Università degli Studi di Roma "Tor Vergata"

DEPARTMENT OF ECONOMICS AND FINANCE

II LEVEL MASTER IN
BIG DATA IN BUSINESS
(In-class course)
A.Y. 2021/22

Coordinator: Prof. Gianluca Cubadda

According to art. 9 of the Italian law 270/2004 the Department of Economics and Finance in collaboration with the Department of Business Engineering, the Department of Electronic Engineering and the Department of Physics will offer for the academic year 2021/22 the 2nd level Master in "Big Data in Business". The Master is held entirely in English.

PURPOSE OF THE PROGRAM
The Master's aim is to provide a set of cross-disciplinary competences and to train young graduate talented students with the tools from computer science, statistics and business studies that are necessary to manage and analyze big data. The Master is limited to a maximum of 30 positions and a minimum of 15 positions.
Therefore, the candidates that we aim to train must have:
   a) solid IT and Telecommunication knowledge;
   b) in-depth understanding of statistical aspects;
   c) excellent comprehension skills of management requirements and elevated capacity to communicate the analysis' results

Requirements include a Master of Science degree (*Laurea magistrale, Laurea specialistica* or *Laurea Vecchio Ordinamento*) or a foreign Bachelor degree of at least 4 years. Furthermore, it is required a good level of English language.

LAYOUT OF THE PROGRAM
Our Master in Big Data in Business implies activities for 60 European Credit Transfer and Accumulation System (ECTS) credits earned through three intensive terms and a thesis. It is entirely taught in English. The program starts in January 2022 and ends in December of the same year. In particular:
   - Lectures, which are held in three terms, from January 2022 to May 2022
   - Exams, which will take place in June 2022
   - Internships and thesis, will take place from June 2022 to December 2022

During the first term, the student is required to attend the following courses for 18 ECTS credits:

Courses	Scientific Disciplinary Sector (SDS)	Theoretical classes	Practical classes	ECTS credits
Supervised learning	SECS-S/03	36	18	6
Unsupervised learning	SECS-S/01	36	18	6
Data management for big data analysis	INF/01	18	9	3
Security & Privacy	ING-INF/03	18	9	3

During the second term, the student is required to attend the following courses for 18 ECTS credits:

Courses	Scientific Disciplinary Sector (SDS)	Theoretical classes	Excercises and Seminars	ECTS credits
High Dimensional Time Series	SECS-S/03	18	9	3
Topics in machine learning	INF/01	24	12	4
Architectures and systems for big data	INF/01	18	9	3
Cloud & mobile	ING-INF/03	12	6	2
Designing communication of results	SECS-P/10	12		2
Decision making processes & models	SECS-P/10	12		2
Strategic management of results	SECS-P/10	12		2

In the third term, the student should obtain 15 ECTS credits out of the following courses:

Courses	Scientific Disciplinar Sector (SDS)	Theoretical classes	Excercises and seminars	ECTS credits
Blockchain technology and applications	ING-INF/03	18	9	3
Economic complexity	FIS 02	18	9	3
Scientific data handling & processing	FIS-05	18	9	3
Panel Data	SECS-P/05	18	9	3
Marketing Analytics Lab	SECS-S/01	18	9	3
Business Practice of Data Science	ING-IND/35	18	9	3
Fundamentals of corporate finance	SECS-P/10	18	9	3
Monitoring and processing for the Internet of People and Machines	ING-INF/03	18	9	3
Network virtualization and softwarization	ING-INF/03	18	9	3
Social media analysis	INF/01	18	9	3
Text mining and document analysis	INF/01	18	9	3

Five out of the above courses will be activated according to the class request.

At the end of the Master program, the students shall produce a written final work (Master thesis), which corresponds to 9 ECTS credits. Its topic should be agreed with the coordinator of the program. The Master thesis could be also carried out during an internship in Italian or European companies and institutions. During his visiting as an intern, the student will have two tutors, one selected by the Master Coordinator and the second one indicated by the hosting institution.

ELIGIBILITY CRITERIA
In addition, applicants must have either an Italian Master of Science University degree (*Laurea Magistrale, Laurea Specialistica or Laurea vecchio ordinamento*) or an equivalent foreign University degree.
Enrollment in the Master in Big Data and Business is not compatible with enrollments in other University courses, except Italian Specialization Courses (*Corsi di Perfezionamento*).

PROCEDURE FOR ADMISSION AND REQUIREMENTS

The deadline to complete the online application form is **15 October 2021**. All candidates should submit their online application in the following website in English

https://delphi.uniroma2.it/totem/jsp/index.jsp?language=EN in Italian http://delphi.uniroma2.it .

