



MASTER in ECONOMICS AND DATA ANALYSIS

EDA



UNIVERSITÀ
DEGLI STUDI
DI BERGAMO

Dipartimento
di Scienze Economiche

WHY CHOOSING THE EDA MASTER?

- MSc EDA responds to the new challenges of the **data-driven markets**, in the age of information.
- EDA provides a **unique blend** of **advanced economics** knowledge, cutting-edge **statistical methods** and hands-on experience in processing and interpreting data.
- EDA program matches the benefit of **small classes**, which allows also for relational and communication abilities, with the **international vocation** of the program.
- EDA meets the expectations of very motivated students who are passionate about economics, market analysis and data science in a **challenging environment**



CAREER OPPORTUNITIES

- Students develop the necessary knowledge and the fundamental skill for a **top-notch** career in **companies, institutions, businesses, research centers and international agencies** operating in the data-driven society.
- EDA graduates are well equipped for an effective **decision-making** process and **strategic** business choices in private and public companies, as well as in their **own entrepreneurial business.**
- They will also have built the background for pursuing **PhD programs** worldwide



CAREER OPPORTUNITIES: profiles & employers

- **Data Analyst**

Economic data analysts have the methodological knowledge to develop and implement statistical, data mining and econometric models, as well as machine learning techniques, for the analysis and prediction of firm performance and markets. They are also skilled in mathematical and statistical softwares for data management and algorithm development.

- Employers include: Companies in data analytics sectors, banks, insurance companies, consulting companies, research centers and international institutions in Official Statistics (Eurostat, NSI, OCDE, WB, BCE, National Banks...).



CAREER OPPORTUNITIES: profiles & employers

- **Data Economist**

Data economists are experts of the economic, both at the micro and macro level. They are able to develop empirical analysis, by using advanced statistical and econometrics methods, and have the economic knowledge to interpret the results. They can support the effective decision-making process and strategic business choices in all the markets segment in the manufacturer and services.

- Employers include:

Big companies, research centers, consulting companies, competition and markets authorities, national and international agencies universities, non-profit organizations, economic press agencies.



CAREER OPPORTUNITIES: profiles & employers

- **Business manager,**

where statistical leadership in handling and understanding a large amount of data and in using data for decision making is a crucial activity.

- Employers include:

Big, small and medium-size firms, in private and public sectors, both in manufacturing and services; consulting companies, non-profit organizations.



TOPICS AND SUBJECTS

- **Economics:** Advanced Micro and Macroeconomics, Applied Economics (Labor, IO), Economic Policy ...
- **Econometrics- Statistics:** Advanced Econometrics, Probability and Statistics for Business and Finance ...
- **Data analysis:** Data Production and Analysis, Coding and Machine Learning, Text Mining and Sentiment Analysis ...



THREE CURRICULA

1. **Economics and Data Analysis (ED)**
 2. **Data Science (DS)**
 3. **European Master in Official Statistics (EMOS)**
- The **ED** and **DS** curricula share the first term track. In the second term:
 - ED provides three economics courses (Empirical Labour Economics, Digital Transformations and Policies, and Industrial Organization)
 - DS offers three courses on data management (Data Management for Communication, Big Data Management, Text Mining and Sentiment Analysis)
 - The **EMOS** curriculum is mainly concerned with the empirical economics topics as well as the statistical methods. Differently, from the two previous curricula, the stage at a certificated institution (ISTAT) is compulsory for the program



THREE CURRICULA



The **EMOS** curriculum is mainly concerned with the empirical economics topics as well as the statistical methods. Differently, from the two previous curricula, the stage at a certificated institution (ISTAT) is compulsory for the program

Thematic activities:

- 3 credits: first a.y.
- 3 credits: second a.y.
- Rolling activities; timetable and list of the events to be published

Internships with thesis (thesis package)

- Hosted by National Statistical Institutes (ISTAT)
- or participation in specific international program (the Master ad hoc Commission should evaluate and approve)

