



AALBORG UNIVERSITET

**CURRICULUM FOR THE MASTER OF  
SCIENCE (MSC) IN ECONOMICS AND  
BUSINESS ADMINISTRATION (BUSINESS  
DATA SCIENCE), 2022**

MASTER OF SCIENCE (MSC)  
AALBORG

Curriculum for the Master of Science (MSc) in Economics and Business Administration (Business Data Science), 2022

[Link to this studyline](#)

Link(s) to other versions of the same line:

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(Management Accounting and Control\), 2020](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(Finance\), 2020](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(Organisation, Strategy and Leadership\), 2022](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(Management Accounting and Control\), 2022](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(Finance\), 2022](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(International Business\), 2022](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(Marketing and Sales\), 2022](#)

[Curriculum for the Master's Programme in Economics and Business Administration \(Organisation and Strategy\), 2016](#)

[Curriculum for the Master's Programme in Economics and Business Administration \(International Business Economics\), 2016](#)

[Curriculum for the Master's Programme in Economics and Business Administration \(International Marketing\), 2016](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(Management Accounting & Control\), 2016](#)

[Curriculum for the Master's Programme in Economics and Business Administration \(Innovation, Knowledge and Entrepreneurial Dynamics \) at Aalborg University, 2017](#)

[Curriculum for the Master's Programme in Economics and Business Administration \(Management Accounting & Control\), 2019](#)

[Curriculum for the Master's Programme in Economics and Business Administration \(Innovation and Entrepreneurship\), 2019](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(Organisation and Strategy\), 2020](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(International Business\), 2020](#)

[Curriculum for the Master of Science \(MSc\) in Economics and Business Administration \(Marketing\), 2020](#)

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## **§ 1: PREFACE**

Pursuant to consolidation Act 778 of August 7, 2019 on Universities (the University Act), the following is established.

The programme also follows the Examination Policies and Procedures incl. the Joint Programme Regulations for Aalborg University.

## **§ 2: BASIS IN MINISTERIAL ORDERS**

The Master's programme is organised in accordance with the Ministry of Higher Education and Science's Order no. 2285 of December 1, 2021 on Full-time University Programmes (the University Programme Order) and Ministerial Order no. 2271 of December 1, 2021 on University Examinations (the Examination Order). Further reference is made to Ministerial Order no. 104 of January 24, 2021 (the Admission Order) and Ministerial Order no. 114 of February 3, 2015 (the Grading Scale Order).

## **§ 3: CAMPUS**

The programme is offered in Aalborg.

## **§ 4: FACULTY AFFILIATION**

The Master's programme falls under Faculty of Social Sciences and Humanities, Aalborg University.

## **§ 5: STUDY BOARD AFFILIATION**

The Master's programme falls under Study Board of Economics and Business Administration.

## **§ 6: AFFILIATION TO CORPS OF EXTERNAL EXAMINERS**

The Master's programme is associated with the external examiners corps on External Examiners Corps on Business Administration.

## **§ 7: ADMISSION REQUIREMENTS**

### **Applicants with a legal right of admission (retskrav):**

- Bachelor (BSc) in Economics and Business Administration from Aalborg University.

### **Applicants without legal right of admission:**

- Bachelor (BSc) in Economics and Business Administration from Copenhagen Business School (CBS).
- Bachelor (BSc) in Economics and Business Administration from Roskilde Universitet (RUC).
- Bachelor (BSc) in Economics and Business Administration from Syddansk Universitet (SDU).
- Bachelor (BSc) in Economics and Business Administration from Aarhus Universitet (AU).

Applicants are being evaluated and prioritized individually based on their concrete and unique situation.

## **§ 8: THE PROGRAMME TITLE IN DANISH AND ENGLISH**

The Master's programme entitles the graduate to the Danish designation Kandidatuddannelsen i erhvervsøkonomi, cand.merc. (business data science). The English designation is: Master of Science (MSc) in Economics and Business Administration (Business Data Science).

