Academic and Examination Regulations (AER)

Academic year 2025-2026

Research Master Business Data Science

Final July 21, 2025

Contents

Section 1 General provisions

Article 1.1 Scope of the regulations

These regulations apply to the Research Master Business Data Science (BDS) with CROHO code 65024, hereinafter referred to as: 'the program'. The program is jointly offered by the Economics and Business Departments of Erasmus University Rotterdam, Vrije Universiteit Amsterdam and University of Amsterdam, to be referred to hereafter as: 'the Schools'. The transition regulations for the program and the Study Guide, published on the website of the program, form an integral part of these Academic and Examination Regulations.
These Academic and Examination regulations apply to all students in the program in the academic year 2025/2026, irrespective of when they started the program.

These regulations become effective on September 1, 2025 and remain valid up to and including August 31, 2026.

Thus laid down by order of the Deans of

the Erasmus School of Economics (EUR)
the Faculty of Economics and Business (UvA) and
the School of Business and Economics (Vrije Universiteit Amsterdam)

Date: August 2025

Article 1.2 Definitions

In these regulations the following terms are understood to mean:

a. The Act: the Dutch Higher Education and Research Act (in Dutch: WHW);
b. The Program: the total and cohesion of the education units, teaching methods, assignments, contact hours, examinations and mandated literature;
c. Student: anyone enrolled in the program and/or taking the examinations and exams for a program;
d. Credit (EC): unit in which the full student workload is expressed, whereby one credit equals 28 hours of study (in accordance with the European Credit Transfer System);
e. Course guide: an overview published on the website of the Erasmus University Rotterdam of all education units with the associated EC, and short description of the content and required literature of the education unit;
f. Academic year: the period from September 1st – August 31st;
g. Study guide: the guide for the program that provides further details of the provisions and other information specific to the program. The Study Guide is available electronically at the program's website;
h. Admissions Board: the committee that assesses on behalf of the schools whether a candidate meets the requirements for admission to the program and decides on the scholarships;
i. Examination Board: Examination Board is responsible for the quality of examinations and diplomas. The Examination Board decides upon student requests regarding exemptions, deviations from the program and decides upon measures in cases of fraud and plagiarism; the Examination Board serves two research master programs: the Research Master Business Data Science and the Tinbergen Institute Research Master in Economics;
j. Educational Board: the Educational Board or Program Committee serves two research master programs: the Research Master Business Data Science and the Research Master Tinbergen Institute in Economics program;
k. Director of Graduate Studies (DGS): the Program Director for the Business Data Science Research Master;
l. Educational Office: back office offering practical support for the educational program;
m. Curriculum or program structure: an overview of all education units with the associated EC within the program;
n. Education unit: an independent core or field course, seminar or thesis;
o. Core course: a first-year course in one of the (core) course sequences;

p. Field course/elective: specialized course in a research field;
q. Course sequence: a combination of coherent (core) courses focussed on either (advanced) econometrics and (advanced) mathematics, or the machine learning sequence;
r. Track: a specialization within the program;
s. External course: a course not listed as a one of the courses in the curriculum in the Study Guide. Students need explicit permission from the Examination Board to take an external course for EC;
t. Block: 7 weeks of lecture/study time concluded with an examination week;
u. Examination period: the period during which written examinations can be scheduled;
v. Result: assessment of an education unit registered in Osiris. The calculation of the result can be found in the course information through the course guide;
w. Tutorial: weekly lecture, usually taught by a teaching assistant, in which students work on and discuss relevant exercises and homework assignments;
x. Field paper: a paper connected to a field course and supervised by the instructor of the field course;
y. Internship: an unpaid individual research practice internship at one of the schools, supervised by a research fellow;
z. Hackathon: a group of students working together on a business case;
aa. Lecture series: a series of condensed lectures by an external lecturer. Students can take a lecture for EC by attending the classes and passing the assessment;
bb. Lecturing term: the part of an education unit during which lectures take place. The lecturing term also includes possible holidays but not the examination period;
cc. Examiner: teacher authorized by the Examination Board to assess an examination, constituent examination or assignment;
dd. Examination: an assessment of the student's knowledge, understanding and skills relating to a course component. An examination may consist of one or more partial examinations, which may include (but is not limited to):
    - a thesis or paper;
    - a presentation;
    - an assignment;
    - an internship;
    - an oral or written test;
ee. Thesis: an individual final written work in the form of a scientific research report on a topic from or related to the student's program;
ff. Final examination: the completion of the master's program, i.e. the thesis;
gg. Grade Point Average (GPA): the average value of the accumulated final grades earned over time, taking into account the number of EC an assessment stands for.