<http://ec.europa.eu/eurostat/web/european-statistical-system/emos>



STUDY PLAN(S)

Curriculum ED

1st YEAR (a.y. 2020-21)		CFU
Coding and Machine Learning:		12
Coding for Data Science	6	
Machine Learning for Economics	6	
Empirical Methods in Impact Evaluation		6
Advanced Microeconomics		9
Data Production and Analysis		6
Advanced Macroeconomics		9
Advanced Econometrics		6
Personnel Economics and HR Analytics		6
Digital Transformations and Policies		6
Industrial Organization - Applied Microeconomics		6
2nd YEAR (a.y. 2021-22)		CFU
Markets and Companies Law		6
European Economic Policy		6
Financial Investment and Corporate Finance		12
Elective courses		12
Final dissertation		18

Curriculum DS

1st YEAR (a.y. 2020-21)		CFU
Coding and Machine Learning:		12
Coding for Data Science	6	
Machine Learning for Economics	6	
Empirical Methods in Impact Evaluation		6
Advanced Microeconomics		9
Data Production and Analysis		6
Advanced Macroeconomics		9
Advanced Econometrics		6
Data Management for Communication		6
Big Data Management		6
Text Mining and Sentiment Analysis		6
2nd YEAR (a.y. 2021-22)		CFU
Markets and Companies Law		6
European Economic Policy		6
Financial Investment and Corporate Finance		12
Elective courses		12
Final dissertation		18



STUDY PLAN(S)

Curriculum EMOS

1st YEAR (a.y. 2020-21)		CFU
Coding and Machine Learning:		12
Coding for Data Science	6	
Machine Learning for Economics	6	
Empirical Methods in Impact Evaluation		6
Markets and Companies Law		6
Data Production and Analysis		6
Advanced Macroeconomics		9
Advanced Econometrics		6
Personnel Economics and HR Analytics		6
Digital Transformations and Policies		6
Text Mining and Sentiment Analysis		6
2nd YEAR (a.y. 2021-22)		CFU
Probability and Statistics for Business and Finance - advanced		9
European Economic Policy		6
Financial Investment and Corporate Finance		12
Statistics for Management		6
Data Management for Communication (SCELTA TRA)		
Internship Official Statistics (internship at NSI)		6
Prova finale - Final dissertation on Official Statistics issues		18



COVID-19 UPDATES FOR PROSPECTIVES

- In this health emergency period the University of Bergamo have promptly re-organized **all the academic activities**: lessons, exams and final degrees **are available in the online mode**.
- However, all curricula of the EDA program, are **in presence** (dual mode). The **dual mode** consists of the simultaneous holding of the lesson in the presence and remotely.
- Access to the university premises and classrooms is regulated by the online booking system [EasyLesson](#) and through the [EasyUniBg app](#) available in the [Android](#) and [Apple](#) stores.
- Distance lessons and recording will only be held through Microsoft Teams, which you may download for free as part of the [Office365](#) suite.



LEARNING ACTIVITIES (1)

- **Seminars** offered by the Department given by scholars with international standings
- **Workshops:** e.g.
 - Workshop on Advances in Industrial Organization
 - UniBg Experimental Microeconomics Summer Workshop
- **Crash courses** to help students with difficulties to attend classes and pass the exams:
 - Math for Economics (1st term)
 - Introduction to STATA (1st term)
 - Econometrics (2nd term)



LEARNING ACTIVITIES (2): SOFT SKILLS

Teaching Quality Program: **Fly Higher**

The program develops competencies, via educational activities inside and outside the classroom, that promote **teamwork skills**, **ability to present** and **discuss the results** of one's work effectively, related to the use of large-scale databases.

