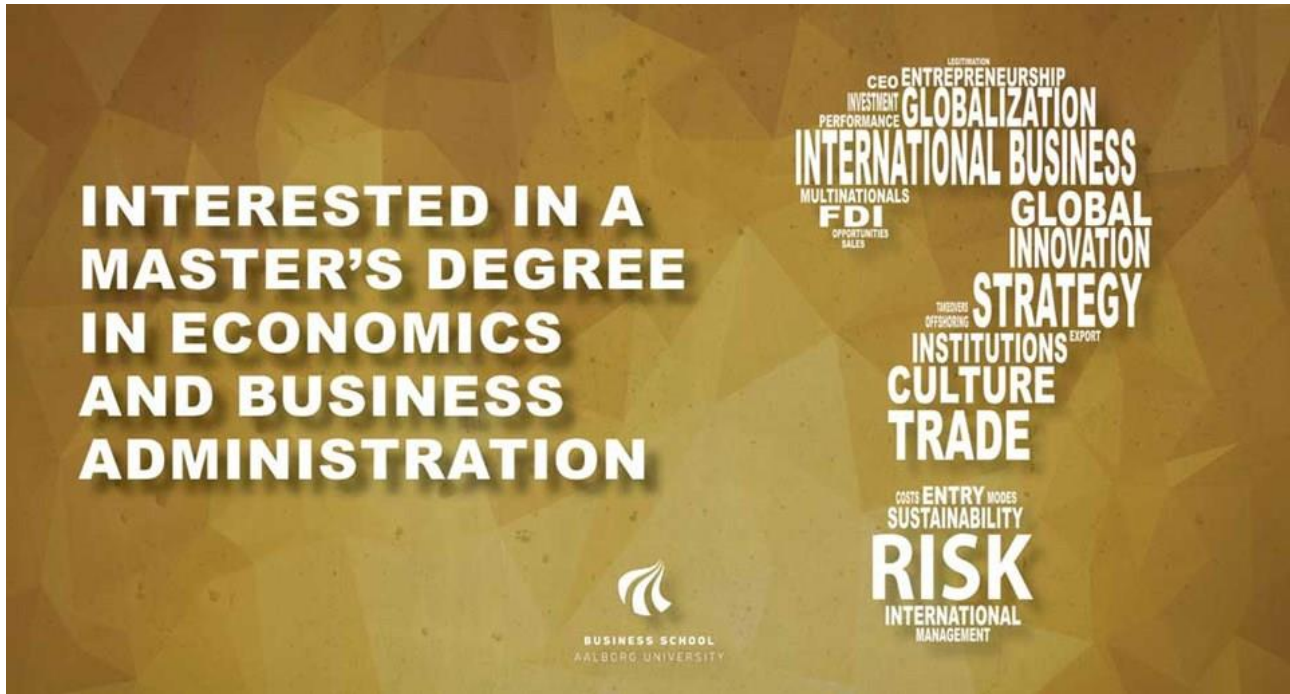ECONOMICS AND BUSINESS ADMINISTRATION

BUSINESS DATA SCIENCE

The MSc specialisation programme in Business Data Science prepares you for a career in a variety of data driven business areas, ranging from business analytics and data driven decision making to the application and implementation of machine learning and artificial intelligence in business development and entrepreneurship.

REASONS YOU SHOULD CHOOSE THIS PROGRAMME

Using data science and machine learning techniques in business
Data-driven business development
Responsible and ethical application of machine learning and artificial intelligence technologies in business
Aalborg

2-YEAR SPECIALISATIONENGLISH

Read about admission

Business Data Science

Associate Professor Roman Jurowetzki gives a short introduction to the master's degree specialisation programme Business Data Science at Aalborg University Business School (AAUBS).
Businesses are constantly becoming more digitalised and data driven. With that, there is a growing demand to combine domain expertise with technical skills to spot opportunities and successfully compete in the marketplace.

The MSc specialisation programme in Business Data Science will teach you essential technical and business-related skills applied in different industries and varying data contexts. Following the Aalborg Problem Based Learning (PBL) model, you will learn to work with a variety of data types and algorithms to extract insights and forecast relevant developments.

The focus will primarily be on the intuitive understanding and practical application of data driven methods rather than the underlying mathematical concepts. You will work with industry-standard programming languages and platforms and explore approaches to prototype development and deployment of data driven applications. While doing so, you will be exposed to common business analytics applications as well as state-of-the-art artificial intelligence techniques used across a variety of industries. Based on this you get the possibility to explore how data science techniques can be used both within organisations and to develop new businesses.

Working with data that describes persons or their behaviour comes with having to comply with legal and ethical standards, which will be covered to enable you to be responsible and sustainable in the application of your skills. Aalborg University Business School (AAUBS) has a strong track record of applying data science methodologies in research and business collaborations. The programme has been developed building on these experiences to provide you with a sound combination of practical skill, building on a strong foundation of theoretical concepts.

