a combination of organizations having the tools, skills and more importantly, the mindset to see data as the new "oil"fueling a company.

Unfortunately, the technology has evolved faster than the workforce skills to make sense of it and organizations across sectors must adapt to this new reality or perish."

Andreas Weigend
Former Chief Scientist Amazon.com

why **B**T**S**

1 Certification awarded by Barcelona Technology School.

2 Professional experience during the Masters through paid Internships & Job Opportunities.

3 Ecosystem of top digital companies and tech labs.

GREAT CAREERS ARE WAITING FOR BARCELONA TECHNOLOGY SCHOOL GRADUATES

4 International environment of tech people from all over the world.

5 Development of the most demanded digital skills.

6 Beach & sports club, social and sports installation located on the beachfront of Barcelona.

BARCELONA

Barcelona Technology
School

BTS