M.SC. BUSINESS ANALYTICS & ECONOMETRICS
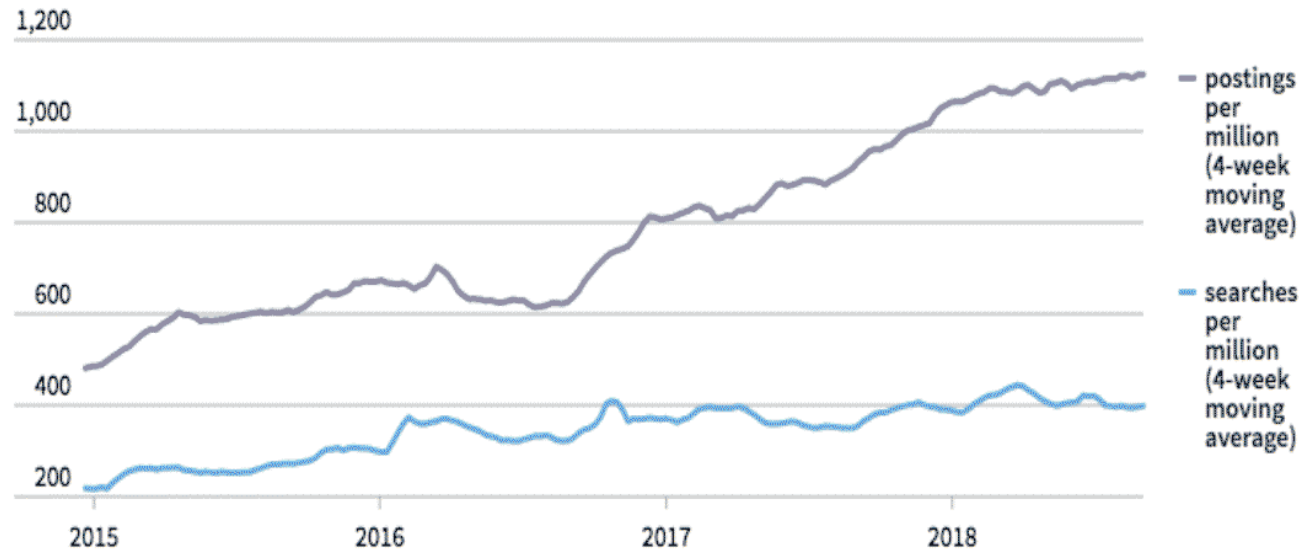
Programme Introduction

Photo: Lisa Beller

Congratulations for Being Admitted!

5.9%

Analytics Students Are Desperately Needed!

3X job postings versus job searches

Source: https://quanthub.com/data-scientist-shortage-2020/

The Vision of the Programme

» **Vision**
  » Becoming a hub for future leaders in analytics
  » Becoming Europe's leading analytics programme

» **Mission**
  » Equip students with advanced data analytics skills to solve grand challenges in business and society

Who Are Your Teachers?

Mona Mensmann
Prof. Entrepreneurship

Ziyue Li
Ass. Prof. Machine Learning

Sven Otto
Stand-in Prof. Econometrics

Markus Weinmann
Prof. Business Analytics

Tom Zimmermann
Prof. Econometrics

Who is Responsible for the Programme?

Prof. Rainer Dyckerhoff
Programme Director
Programme Administration

Prof. Markus Weinmann
Academic Director
Programme Design

The Foundations of the Programme

**Idea:**

» Based on the Cross-Industry Standard Process for Data Mining (CRISP-DM)

» Having the business problem in mind

» Applying methods from Business Analytics and Econometrics

» Advanced courses on digital innovation and strategy, data management, visualization, (advanced) statistics, machine learning, deep learning
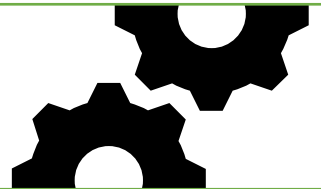
» Active industry cooperation (Capstone project)

Source: https://en.wikipedia.org/wiki/Cross-industry_standard_process_for_data_mining

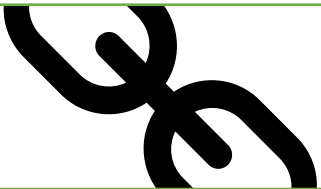# Goals of the Programme
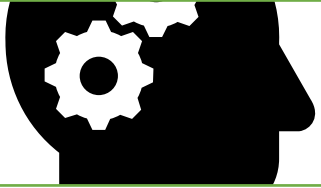
Marry High-Demand Subjects
- Data Analytics, Econometrics
- Management, Digital Innovation, and Entrepreneurship