Section 2 Program objectives and intended learning outcomes

Article 2.1 Program objectives and intended learning outcomes

1. The program is a Research Master program and leads to a Master of Science (MSc) degree in business. It has a workload of 120 EC.
2. Admission to the program is highly selective; for admission requirements see Section 3.
3. The program offers a thorough training in advanced methodology, methods and techniques in data science, in combination with an extensive training in one of the chosen fields of expertise.
4. Graduates of the program should be able to set up and carry out scientific research projects in the chosen field of expertise, with the use of data science techniques, under academic supervision.
5. The program aims to prepare students for PhD research.
6. More detailed learning outcomes are listed in the Appendix.

Section 3 Previous education and admission to the program

Article 3.1 Previous education

1. In order to qualify for enrolment in the program, a Bachelor's degree obtained in academic higher education (university) is required.
2. When the program commences, the candidate must have fully completed the Bachelor's program.

Article 3.2 Application and selection procedure

1. Candidates must submit applications to the program through the online application system. In exceptional circumstances, applications can be submitted by other means.
2. The application deadlines are available on the website at the beginning of the annual admissions cycle;
3. The application file contains at least: a transcript of coursework of previous programs, a recent vitae, two recommendation letters and a written statement of purpose. For non-Dutch degree holders a GRE score report or a GMAT test score report and proof of English language proficiency are required. This requirement is met when the student has passed the TOEFL iBT and/or the IELTS (specifications can be found at the program's admissions webpage). Students with a degree from a University program where the language of instruction was English are exempted.
4. The Admissions Board of the program is responsible for admission to the program. Members of the Admissions Board are appointed by and represent the School where they are employed.
5. The Admissions Board gives preference to candidates who show potential for higher academic performance. The decision of the Admissions Board is based on the application file, provided by the student. If this information is (deliberately) misleading or incorrect, the offer of admission may be withdrawn at any time. An interview is part of the selection process.
6. Detailed application and selection criteria are published on the website.

Article 3.3 Enrolment

1. Students participating in the program have their primary enrolment at the secretary of the programme: EUR. They are also enrolled at the UvA and VU.

Section 4 Program structure

Article 4.1 Structure of academic year

1. The program starts in August with an introduction week for year 1 students.
2. The academic year is divided into 5 blocks. Blocks 1-4 consist of 8 weeks. Block 5 is an extended block with examinations in the last week (usually in July).
3. The program comprises the units of study, with the stated student workload per specialization, as stipulated in the Study Guide for that year.

Article 4.2 Language of teaching and examinations

1. The language of instruction and examination is English.

Article 4.3 The program

1. The program is a full-time program and cannot be taken as a part-time program.
2. The program has a duration of two years and has a study load of 120 EC.
3. The total study load consists of 60 EC for year 1 and 60 EC for year 2.
4. Successful completion of the program leads to the awarding of a Master's degree (MSc).

Article 4.4 Curriculum

1. The program consists of compulsory components and field courses. Compulsory components and field courses are listed in the Study Guide.
2. The program offers three tracks: Operation Research Analytics, Quantitative Finance and Management Science

Article 4.5. Requirements of the program

1. Detailed requirements are stipulated in the Study Guide.
2. The DGS ensures that at the start of the academic year the lecturer(s) responsible has (
3. have) published an overview of the lecture and examination material in the course guide. Before the start of the education unit, the lecturer responsible indicates how the material for the education unit has been distributed across the lectures and tests (assignments, partial tests, examinations). This information is shared through Canvas.