## **§ 9: PROGRAMME SPECIFICATIONS IN ECTS CREDITS**

The Master's programme is a two-year, research-based, full-time study programme. The programme is set to 120 ECTS credits.

## **§ 10: RULES CONCERNING CREDIT TRANSFER (MERIT), INCLUDING THE POSSIBILITY FOR CHOICE OF MODULES THAT ARE PART OF ANOTHER PROGRAMME AT A UNIVERSITY IN DENMARK OR ABROAD**

The Study Board can approve that passed programme elements from other educational programmes at the same level replaces programme elements within this programme (credit transfer).

Furthermore, the Study Board can, upon application, approve that parts of this programme is completed at another university or a further education institution in Denmark or abroad (pre-approval of credit transfer).

The Study Board's decisions regarding credit transfer are based on an academic assessment.

## **§ 11: EXEMPTIONS**

The Study Board's possibilities to grant exemption, including exemption to further examination attempts and special examination conditions, are stated in the Examination Policies and Procedures published at this website:

<https://www.studieservice.aau.dk/regler-vejledninger>

## **§ 12: RULES FOR EXAMINATIONS**

The rules for examinations are stated in the Examination Policies and Procedures published at this website:

<https://www.studieservice.aau.dk/regler-vejledninger>

## **§ 13: RULES CONCERNING WRITTEN WORK, INCLUDING THE MASTER'S THESIS**

In the assessment of all written work, regardless of the language it is written in, weight is also given to the student's formulation and spelling ability, in addition to the academic content. Orthographic and grammatical correctness as well as stylistic proficiency are taken as a basis for the evaluation of language performance. Language performance must always be included as an independent dimension of the total evaluation. However, no examination can be assessed as 'Pass' on the basis of good language performance alone; similarly, an examination normally cannot be assessed as 'Fail' on the basis of poor language performance alone.

The Study Board can grant exemption from this in special cases (e.g., dyslexia or a native language other than Danish).

The Master's Thesis must include an English summary. If the project is written in English, the summary can be in Danish. The summary is included in the evaluation of the project as a whole.

## **§ 14: REQUIREMENTS REGARDING THE READING OF TEXTS IN A FOREIGN LANGUAGE**

It is assumed that the student can read academic texts in English and use reference works, etc., in English and other European languages.

## **§ 15: COMPETENCE PROFILE ON THE DIPLOMA**

The following competence profile will appear on the diploma:

A Candidatus graduate has the following competency profile:

A Candidatus graduate has competencies that have been acquired via a course of study that has taken place in a research environment.

A Candidatus graduate is qualified for employment on the labour market based on his or her academic discipline as well as for further research (PhD programmes). A Candidatus graduate has, compared to a Bachelor, developed his or her academic knowledge and independence so as to be able to apply scientific theory and method on an independent basis within both an academic and a professional context.

## **§ 16: COMPETENCE PROFILE OF THE PROGRAMME**

The purpose of the Master of Science (MSc) in Economics and Business Administration (Business Data Science) is that the candidate has the following competence profile after graduation:

Knowledge:

- Must possess knowledge of business data science which is based on the state-of-the-art international research within the subject area.

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- Must be able to understand and scientifically reflect on the knowledge of the subject area as well as be able to identify scientific issues.

### Skills:

- Must master the scientific methodologies and tools of the subject area as well as master general and digital skills related to work within business data science.
- Must be able to evaluate and select among the scientific theories, methodologies, tools and general skills of the subject area, and scientifically set up new analysis and solution models.
- Must be able to communicate research-based knowledge and discuss professional and scientific issues with both peers and non-specialists.

### Competencies:

- Must be able to manage work situations and developments that are complex, unpredictable and require new solution models.
- Must be able to independently initiate and carry out discipline-specific and interdisciplinary collaboration and assume professional responsibility.
- Must be able to independently take responsibility for their own professional development and specialisation.

