LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

MUNICH INTERNATIONAL SUMMER UNIVERSITY

MISU LMU MUNICH INTERNATIONAL SUMMER UNIVERSITY

Big Data Analytics and Business Intelligence

Online Winter School (BDW)
www.bdw-misu.de

January 4 – January 22, 2027

Syllabus



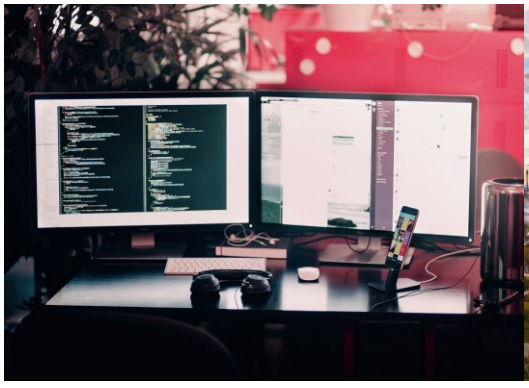
Tools and Packages Covered

Power BI | Power Query | Claude | Excel | ChatGPT

Objectives

The course “Big Data Analytics and Business Intelligence“ takes place one week online and two weeks in-class in Munich

The Munich School of Management at LMU - one of the leading universities for Business Administration and Business Intelligence in Europe - offers a unique summer program for students from around the world. The course “Big Data Analytics and Business Intelligence“ takes place in the heart of Munich.



Are you looking to generate and capture greater competitiveness in a data-driven business environment? Big Data Analytics and Business Intelligence refer to a variety of methods and techniques for the analysis of large amounts of business data such as

- (pre-) processing and extracting information from large datasets,
- modeling underlying patterns by means of powerful data models, as well as
- reporting and visualization of corporate information.

From the perspectives of a business analyst, we will apply these data analytics methods to key business topics such as sales analysis, product portfolio analysis, derivation of key cost drivers as well as profitability analysis. Using Microsoft Power BI you will learn to describe, model and explore data and creating dashboards to improve economic decision-making in the todays corporate environment.

Objectives

The objectives of the course are:

- In this course, you will learn conceptual foundations of Big Data Analytics and Business Intelligence as well as the practical application using Microsoft PowerBI
- To apply Big Data Analytics and Business Intelligence concepts to business topics such as product market analysis, sustainable earnings, cost of capital and investment analysis .
- To develop data models using PowerBI in order to derive key insights in the company's processes. Powerful visualization tools and scenario analysis allow a better understanding of key performance drivers of the underlying business model. These insights are of particular interest for key stakeholders such as managers, analysts and investors.

Content

We put special emphasis on the use of modern business intelligence tools to tackle a wide variety of real-world business problems focusing on corporate decision-making, and big data modelling. Hence, you will learn to consume, analyze and model corporate data based on state-of-the-art data analytics tools. Adopting a user perspective, you will learn how to create data models to inform different corporate decisions building on large amounts of data.

The course contains the following building blocks:

1. **Introduction**

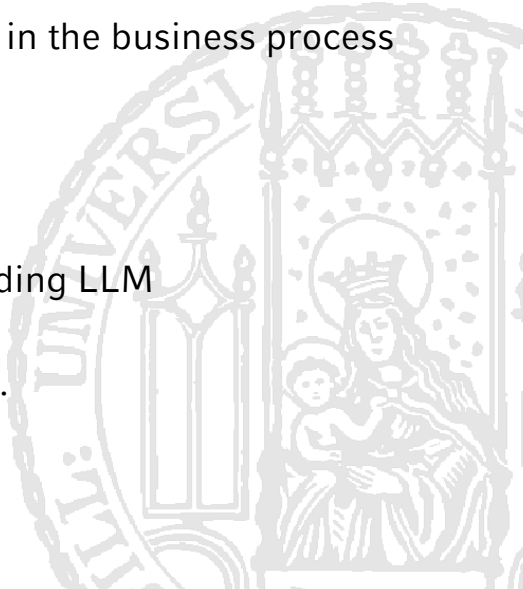
2. **Introduction to PowerBI**
   - PowerBI Basics for Data Analytics
   - Importing and cleaning data
   - Visualizing data

3. **Big Data Analytics**
   - Big Data in a corporate environment
   - Handling large data sets
   - Application in Power BI

4. **Business Intelligence**
   - Business intelligence process
   - Data-driven company analysis
   - Data modelling, exploration and dashboards in the business process

5. **Broadening the perspective**
   - Advanced Analytics and Methods
   - Overview machine learning algorithms including LLM

Please see the schedule in detail on our website.