4. Unless explicitly stated otherwise (and approved explicitly by the DGS), in-person, physical attendance of all lectures (with the exception of tutorials) is mandatory. Attendance is registered via Canvas or via attendance sheets.
5. Students choose a track before block III of year 1. Detailed requirements for each track, including a restricted list of track-specific courses are determined annually in the Study Guide.
6. In year 1, students complete 11 core courses (4 EC each) and the Parallel Computing course (3 EC). Additionally, students complete a track-specific elective (4 EC) and the Business Foundations course (1 EC).
   To fulfil the remaining 8 EC, depending on their track, students select track-specific electives and/or research internships (4 EC) and/or a hackathon (4 EC). For both internships and the hackathon combined a maximum of 8 EC can contribute to the required 60 EC. Details are specified in the Study Guide. Students are required to complete a compulsory workshop on scientific integrity, for which EC are awarded in the second year.
7. Core courses have weekly tutorials.
8. In core courses, teachers may not assign (graded) homework with a deadline in the week prior to the exam or in the exam week.
9. EC earned in year 1 by taking additional first year field courses or core courses that are not part of a student's curriculum will not contribute to the total amount of EC or the GPA for the first year of the program but may count for the second year of the program.
10. Students need to have passed with a grade 6 or higher at least 48 EC from the first-year curriculum **and** have completed the Business Foundations course to directly enter the second year of the curriculum. For those who have earned between 40 and 48 EC from the first-year curriculum, a study plan is developed in collaboration with the DGS. This plan outlines which second-year courses the student can access and details how they will complete the program. Students who have achieved less than 40 EC with a grade of 6 or higher from the first-year curriculum are not eligible to enroll in second-year courses. Additional, specific entrance requirements for each second-year field course will be determined in the relevant course manual.
11. In year 2, before the start of the academic year, students select a full program of field courses/electives amounting to a maximum of 24 EC (including external courses). Changes in the selection of courses afterwards needs explicit support in writing from the student's (intended) supervisor (in case there is one) and needs the DGS' approval.
12. The requirement for year 2 is that students accumulate a total of 60 EC, consisting of the following components: the course Bayesian Econometrics (3 EC); mandatory track-specific field courses (listed in the Study Guide, 3 EC each), 3 skills workshops on scientific integrity, academic writing and presenting (1 EC each), electives (3 EC each, listed in the study Guide) and/or internships (up to two internships, 3 EC each), and a thesis (30 EC).
13. Students can take advanced core courses as field courses provided that they did not take that course in the first year and meet the entrance requirements for that particular core course.
14. The maximum amount of EC obtained in the TI lecture series that may contribute to the 24 EC field course requirement is 6.
15. The maximum amount of EC obtained through research internships that may contribute to the 24 EC field course requirement is 6.
16. Subject to approval by the Examination Board, students can take external courses for EC for up to 9 EC for year 2.
17. 3 EC are allocated to external courses taken as a field course, irrespective of the number of EC allocated to the same course elsewhere. This also applies to a first-year advanced core course taken as field course. The Examination Board can deviate from the number of allocated EC.
18. After explicit approval of the DGS, students can replace one of the non-mandatory electives for a research paper assignment (3 EC) supervised by a faculty member.
19. The thesis will be presented in a pre-defense before a committee of experts. The pre-defense can only take place with the approval of the supervisor and if the student has earned the EC for all other study units of the curriculum of year one and two (at least 90 EC). The weight of the pre-defence is 20% of the grade; the weight of the final thesis is 80% of the grade. Deadlines for the pre-defense and the submission of the final thesis are stipulated in both on Canvas and in the thesis manual. The pre-defense of the thesis is a public event.

Section 5 Examinations

Article 5.1 Examination schedule

1. (Sit-in) Examinations for core courses with a TIC code are scheduled in the examination period (usually week 8 of the block in which the course is taught).
2. For courses with a TIC or TIF code no re-sits are scheduled.
3. A student who fails an examination for a first-year mandatory course must re-take the course in the next academic year unless the failed course can be compensated under Article 5.5.
4. A student who does not pass an examination for a mandatory second-year course may submit a request to the Examination Board for a re-sit in the same academic year.
5. A student who fails an examination for an elective must take an additional elective.
6. Students cannot re-take examinations for courses which they have already passed or for which they have earned the EC through compensation.
7. If a student cannot take an exam due to illness or any other reason beyond that student's control, they may apply to the Examination Board for an opportunity to take the exam as soon as reasonably possible.
8. All student tasks and duties related to the courses have to be scheduled and completed within the block in which the course is taught. Exemptions must be approved by the Examination Board.