Teach Technical Data Analysis (Focus on Application)
- Programming
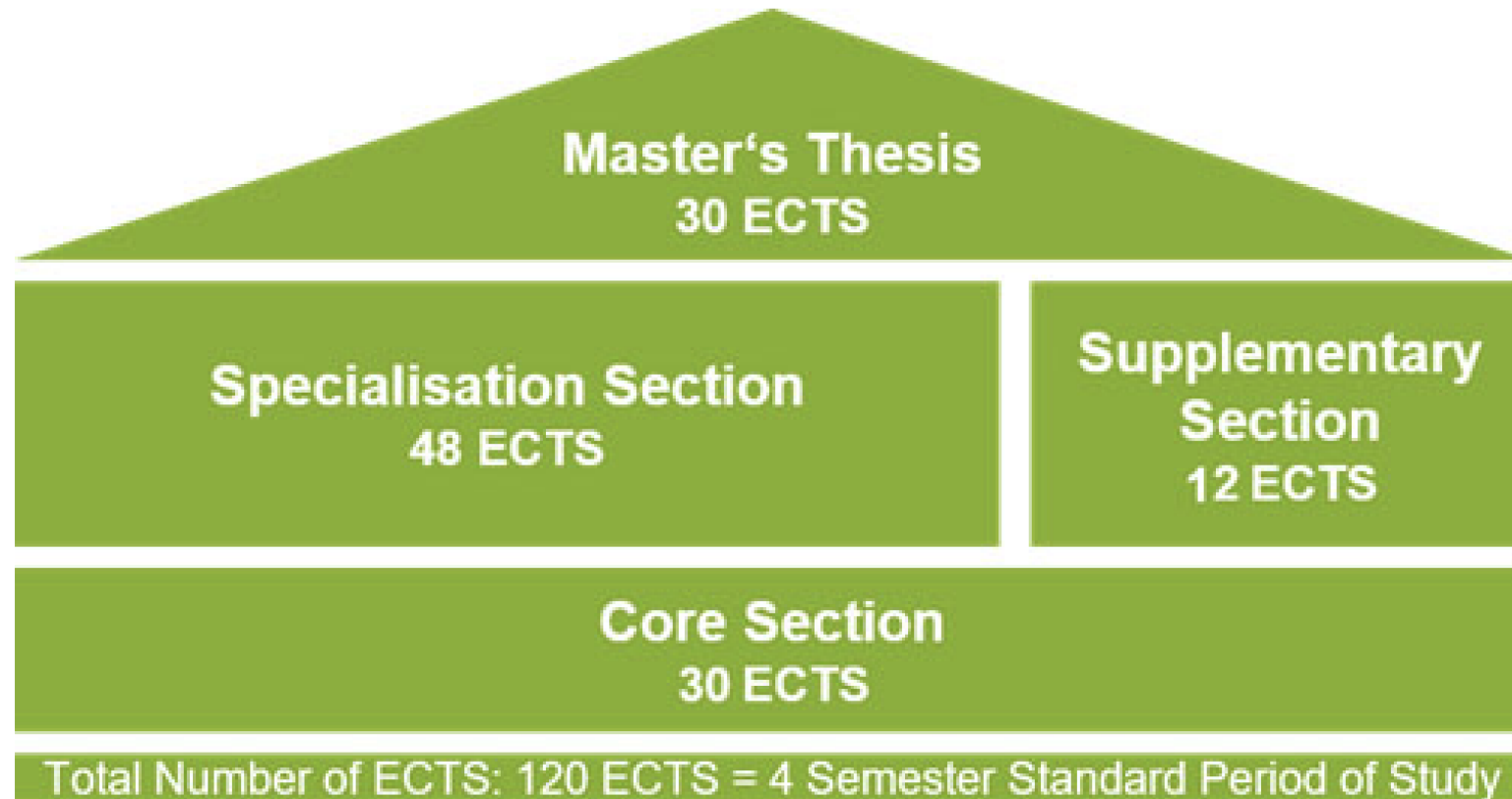- Machine Learning & AI

Transfer of Data Analysis Skills
- Build a digital business model/strategy
- Identify and solve complex economic issues in for corporates and non-profits

In Total, You Need to Gather 120 ECTS

Master's Thesis
30 ECTS

Specialisation Section
48 ECTS

Supplementary Section
12 ECTS

Core Section
30 ECTS

Total Number of ECTS: 120 ECTS = 4 Semester Standard Period of Study

Programme Design

Semester		
1	**Foundation of Data Analytics** 30 CP	
2	**Digitalization and Data Analytics** 30 CP, including Capstone Project with Industry Partners, and Elective 1	
3	**Econometrics Track**	**Business Analytics Track**
	Focus on Empirical Methods 24 CP	**Focus on Analytics for Business** 24 CP
	Elective 2 6 CP	**Elective 2** 6 CP
4	**Master Thesis** 30 CP	