The employer can expect that the candidate will be able to:

- independently organise and conduct analyses of key issues within business data science and translate this knowledge into solutions.
- compare complex theoretical and practical issues within business data science and argue for the pros and cons associated with different solution suggestions.
- lead and in constructive ways support that group processes function in professional ways that add value to the core of the business.
- actively contribute to professional and interdisciplinary team processes in relation to business data science.
- independently, and in cooperation with others, apply theoretical knowledge on business data science to concrete solutions.
- assume a professional responsibility to lead people and processes within business data science from idea phase to implementation.
- provide strategic and operational sparring in relation to business data science of commercial importance.
- translate abstract business data science theoretical and professional practical knowledge and insights into understandable communication for different audiences.

At the Master of Science (MSc) in Economics and Business Administration (Business Data Science) there is great emphasis on the student's development and learning. These expectations are expressed in the knowledge, skills and competencies the student acquires throughout the programme and in the respective modules.

The program is anchored in a problem-based approach to learning (PBL), where the student's abilities in identifying, analysing and presenting solutions to actual and concrete business challenges is supported through independent and team-based activities both in courses and project work.

Hence, PBL is an integrated aspect of both projects and course activities, such as lectures, case work, exercises and business cooperation.

The programme values highly interdisciplinary work, teamwork, individual learning, and progression of PBL competencies. A supportive learning environment ensures that the student, individually and in teams, gradually strengthens his or her ability to build and bring together practical and theoretically anchored competences in reflexive ways.

Furthermore, the student manages to argue and transform these competences into concrete solutions.

The programme supports PBL progression by empowering the student's problem-oriented, interpersonal, structural and reflective skills. The student achieves this by testing and gaining experience with various issues, cooperative relationships, project forms and reflection processes.

The aim is to strengthen the student's curiosity, motivation and interest in the business economics core disciplines within the Master of Science (MSc) in Economics and Business Administration (Business Data Science).

## § 17: STRUCTURE AND CONTENTS OF THE PROGRAMME

The Master of Science (MSc) in Economics and Business Administration (Business Data Science) is a pre-experience generalist programme in applied data science in the context of business and industry. Graduates will have been educated for a career in strategic, operation or consulting roles in different types of companies and various levels of digitalization.

The programme builds on a general undergraduate foundation of business administration or comparable programmes.

During the programmes students will develop competences in data science applied to business settings. That will enable them to design, develop, manage, and take decisions related to data driven business processes and more generally digitalization in corporate and industrial settings. Students will get insight into key elements of data driven processes in organizations as well as business development in a digital context.

The programme is offered in English.

The program is based on a combination of professional, problem-oriented and multidisciplinary approaches. It is organised on the following forms of work and evaluation, which combine skills and academic reflection:

- lectures
- class teaching
- project work
- workshops
- problem solving (individually and in groups)
- teacher feedback
- peer review
- digitally supported learning
- academic reflection
- portfolio work

## § 18: OVERVIEW OF THE PROGRAMME

Offered as: 1-professional						
Specialisation: Business Data Science						
Module name	Course type	ECT S	Applied grading scale	Evaluation method	Assessment method	Language
<b>1 SEMESTER</b>						
<a href="#">Introduction to Data Handling, Exploration &amp; Applied Machine Learning</a> (KADAT20222)	Course	10	7-point grading scale	Internal examination	Oral exam	English
<a href="#">Natural Language Processing and Network Analysis</a> (KADAT20223)	Course	5	7-point grading scale	Internal examination	Oral exam	English
<a href="#">Data-Driven Business Modelling and Strategy</a> (KADAT20221)	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English
<b>2 SEMESTER</b>						
<a href="#">Applied Deep Learning and Artificial Intelligence</a> (KADAT20224)	Course	5	7-point grading scale	Internal examination	Oral exam	English