Academic Host

Institute for Accounting, Auditing and Analysis at the Munich School of Management at Ludwig-Maximilians-Universtität München

Patronage
Prof. Dr. Thorsten Sellhorn

Thorsten is the director of the "Institute for Accounting and Auditing" at the Faculty of Business Administration at Ludwig Maximilians University Munich.

- Served as a Visiting Scholar at Harvard Business School in Boston, Massachusetts, and the University of Arizona, USA, in the years 2007 and 2012.
- Held the position of Full Professor at WHU – Otto Beisheim School of Management in Vallendar from 2008 to 2014.
- Research focuses include International Financial Reporting Standards (IFRS), components of external accounting (including "quality," the principle of prudence, and earnings management), empirical accounting research, fair value accounting, disclosure, and fundamental analysis

Lecturer

Dr. Gereon Hillert

Gereon is a Senior Manager in EY's Valuation, Modelling and Economics practice based in Munich, Germany. Further he is lecturer in the summer schools financial statement analysis and valuation and machine learning and data analytics.

- He got practical experience at Pwc AG, KPMG and Deutsche Bank AG in the areas of capital markets, M&A, financial due diligence and financial accounting.
- His current research interests include corporate learning and operating leverage decisions as well as disclosure policy choice and topic modelling using machine learning methods.

Dr. Andreas Woltschläger

Andreas is a Senior Manager in PwC's valuation team based in Hamburg, Germany. Further he is lecturer in the summer schools financial statement analysis and valuation and machine learning and data analytics.

- He got practical experience at Commerzbank AG, EY and Wincor Nixdorf AG in the areas of equity research, M&A, financial due diligence, valuation and group accounting.
- His current research interests include financial statement analysis, forecasting using machine learning techniques, business intelligence, corporate learning and valuation.

Course Requirements

General course requirements

The Academic Board of the LMU Munich defines the requirements and contact hours* for successful completion of the courses as follows:

- regular attendance (6 lessons max. absence)
- preparation for and active participation in seminars
- attendance and contribution to lectures
- self-study and homework assignments
- written assignments
- Presentations

Course structure

The course takes place online. Following a preparation phase students participate on an intensive virtual-class program complemented by inspiring social and cultural activities.

- **Online: January 4 – January 22**

Textbooks – This course draws on:

Berk, De Marzo. Corporate finance. Peason

Sabherwal, Becerra-Fernandez, Business Intelligence: Practices, Technologies, and Management. Wiley, 2013.

Imasri/Navathe: Fundamentals of Database Systems, Pearson, 2017

Berk Demarzo, Corporate Finance, Pearson 2019

Education, 2019. Penman, Accounting for Value, Columbia Business Press 2011.

Hillert Gereon; Woltschläger, Andreas (2019): Information content of deal communication in Europe – A machine learning approach

Hillert Gereon; Woltschläger, Andreas (2019): Operating leverage and learning from peer investment

Student Profile

Target group

We offer this program for Bachelor and Master students from all faculties and young professionals with an interest in big data analytics, corporate analysis and business intelligence.

Prerequisites for participation are a good command of written and spoken English. Lectures, presentations and examinations will be held in English. Even though we do not require students to submit language test results, we urge students with poor language skills to abstain from applying. Knowledge of German is not a prerequisite.

Technical prerequisites for program:

Hardware: Laptop.

Software: We will provide you detailed installation guidelines for Python before the course starts.

Credits

Contact Hours*: 60 contact/class hours* worth up to 6 ECTS credits.

One contact/class hour comprises 45 minutes.

Credit Transfer

Most international colleges and universities accept credits from the MISU[LMU]. However, each institution has its own policy regarding credit acceptance from other institutions.

We strongly recommend that students consult their academic adviser and/or professor to receive credit transfer approval before applying to the MISU Summer Academy. Students who would like to transfer credits to their home universities should print out all documents contact the professor or study abroad adviser and ask for credit and grade approval.

European Credit Transfer system (ECTS) and ECTS Credits

The ECTS was developed in order to provide common procedures that may guarantee academic recognition for studies abroad. ECTS credits are based on the workload students need in order to achieve expected learning outcomes. The ECTS (European Credit Transfer and Accumulation System) is a standard for comparing the academic level and performance of students in Higher Education across the European Union.

