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GRADUATE PROGRAM | *Erasmus*  VU 

## study guide business data science



**joint degree**

Erasmus University Rotterdam

University of Amsterdam

Vrije Universiteit Amsterdam



# Study guide 2021-2022

## Research Master's Program Business Data Science

August, 2021



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data science

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Erasmus University Rotterdam  
University of Amsterdam  
Vrije Universiteit Amsterdam



# business data science

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## Study guide 2021-2022

### Research Master's Program Business Data Science

August 2021

#### INTRODUCTION

The Research Master Business Data Science prepares talented and motivated students to enter high quality PhD programs in Business. It is a joint initiative of the Erasmus School of Economics of the Erasmus University Rotterdam (EUR), the Faculty of Economics and Business of the University of Amsterdam (UvA), and the School of Business and Economics of the Vrije Universiteit Amsterdam (VU).

The Research Master Business Data Science is a multidisciplinary research master program in which course instruction is provided by top scholars from the three participating Schools with a central focus on the performance of academic research within business disciplines, such as entrepreneurship and innovation, finance, human resources and organization, marketing, and supply chains analytics.

The Business Data Science program distinguishes itself based on the following unique features:

- It is a two-year research master (120 EC) aiming to train future PhD students who will start their doctorate at one of the Schools in business and economics of the three partner universities.
- It has a strong focus on data science, presented to the students at a higher theoretical level than in a traditional master program.
- It ties the foundations of data science directly to different business fields. The availability of big data from a growing range of interconnected, interactive, and interoperable devices and the concurrent development of powerful quantitative techniques are giving rise to new perspectives and paradigms in scientific practice. This is particularly true in the field of business. As data collection has transformed from a tedious, expensive, and time-consuming practice into a continuous and, often, unobtrusive side-effect of day-to-day practices, behaviors and actions of people within and across organizations can be studied far more closely. Moreover, computing power and storage are not the limiting factors they once were. To leverage these opportunities, there is an increasing demand for highly trained specialists who can extract insights out of big data to solve business-related problems.

- It is a small-scale program, where students work in close collaboration with faculty. The class-size limit of 30 students guarantees a high level of interaction in the classroom, detailed feedback from faculty, and the support of a strong cohort. Individual field courses will generally have fewer students due to their concentration in the various tracks.
- It is embedded in the fervid research culture of three leading universities, benefitting from the expertise and research network of top-notch faculty. Not only are the rich variety of topics and methodological approaches covered in this program unique, the broad network employed/drawn on by participating faculty (with connections at MIT, NYU, LBS, and JADS, to name a few) is a valuable asset for future scholars. The Research Master Business Data Science will create and take advantage of the same excellent educational and research environment and facilities as the Tinbergen Institute Research Master program in Economics (henceforth referred to as TI), including existing practices with regard to student recruitment and placement support. The cooperation between the three Schools guarantees first-rate education provided by highly qualified scholars, embedded in an excellent infrastructure.
- In addition, the program helps students to jumpstart their PhD trajectory not only through solid training, but also with direct experience in research (provided during the seminars, research clinic, research hackathons, skill workshops, thesis, interaction with faculty, research assistantships opportunities), and teaching (e.g., teaching assistantships opportunities).

The Research Master Business Data Science is therefore highly distinctive from existing training in the field of data science: it is a Research Master's program that primarily focuses on training academic researchers who apply data science techniques in the discipline of business.

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## Study guide 2021-2022 Research Master's Program Business Data Science

### REGISTRATION WITH THE UNIVERSITIES

The Research Master Business Data Science (BDS) is a joint program of Erasmus University Rotterdam (EUR), University of Amsterdam (UvA) and Vrije Universiteit Amsterdam (VU).

Students are registered at three universities (EUR, UvA and VU). Erasmus University is the host university for the BDS program and charges the tuition fee. The students' grades are registered by Erasmus University. The degree that is awarded after the final examination is a joint degree (MSc) of the three partners.