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<a href="#">Data Governance and Ethics</a> (KADAT20226)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">Data Engineering and Machine Learning Operations in Business</a> (KADAT20225)	Course	10	7-point grading scale	Internal examination	Oral exam based on a project	English
<a href="#">Semester Project</a> (KADAT20227)	Project	10	7-point grading scale	External examination	Oral exam based on a project	English
<b>3 SEMESTER</b> 1st version						
<a href="#">Electives 3rd semester</a>		30				
<b>3 SEMESTER</b> 2nd version (1st semester on Finance)						
<a href="#">Principles of Finance</a> (KAFIN20223)	Course	10	7-point grading scale	Internal examination	Written exam	English
<a href="#">Quantitative Methods in Finance</a> (KAFIN20224)	Project	10	7-point grading scale	External examination	Oral exam based on a project	English
<a href="#">Financial Data Analysis</a> (KAFIN20221)	Course	5	7-point grading scale	Internal examination	Written exam	English
<a href="#">Portfolio Theory and Financial Applications</a> (KAFIN20222)	Course	5	7-point grading scale	Internal examination	Written exam	English
<b>3 SEMESTER</b> 3rd version (1st semester on Marketing and Sales)						
<a href="#">Customer Experience Management and Value Co-Creation</a> (KAMAR20221)	Course	10	7-point grading scale	External examination	Oral exam	English
<a href="#">Fundamental Marketing, Customer Value and Sales Management</a> (KAMAR20222)	Project	20	7-point grading scale	Internal examination	Oral exam based on a project	English
<b>3 SEMESTER</b> 4th version (1st semester on International Business)						
<a href="#">International Business Theory: Trade, Investment and the MNE</a> (KAINB20221)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">International Entrepreneurship</a> (KAINB20222)	Project	5	7-point grading scale	Internal examination	Oral exam based on a project	English
<a href="#">International Strategic Management</a> (KAINB20223)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">International Business Functions</a> (KAINB20224)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">Semester Project I</a> (KAINB20225)	Project	10	7-point grading scale	Internal examination	Oral exam based on a project	English
<b>3 SEMESTER</b> 5th version						
<a href="#">Commodity Economics - Basic</a> (KAØKS202230)	Course	10	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">Commodity Economics - Advanced</a> (KAØKS202240)	Project	20	7-point grading scale	Internal examination	Oral exam based on a project	English
<b>3 SEMESTER</b> 6th version						



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<a href="#">New Venture Creation - Basic</a> (KAØKS202250)	Course	15	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">New Venture Creation - Advanced</a> (KAØKS202260)	Project	10	7-point grading scale	Internal examination	Oral exam based on a project	English
<a href="#">Entrepreneurial Finance</a> (KAFIN202214)	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
<b>4 SEMESTER</b>						
<a href="#">Master's Thesis</a> (KADAT202213)	Project	30	7-point grading scale	External examination	Master's thesis/final project	English

In addition to the above options, the student will in the third semester have the option to attend a semester at a Danish or foreign university. This must be pre-approved by the Study Board of Economics and Business Administration and evaluated as specified in the host's curriculum.

Electives 3rd semester						
Module name	Course type	ECTS	Applied grading scale	Evaluation Method	Assessment method	Language
<a href="#">Projectbased Business Cooperation</a> (KADAT20228)	Project	10	7-point grading scale	Internal examination	Oral exam based on a project	English
<a href="#">Projectbased Business Cooperation</a> (KADAT20229)	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English
<a href="#">Projectbased Business Cooperation</a> (KADAT202210)	Project	20	7-point grading scale	Internal examination	Oral exam based on a project	English
<a href="#">Business Design</a> (KAORS20227)	Course	5	Passed/Not Passed	Internal examination	Active participation/continuous evaluation	English
<a href="#">Sustainability and Non-Market Strategy</a> (KAORS20228)	Course	5	7-point grading scale	Internal examination	Written exam	English
<a href="#">Causal Design for Decision Making in Business</a> (KAORS20229)	Course	5	7-point grading scale	Internal examination	Written exam	English
<a href="#">Responsible Business: Sustainability, Compliance and Control Issues</a> (KAØKS202212)	Course	5	7-point grading scale	Internal examination	Written exam	English
<a href="#">Risk Management in Financial Institutions</a> (KAFIN202219)	Course	5	Passed/Not Passed	Internal examination	Written exam	English
<a href="#">International Finance</a> (KAFIN202215)	Course	5	Passed/Not Passed	Internal examination	Written exam	English
<a href="#">Empirical Methods for Corporate Finance</a> (KAFIN202210)	Project	5	Passed/Not Passed	Internal examination	Oral exam based on a project	English
<a href="#">Business Valuation Challenge</a> (KAFIN202212)	Project	5	Passed/Not Passed	Internal examination	Oral exam based on a project	English
<a href="#">Financial Trading Challenge</a>	Project	5	Passed/Not Passed	Internal examination	Oral exam based on a project	English