The steps required to be filled in, in order to successfully complete the online application form are summarized below:

1. Click on: STUDENT SECTION (*Area Studenti*)
2. Choose option A - POSTRGRADUATE COURSES (*A- Corsi Post-laurem*)
3. Choose the option: Specialization courses – Master (*Master Corsi di Perfezionamento*)
4. Choose the first option: Enrollment to the Admission Test for the Master/Specialization Courses (*Iscrizione alla Prova di Ammissione Master/Corsi di Perfezionamento*)
5. Start Application procedure (*Compila la Domanda*)
6. Choose the option: Faculty of Economics (*Facoltà di Economia*)
7. Choose: PBW - MASTER IN BIG DATA IN BUSINESS. Click on the white circle next to the Deadline (04/12/2018). Then NEXT

The system will automatically generate a document in which are represented your personal data and the amount of the application fee that has to be paid. After paying the application fee (online or in person) you will get the AUTH code. You should login in the system and confirm the payment. If the amount in the automatically generated document would be € 0,00 will not be necessary to go the bank. However, the candidate will still have to confirm the amount with the AUTH code (when the amount that has to be paid is € 0,00 it will immediately appear during the registration process).

Within the deadline of 15 October 2021, the candidate should send the following documents to the e-mail address info@bigdata.uniroma2.it:

- Curriculum vitae (CV)
- Transcripts of bachelor and Master of Science degree or an equivalent foreign degree (for Italian candidates a self-declaration, according to L.D no. 445 of 28 December 2000 *D.P.R 28.12.2000, n. 445*, would be enough (self-declaration module can be found in the following link http://web.uniroma2.it/module/name/Content/newlang/italiano/navpath/SEG/section_parent/5996
- English language proficiency certificate (or, as second best, self-declaration).
- Reference letter.
- Motivation letter.
- Application for a scholarship and an internship (only for those interested in), which form can be downloaded from http://bigdata.uniroma2.it/wp-content/uploads/Form_scholarship-1.pdf

Each application will be evaluated by the Admission Board. The President of the Admission Board is the coordinator of the Master, Prof. Gianluca Cubadda (e-mail: info@bigdata.uniroma2.it)

The maximum number of enrolled students is 30 and the minimum required is 15. If the number of applicants will exceed the maximum availability, the first 30 ranked will be selected. Failure to register within the established deadline leads to immediate waiver and the seat will be assigned to the next candidate. The list of the eligible applicants will be published on **29 October 2021** in the University website http://www.uniroma2.it

TUITION FEE

The eligible candidates should enroll within **20 November 2021** following the steps that can be found in the following link http://web.uniroma2.it/module/name/Content/newlang/italiano/navpath/SEG/section_parent/5996 (bottom of the page: ISTRUZIONI PROCEDURE). Select School of Economics (*Facoltà di Economia*), Code of the Master (*PBW*)

The tuition fee is € 6.000 divided in two installments:

- € 3.146,00 1st installment that must be paid by **20 November 2021** (includes a virtual stamp of € 16,00 and € 130,00 for issuing the final diploma).
- € 3. 000,00 second installment to be paid by **20 February 2022.**

If the tuition fee has to be paid by a Public institution or Private Enterprise, you are kindly requested to contact the Master office by e-mail in the following address segreteriamaster@uniroma2.it

Our Master programs has envisaged the possibility to enroll in single courses. The degree requirements are the same as those for enrollment in the Master. The fee for each single course is € 250 per ECTS credit (plus a virtual stamp of € 16,00) to be paid by **20 November 2021** following the same procedure as for the tuition fees. A statement reporting the number of credits will be issued, conditional to having attended the courses and passed the relative exams.

INCENTIVES AND SCHOLARSHIPS

Eligible applicants with disability of 66% or more will only pay a tuition fee of € 430,00 (5% of the total amount of the tuition fee, plus the fee of € 130,00 for the final diploma). The disability should be stated in the application procedure. In addition, the student will be required submit the documentation that confirms the percentage of disability.

The Master Council may grant, according to Master's regulation, full or partial tuition fee waiver.

STARTING DATE OF THE PROGRAM

The Master in Big Data in Business will start on **17 January 2021.**

ATTENDANCE AND FINAL DIPLOMA

The minimum attendance requirement is 75% of the lectures.

All the students who have passed the exams, has successfully presented the final thesis, and has regularly paid the tuition fee will be obtain the 2nd level Master in Big Data in Business.

CONTACTS

Please, do not hesitate to contact us for additional information or assistance on tel. (+39)06.7259.5719; e-mail: info@bigdata.uniroma2.it

Additional administrative information can be found in the following link
http://web.uniroma2.it/module/name/Content/newlang/italiano/navpath/SEG/section_parent/5996

ATTACHMENT A

Admission Selection Process

The criteria used to evaluate the candidates of Master in Big Data in Business are as follows:
- Academic curriculum, max 65 points;
- English language proficiency (or self-assessment), max 6 points. English language proficiency such as TOEFL, IELTS, Cambridge, GRE or equivalent certificated are strongly recommended;
- Reference letter and motivation letter, max 9 points.

It is necessary to obtain an overall score not smaller than 60 for the admission.