Article 5.2 Type of examination of courses

1. All core courses will be concluded by an examination. Apart from the examination, results of assignments form part of the examination and contribute to the final grade for a core course. Further details of the composition and weight of all composing elements will be given annually in in the course guide.
2. The type of examination and composition of the final grade of each field course will be described annually in the course guide.
3. At least 50% of the final grade must be the result of an individual assessment.
4. The combination of assessments is subject to approval by the DGS.
5. At an oral examination each student is examined separately. The oral examination is taken by an examiner in the presence of a second examiner. Oral examinations[1] are not public unless, in a special case, the Examination Board has decided otherwise.
6. Examinations are assessed based on criteria that have been published in advance.

Article 5.3 Determining and announcing results

1. The examiner determines the result of all written examinations, as soon as possible but at the latest within fifteen working days. The examiner ensures that the student is notified of the mark, taking due account of the applicable confidentiality standards. Failure to comply with the deadline for grading may result in a deduction of €2,500 of the teaching compensation.
2. The examiner determines the result of an oral examination as soon as the examination has finished for all students and informs the student accordingly.
3. No information about individual results of examinations is disclosed to any person other than the student, the DGS, the Examination Board and the education office, unless with explicit permission from the student.
4. The education office will make sure that all final results are registered in Osiris.

Article 5.4 Grading

1. All courses are graded on a 1-10 scale, where 1 indicates very poor performance, 6 is the lowest passing grade, and 10 refers to outstanding performance.

[1] The predefense is excluded here.

2. The final grade for a course is rounded to the nearest multiple of .0 or .5, with the following exceptions: any grade between 5.0 and 5.5, 5.5 excluded, is rounded to a 5; any grade between 5.5 and 6 is rounded to a 6, a grade lower than 1 is rounded to a 1.
3. Grades are not rounded before computing a student's final grade.
4. In case more than one teacher is involved, the coordinator of the course is responsible for consistent grading across all parts of the course.

Article 5.5 Compensation rule

1. A compensation rule is available to students who have passed within the first year of enrolment at least 48 first year EC with a grade six or higher **and** who have completed the Business Foundations course within the first year of enrolment.
2. The compensation rule allows eligible students to compensate at most one 5 in the core course sequence A with a 7.5 or higher obtained within the same core course sequence, and at most one 5 in the core course sequence B with a 7.5 or higher obtained within the same core course sequence. The compensation rule applies across years.
   Core Course sequence A contains: (Advanced) Mathematics/(Asymptotic) Statistics//(Advanced) Econometrics I-III;
   Core Course sequence B contains: (Advanced) Machine Learning I/Machine Learning II /Reinforcement Learning/Deep Learning/Natural Language Processing/Simulation Analysis & Optimization.
2. 3. Any compensated grade counts as a five (5) in the computation of the student's GPA.

Article 5.6 Exemptions

1. The student may request from the Examination Board an exemption from a course if the student has completed an equivalent course with regard to contents, level and the amount of EC devoted to the subject. The course must be a master course and the student must have obtained at least a grade 8 (or equivalent) for this course. An exemption can relate only to a whole course in the curriculum and not to a part of it.

Article 5.7 Right of Inspection

1. As soon as possible but within 28 days of the announcement of the results of a written examination, the student can, on request, inspect his/her assessed work, the questions and assignments set, as well as the standards applied for marking.
2. Inspection of the assessed work can only take place while the student is supervised by the examiner or an employee of the education office.

Article 5.8 Validity period for results

1. Course results remain valid indefinitely.
2. Contrary to the provisions of Article 5.8.1, the Examination Board can decide that a course result is no longer valid if the student's skills and knowledge are demonstrably outdated. The Examination Board may then decide to require a student to take a supplementary or substitute examination before allowing that student to progress to the final exam.
3. Partial examinations and assignments passed within a course unit that has not been successfully completed will lapse at the end of the academic year in which they were passed. The Examination Board can extend the limited validity period of a partial result on the basis of hardship if a student submits a reasoned request to that effect.