Upon graduation, you will be able to:

- Design, develop and manage data-driven business models applications and projects
- Perform all key steps of the data science pipeline, including data sourcing, pre-processing, modelling, and communication
- Develop and deploy data-driven applications business settings
- Use insights to manage strategic decisions of the company or provide inputs for business development
- Ensure that data analysis and applications comply with legal and ethical standards

When graduated, you will get a master's degree in Economics and Business Administration with specialisation in Business Data Science.

Academic content

The specialisation in Business Data Science is a two-year full time programme which is divided into four semesters and consists of a number of compulsory and elective courses taught by Danish and international researchers.

The compulsory courses make up the core foundation of the MSc. Business Data Science programme and provides in-depth knowledge within three important areas relating to Business Data Science: Applied data science, data-driven business development and legal/responsible data practice.

All educational activities aim to take authentic business problems as their point of departure by utilizing real-world data and cases, inviting guest lectures, organizing company visits, and facilitating company collaboration.

Core courses
The following list of courses represents the core courses across the four semesters. In addition, elective courses allow you to further specialize in certain areas.

- Introduction to Data Handling, Exploration & Applied Machine Learning

- Natural Language Processing and Network Analysis
- Data-Driven Business Modelling and Strategy
- Applied Deep Learning and Artificial Intelligence
- Data Governance and Ethics
- Data Engineering and Machine Learning operations in Business
- Semester Projects

The 3rd semester allows you to take several electives to develop domain expertise within Innovation Studies (Innovation and Societal Challenges programme), New Venture Creation, Marketing and Sales, Finance or International Business.

1. Semester

The first semester covers the foundations of applied data science and machine learning applied to business. You will learn to access and handle various data types, explore data and spot relevant patterns, develop and use predictive models. Furthermore, modules will cover the communication of insights trough visualizations and professional reporting tools. In the final course of the semester and the concluding project you will combine technical skills with insights on data-driven business modelling to showcase the interaction between data usage and value creation.

2. Semester

The second semester will build on the foundation developed on the first semester and cover advanced machine learning techniques. In addition, it will provide an introduction to concepts such as data engineering and model deployment, thus covering core techniques that are necessary to launch data-driven services. This will be complemented by a module on data governance and ethics that will provide insight into responsible and compliant use of data in business contexts.

3. Semester

On the third semester, you can choose to take a semester on other study programmes, go abroad or complete a project-based business cooperation.

4. Semester

The fourth semester finishes off the programme with the master thesis. Here you have the opportunity to work on identifying, examining, analyzing and reflecting on theoretical and practical problems within business data science while building a data-driven application.

[Read more about the courses (modules) in the curriculum - §18 "Overview of the programme"](#).

Company collaboration - Study abroad

On the third semester, you have the opportunity to complete a project-oriented company collaboration, where you can be associated with a company or organisation for a longer period in Denmark or abroad.

In addition, you have the opportunity to take a semester at another Danish university, another master's degree programme at Aalborg University or choose one of the associated specialisation semesters. You can also choose to work on a research project at the university.

Read more about stays abroad at: https://www.internationaloffice.aau.dk/.

Read more about opportunities for business collaboration at: https://jobbank.aau.dk/da/.

Admission and requirements

Admission requirements
Admission requirements

Legal claim
The following bachelor's degree has a legal claim for admission:

- Erhvervsøkonomi, HA, Aalborg University

Bachelor's degrees that qualify for admission
The following Bachelor's degrees are deemed qualified for admission to this Master's programme:

- Erhvervsøkonomi, HA, Aarhus University
- Erhvervsøkonomi, HA, Copenhagen Business School
- Erhvervsøkonomi, HA, University of Southern Denmark
- Erhvervsøkonomi, HA, Roskilde University

Even though your bachelor's degree is deemed qualified for admission, please note that this master's programme has restricted admission and therefore your application will be prioritized based on the selection criteria stated below.

Admission requirements
If your bachelor's degree is not listed as a direct qualifying programme you can still apply for admission. When you apply, the study board of the specific master's programme will make an individual academic assessment of your bachelor's degree according to the admission requirements in ECTS as stated below:

- Microeconomics and Macroeconomics – 10 ECTS

- Quantitative Methods and Statistics – 10 ECTS
- Financial Accounting and Management Accounting – 10 ECTS
- Finance – 10 ECTS
- Organisation and Strategy – 10 ECTS
- Marketing – 10 ECTS

Furthermore

- Economics and Business Administration – 30 ECTS

Even though your bachelor's degree is deemed qualified for admission, please note that this master's programme has restricted admission and therefore your application will be prioritized based on the selection criteria stated below.

Pre-assessments
Aalborg University does not pre-assess applications for admission. This means that academic assessments are carried out only when an application for admission is submitted.