- Advanced Report writing ENG - 2CFU
- Public speaking ENG - 1CFU
- Hackaton - 2CFU
- Entrepreneurial skills ENG - 1CFU

- *2nd term*
- *Elective activities for a selected number of students*



OPPORTUNITIES: STAGES AND INTERNSHIPS

- Learning process is enhanced by direct involvement of the students in **internship/stage**. It is geared toward the choice of the professional path and to the knowledge of the job market
- **Private Sector:** Intesa San Paolo, inTwig, GEFRAN spa, Rationis, Compass Lexecon, Mediolanum, SEA Milano, ...
- **Public Sector:** ISTAT, Istituto per la Ricerca Sociale (IRS), REF, Confindustria BG,...
- **International institutions:** World Bank, IMF, Inter American Development Bank



INTERNATIONAL OPPORTUNITIES (1)

- **Double Degree** with MSc Economics - European Economic Integration” (Trier University)
 - 2 years of study (four terms) = 120 CFU
 - 1st year at Bergamo University EDA, *curriculum ED*: 60 CFU
 - 2nd year at Trier University (Germany): 30 CFU exams + 30 CFU final dissertation
 - Max 5 students of the EDA program per a.y., subject to selection.
- Requirements: at least 12 CFU at the moment of submitting the application and 60CFU before September 2021. Applications by the end of April.
- Selection based on number of CFU, the average of the marks, CV, motivation letter and interview.



INTERNATIONAL OPPORTUNITIES (2)

- **Erasmus program:** e.g.:
 - Maastricht University (The Netherlands)
 - Universität Augsburg (Germany)
 - ESC Clermont, Graduate School of Management (France)
 - EDC Paris Business School (France)
 - Ulster Business School (United Kingdom)
 - Geneva School of Economics and Management (Switzerland)

<https://en.unibg.it/global/going-abroad/erasmus>
- **International stage:**
 - World Bank (Washington),
 - IMF (Washington),
 - IADB (Washington)



VISITING PROFESSOR

Each a.y. 20% of the teaching is performed by **visiting professors**:

- Elena Cavagnaro, Stenden University
- Inmaculada Cebrian Lopez, Universidad de Alcala de Henares
- Steven Fazzari, Washington University in St. Louis
- Roberto Galbiati, Sciences Po and CNRS
- Virgilio Gomez Rubio, University of Castilla-La Mancha
- Christine Helliard, University of South Australia Business School
- Orietta Marsili, University of Bath
- Yeva Nersisyan, Franklin & Marshall College
- Alain Pirotte, CRED - University of Paris II and TEPP
- L. Randall Wray, Levy Economics Institute of Bard College
- Thomas Zwick, University of Julius-Maximilians-Universität Würzburg (JMU)



ADMISSION REQUIREMENTS

- Students holding an **Italian bachelor degree** in classes L-33 **Economics** or L-18 **Management**:
 - direct admission if Bachelor degree mark is at least 80/110
 - an interview if the Bachelor degree mark is below 80/110
- Students holding an **Italian bachelor degree** in classes **other than L-18 or L-33**:
 - a minimum of 48 ECTS in one or more of the following areas: Economics, Business and Management, Statistics, Mathematics, Law, Sociology
 - an interview if the bachelor degree mark is below 90/110
- For **all applicants**: knowledge of English language corresponding to level B2, according to the Common European Framework of Reference for Languages (CEFR)
- Students **not yet graduated** in October, but scheduled for graduation on the Spring Session can enroll, under reserve, given that the missing exams do not overcome 24 CFU



IMPORTANT DATES

PRE-ENROLLING

- from **April 4th** to **September 10th 2021**

ENROLMENT

- from **July 12th** to **October 30th 2021**

For the students who are required to take the **initial evaluation test**:

- The interview will be scheduled between June 21st to June 25th 2021 (for those pre-enrolled from April 1 to May 31)
- The interview will be scheduled between September 6th to September 10th 2021 (for those pre-enrolled by August 6)
- The interview will be scheduled between September 27th to October 1st 2021 (for those pre-enrolled by September 10)



CONTACTS

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Discover our website:
<https://ls-egm.unibg.it/en>

Location EDA master:
Bergamo (campus: Caniana)