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(KAFIN202213)						
<a href="#">Entrepreneurial Finance</a> (KAFIN202214)	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
<a href="#">International Marketing</a> (KAMAR202210)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">International Sales and Negotiations</a> (KAMAR202211)	Course	5	Passed/Not Passed	Internal examination	Oral exam	English
<a href="#">Strategic Brand Management</a> (KAMAR202213)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">Global Environmental Dynamics and Firms Responses</a> (KAINB202212)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">Internationalisation in Emerging Product and Geographic Markets</a> (KAINB202213)	Course	5	7-point grading scale	Internal examination	Written exam	English
<a href="#">Internationalisation of Diverse Organisational Forms</a> (KAINB202214)	Course	5	7-point grading scale	Internal examination	Written exam	English
<a href="#">Multinational Corporations and Ecosystems: Innovation for Sustainable Development</a> (KAINB202215)	Course	5	Passed/Not Passed	Internal examination	Written exam	English
<a href="#">Advanced Innovation Management</a> (KAISC20224)	Course	10	7-point grading scale	Internal examination	Written or oral exam	English
<a href="#">Intrapreneurship - intro course across studies</a> (KAMERC20231)	Course	5	Passed/Not Passed	Internal examination	Oral exam	Danish and English
<a href="#">Scientific challenges in business data science</a> (KADAT202220)	Project	20	7-point grading scale	Internal examination	Oral exam based on a project	English

Prior to each registration period, the Study Board informs the students about which electives from the curriculum that will be offered in the coming semester.

The Study Board reserve the right not to provide elective subjects if the number of students signed up do not meet the minimum requirements. If an elective course is not provided, the students will be offered other options.

## § 19: ADDITIONAL INFORMATION

For further information please visit the programmes website (soming soon).

Regulations regarding written products are to be found [here](#).

Regulations regarding the master thesis are to be found [here](#).

## § 20: COMMENCEMENT AND TRANSITIONAL RULES

The curriculum is approved by the Dean and enters into force as of 1 September 2022.

## § 21: AMENDMENTS TO THE CURRICULUM AND REGULATIONS

The Vice-dean has on January 19, 2022, approved to change the module "*Contemporary Issues*" with "*Promoting Innovation*" valid as of September 2022.

The Vice-dean has on November 30, 2022, approved a revision of the module "*Data Governance and Ethics*" valid as of spring 2023.

The Vice-dean has on November 29, 2022, approved a revision of the module "*Business Design*" valid as of autumn 2023.

The Vice-dean has on November 29, 2022, approved that the following electives will no longer be offered valid as of autumn 2023:

- "*Promoting Innovation and Entrepreneurship*"
- "*Innovation and Societal Challenges*"

The Vice-dean has on November 29, 2022, approved a division of the module "*Commodity Economics*" into two modules, "*Commodity Economics – Basic*" and "*Commodity Economics – Advanced*", valid as of autumn 2023.

The Vice-dean has on November 29, 2022, approved a division of the module "*New Venture Creation/Corporate Entrepreneurship*" into two modules, "*New Venture Creation – Basic*" and "*Commodity Economics – Advanced*", valid as of autumn 2023.

The Vice-dean has on November 29, 2022, approved that the following electives will be offered valid as of autumn 2023:

- "*Intrapreneurship - intro course across studies*"
- "*Scientific challenges in business data science*"