Article 5.9 Final examination and diploma

1. The Examination Board determines whether the student has passed all the requirements of the program.
2. The Examination Board grants a diploma as proof that the student has passed their final examination. The Examination Board adds a diploma supplement to the diploma providing information on the nature and content of the program.

3. A GPA of 8 or higher in all examinations on the first attempt, without a compensated grade 5 and without a failed field course exam, within 24 months after the start of the program, entitles the student to the distinction of 'cum laude'.
4. Degree and diploma are issued by the three participating universities as a joint degree.
5. Individuals who have successfully completed one or more components of the program will, on request, receive a statement stating the course(s) that have been completed together with the number of EC.

Section 6 Misconduct and Fraud

Article 6.1 Definitions and prohibitions

1. Misconduct is understood to mean inacceptable or disruptive behaviour from students in disregard of the AER, the Examination Board rules and conduct rules from our Schools.
2. Fraud is understood to mean: any act(s) or omission(s) by/from a student that as a result of which it is or has become reasonably impossible for the examiner and the Examination Board to make a proper assessment of the knowledge, understanding and skills acquired by the student or of the knowledge, understanding and skills of fellow students.
3. Students should immediately report a possible appearance of fraud concerning themselves during an examination to the invigilator/examiner.
4. The following and other action will be deemed to be fraud:
    a. Being in possession of tools or resources (pre-programmed calculator, mobile phone, books, syllabi, notes, etc.) which are not explicitly permitted during the examination;
    b. Copying from or exchanging information with another student during the examination;
    c. Assuming someone else's identity during the examination;
    d. Allowing someone else to assume your identity during the examination;
    e. Obtaining the examination questions before the date or time when the examination is scheduled to take place;
    f. To commit plagiarism (see article 7.6 and 7)
    g. Changing, extending or amending a section of the examination after it has been submitted for a final assessment.
5. A (group) assignment, paper, thesis or any other form of text that is part of the education of the student's current or previously followed program within or outside the School can only be assessed once with a grade or a pass.
6. The term 'Plagiarism' is understood to mean copying information from fellow students or anybody else, the internet, or even themselves, without giving credit, and by copying contents that was generated by generative AI tools like ChaptGPT.
7. The following among others will in any case be considered as fraud/plagiarism:
    a) Using or copying other people's texts, data or ideas without a complete and correct source reference;
    b) Not indicating clearly in the text, for example through the use of quotation marks or a particular layout, that text is being cited directly from another author, even where correct referencing has been included;
    c) Submitting paraphrased content of other people's texts without sufficient referencing of sources;
    d) Submitting texts that have previously been submitted for earlier assignments, or comparable texts, for separate examination components, without proper references;
    e) Submitting work that has been written by someone else, whether or not in exchange for payment, or by AI and presenting this as their own;
    f) Submitting copied work from other students and presenting this work as their own;
    g) Submitting copied content, including source codes, that was created by using generative AI tools like for instance ChatPGT and presenting this work as their own work. Explicitly excluded from plagiarism is using AI tools for checking grammar, improving writing style and/or translation;
    h) Submitting reused source codes authored by someone else and failing to properly reference this. The use of (slightly modified) simple code lines from programming manuals or textbooks as a (minor) part of an assignment is normally regarded as fair use and requires no acknowledgement.

7. To detect plagiarism, electronic detection software programs may be used. In submitting a text, the student implicitly consents to the text being entered into the database of the detection program concerned.

Article 6.2 Procedure and measures

1. Misconduct and/or fraud during a written examination identified or suspected by the invigilator will be reported to the Examination Board in writing directly after the examination.
2. Misconduct and/or fraud identified or suspected by the examiner will be reported to the Examination Board and the concerned students in writing.
3. The Examination Board will invite the student to present their case and will determine whether misconduct and/or fraud has been committed based on the evidence and the information provided by the invigilator and/or the examiner, and the student.
4. If the Examination Board is convinced that fraud has been committed, a sanction will be imposed taking into account the principles of legal fairness and proportionality.
   Sanctions might be, but are not limited to:
   a) Declaring the examination to be invalid;
   b) Excluding the student(s) from following examinations for a maximum period of one year;
   c) Suggesting permanent termination of the enrolment of the student to the board.
5. If the fraud pertains to a group work/assignment, it will be attributed to each of the group members equally. The burden of proving the contrary rests on every group member.
6. The student can lodge an appeal against the decision by the Examination Board to the Board of Appeals for Examinations of Erasmus University (see below).