Programme Design (Courses)

MSc. Business Analytics and Econometrics			
Block	**Semester 1**		**LP**
1	Data Analytics I (Statistics for Data Analytics)		6
1	Data Analytics II (Programming for Data Analytics)		6
1	Data Analytics III (Machine Learning and Artificial Intelligence)		6
2	Data Analytics IV (Advanced Statistics for Data Analytics)		6
2	Data Analytics V (Data Management and Data Visualization)		6
Block	**Semester 2**		**30**
1	Digitalization and Data Analytics I (Digital Innovation and Digital Entrepreneurship)		6
1	Digitalization and Data Analytics II (Privacy and Ethics in a Digital World)		6
1&2	Capstone Project		12
2	Elective 1		6
Block	**Semester 3**		**30**

	Business Analytics Track			**Econometrics Track**	
1	Analytics for Business I (Bayesian Data Analytics)	6		Empirical Methods and Data Analysis I (Statistical Inference/Topics in Econome	6
1	Analytics for Business II (Advanced Data Analytics for Business)	6		Empirical Methods and Data Analysis II (Microeconometrics/Topics in Econome	6
2	Analytics for Business III (Digital Strategy and Digital Transformation)	6		Empirical Methods and Data Analysis IV (Statistical Analysis of Financial Data/T	6
2	Seminar Data Analytics for Business	6		Seminar in Statistics and Econometrics	6
2	Elective 2	6		Elective 2	6

Block	**Semester 4**		**30**
1&2	Thesis		30
			30

Electives (imported)

Busienss Analytics	SM Analytics for Business I (Bayesian Data Analytics)	6	12
	SM Analytics for Business II (Advanced Data Analytics for Business)	6	
	SM Analytics for Business III (Digital Strategy and Digital Transformation)	6	
	SM Seminar Data Analytics for Business (Seminar Data Analytics for Business)	6	
Econometrics	BM Advanced Econometrics I (Advanced Econometrics: Theory)	6	
	BM Advanced Econometrics II (Advanced Econometrics: Applications)	6	
	SM Seminar Empirical Methods and Data Analysis (Seminar Empirical Methods and Data Analysis)	6	
	SM Seminar in Statistics and Econometrics (Seminar in Statistics and Econometrics)	6	
	SM Empirical Methods and Data Analysis I (Probability and Statistical Inference, Topics in Econometrics and Statistics I)	6	
	SM Empirical Methods and Data Analysis II (Microeconometrics, Machine Learning for Economists, Topics in Econometrics and Statistics II)	6	
	SM Empirical Methods and Data Analysis III (Time Series Econometrics, Stochastic Models and Processes, Topics in Econometrics and Statistics III)	6	
	SM Empirical Methods and Data Analysis IV (Statistical Analysis of Financial Data, Topics in Econometrics and Statistics IV)	6	
	SM Empirical Methods and Data Analysis V (Multivariate Statistics, Panel Data Analysis, Bayesian Econometrics, Topics in Econometrics and Statistics V)	6	
Management and Applie	SM Information Systems I (Advanced Analytics and Applications, Sustainable Digital Innovation Lab, Case Project Digital Transformation)	6	
	SM Information Systems II (Emerging Electronic Business, Business Intelligence and Data Management, IT Entrepreneurship, Bayesian Data Analytics)	12	
	SM Information Systems III (Artificial Intelligence and Information Management,Machine Learning and Artificial Intelligence, Applied Mathematical Optimization, Decision Making under Uncertainty)	6	
	SM Marketing Performance Management (Marketing Performance Management)	6	
	SM Business Project (Business Project in Marketing, Applied Research Project in Marketing)	6	
	SM Controlling I (Operative Controlling)	6	
	SM Controlling II (Strategic Controlling)	6	
	SM Advanced Accounting (Value-based Controlling)	6	
	BM People Analytics & Econometrics (People Analytics & Econometrics)	6	
Studies Abroad	Studies Abroad II (Business Analytics & Econometrics)	6	
	Studies Abroad I (Business Analytics & Econometrics)	6	

Study Abroad

» Study Abroad Programme (STAP)
  » Apply at the beginning ot the programme!
  » Application deadline: Jan 15
  » Check: STAP Master Application Manual

STAP Master – main selection round (fall term and spring term)

1 DECEMBER	15 JANUARY	MID-FEBRUARY	END OF FEBRUARY	EARLY MARCH	EARLY MARCH	MID-MARCH	15 MARCH**
APPLICATION PERIOD		RESULTS AND ACCEPTANCE PERIOD					

* Alternative offer: if no offer can be given at one of the five preferred universities and if slots at other universities are available.
** End of main selection round. In case any exchange slots become available after 15 March, these slots will be made available in a secondary selection round.