Students will be awarded 1 ECTS credit for 30 hours of work, including attending classes, self-study, examinations and essays. The following chart provides grading information:

LMU Grade	Description	Grade ECTS	US	US	Percentage
1.0	excellent	A	A+	4,0	100 – 97
1.0	very good	A	A	3,9	96 – 93
1,3	very good	A	A-	3,7	92 – 90
1.7	good	B	B+	3,5	89 – 87
2.0		B	B	3,3	86 – 83
2.3		B	B-	3,0	82 – 80
2.7	satisfactory	C	C+	2,7	79 – 77
3.0		C	C	2,3	76 – 73
3.3		D	C-	2,0	72 – 70
3.7	sufficient	E	D+	1,3	69 – 67
4.0		E	D	1,0	66 – 60
> 4.0	insufficient	F	E	0,0	59 – 0
NG	not graded	F		0,0	0

Grading

Grading Scale

Grades are defined from the Academic Board of the LMU in Munich according to its general grading system. The LMU differentiates 6 levels (from 1 to 6), which cover everything from introductory course work to original research. This course is offered for students having successfully completed levels 2 and 3.

Level	Description
1	Introductory course with intensive supervision; no course prerequisites; generally first year courses
2	Introductory course, independent study techniques included; no specific course prerequisites; generally second year courses
3	For advanced students, course prerequisites: successful completion of level 1 or 2; examinations test the students' ability to apply knowledge and insights to new problems; generally third year courses
4	Specialized course, course prerequisites: successful completion of level 2 or 3; extensive use of scientific articles; examination may include a small research project, an oral report or written work. This is a third year Bachelor's or first year Master's level course
5	Scientifically oriented course; course prerequisites: successful completion of level 3 or 4; use of scientific advanced literature. This is a Master's level course
6	Very advanced scientific course; latest scientific developments included; examinations consist of a contribution to an unsolved problem with an oral presentation; Master's or PhD level course

Grading Procedure

There are three grading sections in this course:

40% = Written Exam
40% = Oral presentation, homework assignments
20% = Active participation in class and soft skills

Transcripts

Every student will receive an official transcript after the successful completion of all program requirements. The transcript will show the course name and contact hours, the number of acquired credits as well as the achieved grades.

Fees & Payment

Deadlines for Application:

Regular registration fee: until December 15, 2026
Early bird registration fee until September 1, 2026

Payments

€ 300,00 Registration fee
€ 150,00 Early bird
€ 695,00 Tuition

The complete payment includes the following:

- Academic program (60 contact hours in class, 6 ECTS credits)
- Course reading materials
- Close contact to experienced lecture team

Deadlines for payment

- **Early bird registration fee and tuition payment deadline:** immediately after receiving the e-mail with the admission letter (PDF), September 1, 2026 at the very latest.
- **Regular registration fee and tuition payment deadline:** immediately after receiving the e-mail with the admission letter (PDF), December 15, 2026 at the very latest.

Cancellation*

Cancellation before the registration deadline:

- The registration fee will not be refunded.
  All other deposits will be fully refunded.

Cancellation after the registration deadline:

- The registration fee will not be refunded.

Cancellation 6 weeks before commencement of the course:

- The registration fee will not be refunded.
- 50% if the tuition will not be refunded.

Cancellation 3 days before commencement of the course:

- The registration fee will not be refunded.
  80 % of the tuition will not be refunded.

- Once the course has started, no refund will be granted.

Cancellation by MISU

- All tuition and fees will be refunded.

* All bank charges are excluded from repayment.

Registration

selection of participants will be done continuously. The registration takes place on the 'first come, first serve'- principle, given that the application meets the requirements of the program.

In the interest of maintaining the program's high standards, the number of participants will be limited to 20. The application is based on a first come first served basis. The number of students from one university is limited to 4 to ensure an international character of the program.

The online registration starts on the March 1, 2026.

http://www.bdw-misu.de/en/content/bdw_registration

Application materials for the BDW program:

- Curriculum vitae (CV): you may use the Euro Pass format if you do not have your own form: http://europass.cedefop.europa.eu
- Statement of motivation: Applicants should write a short statement of no more than one typed page in English as to why they wish to take part in the summer program.

Deadlines for the registration:

- **Early bird application deadline:** September 1, 2026
- **Regular application deadline**: December 15, 2026

Contact

Academic Contact

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Munich School of Management at
Ludwig-Maximilians-Universität München

Administration / Application Contact

Ms Jasmin Puschner

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