Section 7 Evaluation of education

Article 7.1 Evaluations

1. The DGS is responsible for ensuring the evaluation of the education.
2. After the teaching period and after the examination, students are asked to complete questionnaires on the courses and examinations taken during that period.
3. The DGS informs both the Educational and the Examination Board of the evaluation outcomes and the amendments made as a result of this.
4. The members of both the Educational and the Examination Board will handle information regardingperformance of individual lecturers confidentially.

Section 8 Counselling and adaptations

Article 8.1 Counselling availabilities

1. The DGS provides academic counselling for students enrolled in the program.
2. Study advisors and student well-being facilities are available at the Schools.

Article 8.2 Adaptations

1. A student with an impairment can submit a written request to the Examination Board to qualify for special adaptations with regard to teaching and practical training. These adaptations will accommodate the student's individual impairment as much as possible, but may not alter the quality or degree of difficulty of a course or an examination. In all cases, the student must fulfil the exit qualifications for the degree programme.
2. The request referred to in the first paragraph must be based on a recent statement from a physician or psychologist. In the case of dyslexia, a statement from a BIG, NIP or NVO accredited testing centre will suffice. Where possible, the statement should include an estimation of the extent to which progress of study will be hindered.
3. The Examination Board decides on the adaptations concerning the teaching facilities and logistics, and will rule on requests for adaptations with regard to examinations.
4. A request for adaptations will be refused if it would place a disproportionate burden on the organisation or the resources of the institute.

Section 9 Right of appeal

Article 9.1 Right of appeal

1. An appeal may be lodged against the way in which the result for an examination was reached, against an Examination Board decision or against a decision regarding admission to the program. A detailed notice of appeal should be submitted to the Examination Appeals Board (CBE) of Erasmus University within six weeks of the announcement of the result or decision. The procedures of the Examinations Appeals Board must be followed.

Section 10 Hardship clause

Article 10.1 Hardship clause

1. In exceptional cases, the Examination Board may deviate from these Academic and Examination Regulations in the student's favour.

Appendix to AER 2025-2026 research master Business Data Science

Intended learning outcomes for the research master Business Data Science

The general objective of the master programme is to prepare talented and motivated students to entering PhD degree programmes and other research positions in the field of business data science. The programme offers a thorough training in advanced methodology, methods and techniques in data science, combined with an extensive training in one of the chosen fields of expertise within the broader field of business and management. Graduates of the programme should be able to independently set up and carry out scientific research projects in one of the fields in business and management, with the use of data science techniques. In cooperation with senior faculty, graduating students should be able to write a research thesis that is potentially publishable in one of the international refereed journals in the field.

More specifically, students who successfully complete the research master Business Data Science should:

Knowledge and understanding

I. have advanced knowledge and broad understanding of data science research methodology and its applications in business and management; this covers methods in statistics, econometrics, machine learning, and management science;
II. have advanced knowledge and understanding of key research areas in business data science, for example in entrepreneurship, finance, human resources, marketing, and operations research;

Application of knowledge and understanding

III. be able to define research questions in business and management and answer these questions by specifying relevant theories, collecting relevant data, and applying advanced data science methods;
IV. be able to apply/develop new data science approaches in order to solve relevant research questions in business and management;
V. be able to design and specify models that tackle managerially-relevant research questions;
VI. be able to design and implement approaches to validate model specifications and algorithms (e.g., formal proofs, analytical demonstrations, or empirical proof-of-concept in field or lab settings) in line with academic standards;

Making judgement

VII. can critically evaluate research outcomes, and reflect on the ethical and social implications of the outcome of their analysis;

Communication

VIII. be able to write research papers that are well structured, reflecting academic editorial standards;
IX. be able to present and defend their research to an audience of academic researchers;

Learning skills

X. to contribute original research to this field, under academic supervision;
XI. respect and practice all current standard principles of scientific integrity, ethics, responsible data management and privacy;
XII. have developed an attitude to independently keep track of the developments in one field of specialization and to embark on independent research in this field;
XIII. work well in a team and reflect on own role and contribution within teams.