» Available universities: WiSo EXchange (WEX) International Outgoings Portal
» Short-term study option in New York (WiSo@NYC)

Capstone Project

More than an Intership

» **12-week** project with practitioners

» **Dedicated support** (e.g., methodology) from the WiSo faculty & partner companies

» Forum to **share and learn** beyond the own project & benefit from the community

Strong Partners

Course and Exam Registration

» Course registration:
  » On KLIPS

» Exam registration:
  » On KLIPS
  » Course registration does not imply exam registration!
  » Keep in mind the deadlines!

» Support:
  » klips-wiso@uni-koeln.de
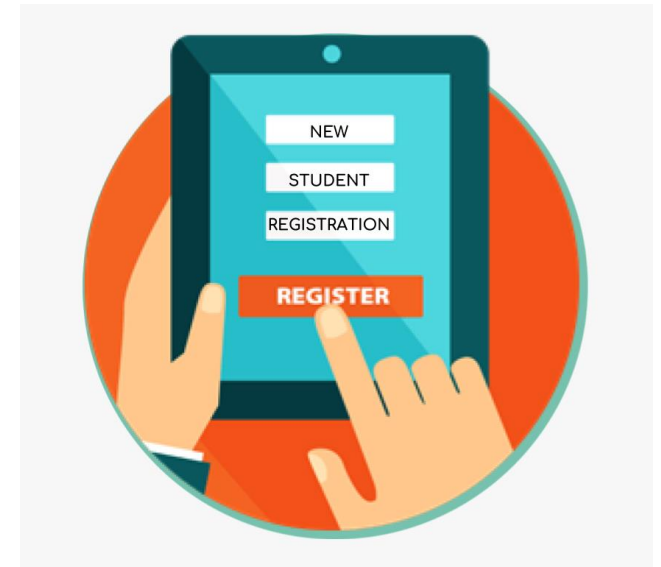
How We Communicate?

» We communicate in English (with everybody)

» We use first names

» Program Email Adress: msc-bae@uni-koeln.de

Ilias bulletin board

» Link: https://www.ilias.uni-koeln.de/ilias/goto_uk_crs_5358554.html

» Link to join the course: https://www.ilias.uni-koeln.de/ilias/goto.php?target=crs_5358554_rcodeEfmQ7kxuQw&client_id=uk

Magazin › … › … › … › … › Master Business Analytics & Econometrics › Master Business Analytics & Econometri…

Master Business Analytics & Econometrics

Inhalt   Info   Einstellungen   Mitglieder   Metadaten   Export   Rechte   Elektronischer Semesterapparat   Voransicht als Mitglied aktiviere

Zeigen   Verwalten   Sortieren

Neues Objekt hinzufügen ▾   Seite gestalten

Dear students,

Welcome to the program's Ilias board. We are looking forward to teaching you advanced analytics and econometrics for managerial or econo-mic contexts.
Here, we will provide you with general information about the program. We will use the group to communicate with you.

In case you want to reach us, please use msc-bae@uni-koeln.de.

All the best,

Mona, Markus, Rainer, Tom

Inhalt

Cohort 2022
Beitritt: Keine Anmeldung möglich

Cohort 2023
Beitritt: Keine Anmeldung möglich

Scan this QR code:

Becoming a Leading Analytics Programme

Idea:

» We will continuous improve the program; therefore, we need your help

» We ask you to form a student advisory committee (SAV) (3 students)

» We will meet with you after each block to get your feedback

» Please let us know who wants to be part of the SAV by Friday, October 6.

Conclusion & Opportunities

- **Comprehensive Curriculum:** The program offers a deep dive into modern data analysis, econometrics techniques, and business intelligence.

- **Career Prospects:** Graduates are equipped for top-tier roles in data analytics, market research, finance, and more.

- **World-class Faculty:** Learn from industry leaders and academic experts in the field of Business Analytics.

- **Hands-on Experience:** Real-world projects and case studies ensure practical experience and understanding.

- **Network:** Join a community of like-minded professionals and peers, creating lifelong connections.

In the world of data, be the expert who turns numbers into actionable insights.

Good luck and a successful start to your studies!