Supplementary courses
If you have obtained a bachelor's degree...

you need to apply for admission to the Master programme before you can follow supplementary courses. It is possible to be admitted under the condition that you follow one or more supplementary courses during the first year of the Master programme. If you can be admitted under the condition that you follow supplementary courses, the number of courses will be stated in a potential admission letter. You are obligated to sign up for the relevant courses through the Empty-Place Scheme.

Can you follow supplementary courses between your bachelor's and master's?

When assessing whether you fulfill the entry requirements, the university is not allowed to base its decision on courses, which you have passed between completing your bachelor's degree and being admitted to a Master programme. We are not allowed to take courses you have completed prior to starting your Bachelor degree under consideration. That means that courses that are not part of the Bachelor degree on the basis of which you are applying cannot be used in the assessment of your application.

[Read more about supplementary courses.](#)

English requirements

All applicants applying for a Master's programme offered in English must prove that their English level is equivalent to level B (Danish level) in English.

Danish B level in English compares to:

- IELTS (academic test). 6.5 overall band score
- TOEFL (internet-based): Minimum score: 85 Cambridge
- Certificate of Proficiency (CPE): 180 / level C1
- Certificate in Advanced English (CAE): 180 / grade C
- ECPE: Passed test including certificate

[Read more about language requirements and exemptions at Aalborg University.](#)

Programme curriculum
[See the curriculum here.](#)

Restricted admission

What does restricted admission mean?
This programme has restricted admission which means that even though you are qualified for admission, you are not guaranteed a study place.

Assessment and prioritization of the qualified applicants will take place based on the selection criteria stated below.

Selection criteria
Assessment and prioritization of the qualified applicants will take place based on the following selection criteria:

- Grade point average of your qualifying bachelor's degree. If you have not completed your bachelor's degree, the grade point average is calculated based on the passed courses at time of the application. GPA is calculated based on your uploaded transcript.
- The number of ECTS obtained in the qualifying degree that is within the core subject area of the education programme applied for. Documented via uploaded transcript/course certificate.
- Relevant work experience. Documented by uploading e.g. reference letter from employer, pay slip, contract of employment.

Number of study places
Business Data Science offers 25 study places in 2024.

How to apply

How to apply

The application deadline is 1 March.

You will receive an answer to your application no later than 10 June.

When is this programme offered?
This programme offers study start in September.

Apply for admission
You must apply for admission in the Application Portal which opens in December.

Log in to the Application Portal

Read more about admission
You can find more information about the application process, requirements and deadlines at masteradmission.aau.dk.

Job and career

The MSc programme in Business Data Science offers a unique combination of deep technical skill and application in business. Data Science is a young, multidisciplinary, and evolving field.

Business graduates with a strong analytical profile are sought after in the labor market. To streamline your profile, you can consider specializing withing following areas:

- Business analytics and insight communication
- Business data engineering
- Data-driven business development and strategy
- Data Governance, Compliance and Ethics

As a graduate in Business Data Science you can pursue a career in:

- National or international organisations (multi-national companies)
- Public organisations and networks on local, regional, national or international level
- The private sector (large companies, banks and financial institutions or consultancies)
- National or international research institutions and universities (e.g. a PhD programme)

Moreever, completing two years of studies you also have an opportunity to participate in a graduate programme. These programmes are spread across companies in different cities in Denmark. Graduate programmes refer to training and development schemes designed by corporations to address graduates that are looking for an opportunity to jump-start their professional career.

Read more about graduate programmes.

Get help at AAU to start your career in Denmark

AAU Career helps you on your way from student life to job life in Denmark by giving you the tools to examine your options and find out what to do.

While studying at AAU, you can participate in career and job-related events, find help on our website, and book a personal career counselling session to talk about e.g.:

- Finding your way in your career
- Danish working culture
- Application and CV the Danish way
- What you can offer an employer
- How to go about job search in Denmark – both student job, internship and full-time job

Read more about AAU Career here

Contact

Admission counselling
If you have questions concerning your application, admission requirements or admission in general, please send us an email to this address:

Email: masteradmission@aau.dk

Address

The Admissions Office
Aalborg University
Fredrik Bajers Vej 1
DK-9220 Aalborg East
Denmark

Office hours

Monday, Tuesday, Thursday and Friday: 12:00 - 14:00
Wednesday: Closed

Tel.: +45 9940 9655

Student counsellor

NICOLAI THORDAHL FALKENBERG, LARISA NICOLETA CIOCARLAN & AMALIE FALK
BYRGESEN

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Office hours: Mondays and Thursdays 09:00-12:00.

Study programme

Secretary, Business Data Science

Kathe Heuer Andersen

Study and Wellbeing Guidance

Are you a student at AAU? In AAU Study and Wellbeing Guidance, we can help you
with, among other things, choices during your study programme, study doubts,
study techniques, motivation, wellbeing, leave and study resignation or perhaps
just a conversation about your thoughts regarding your study programme and
wellbeing. We are happy to talk to you about anything big or small.

See opening hours and contact information.