Tuition fees are due until the final examination, the thesis, has been passed. The tuition fees are determined annually by the Dutch government and the universities.

The BDS research master program has its own Director of Graduate Studies (DGS), Admission Board, Examination Board and Educational Board.



## THE PROGRAM'S LEARNING OUTCOMES

Students who successfully complete the Joint Research Master Business Data Science will:

### **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 supply chain;

### **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.

## CURRICULUM

The Research Master in Business Data Science is a two-year program consisting of 120 EC. It is tailored to prepare recent Bachelor's degree graduates for PhD research and an academic career in one of the sub-disciplines in Business. The program is connected to three-year PhD research positions in the three participating faculties in Economics and Business but also prepares for research positions or a PhD at highly ranked universities elsewhere.

The learning objectives of the program are achieved through a curriculum designed around a Data Science foundation, a Business foundation and Research practice.

**Data Science Foundation - Acquiring skills.** In year 1, the primary objective is to build a solid data science foundation and expose students to a variety of methodological approaches. These skills are applied to various business disciplines in the field courses.

**Business Foundation - Building knowledge.** In year 2, students focus on a given business sub-discipline, selecting from among: 1) quantitative finance, 2) management science, and 3) supply chain analytics. The courses assigned for each of these sub-disciplines have been carefully selected by a team of experts with the aim of ensuring the perfect learning trajectory that will lead to substantive contributions in the fields of each particular sub-discipline. The quantitative finance specialization starts in year 1 of the program

**Research Practice - Aligning skills and knowledge.** The program starts with an overview of the business problems that data science can address (in block 0), which also exposes students to fundamental components of the different business fields. This early exposure helps students to absorb and process materials presented later in courses on methodology, with respect to the various business perspectives. Students become further acquainted with the different business fields during seminars held throughout the first year, for which they will have to write a research proposal, as well as during the research hackathon. The research hackathon makes students think about how to approach the problems that arise in the various disciplines, and puts their knowledge to the test. Finally, the research clinic and the Research Master thesis represent students' final moments of integrating business and data science, and will showcase their ability to identify relevant problems and address them using cutting-edge techniques to make a substantive contribution to the field. All courses are also open to current PhD students and students in the other ARC Research Master program who fulfil the prerequisites indicated in the Study Guide and in the course manual.

To further ensure a high research mindset, the lecturers of the program are selected experts from the three Schools and are top researchers in their field. Since classes are in small groups, teachers can be easily addressed by students. Students are stimulated to engage in research seminars and other activities and to make contact with the various research groups and individual researchers to explore research options.

Next to taking courses, students are encouraged to select a research topic for the final thesis and to actively explore potential supervisors. The final thesis is a research project, set up by the student under experts' supervision. The matching of students and supervisors, while largely the results of individual communication between the two parties, is supported by the DGS.

## COURSE CALENDAR 2021-2022

The courses are taught in blocks of eight weeks, with lectures during the first six (core courses) or seven weeks (field courses); the eighth week of each block typically serves as an exam week. Exception is block V which is extended by 2 weeks.

First-year (core) courses have weekly one-hour tutorials, taught by a teaching assistant, in which students work on and discuss homework assignments. In core courses, no graded homework may be assigned in the week prior to the exam.

Course attendance is mandatory; this applies to all core and field courses, the skills workshops, the research hackathon, the research clinic, the research seminar series and the personal growth workshop. Attendance is registered via attendance sheets.

The calendar for 2021-2022 is:

Block	Dates	
Block 0	August 23 - 27	Introduction, Business Foundations and Programming course
Block I	August 30 – October 15	Lectures
	October 18-22	Exams
Block II	October 25 – December 10	Lectures
	December 13 – 17	Exams
	December 20 – 31	Christmas Holidays
Block III	January 3 – February 18	Lectures
	February 21 – 25	Exams
Block IV	February 28 – April 15	Lectures
	April 18 – 22	Exams
Block V	April 25 – 29	Spring Break
	May 2 – July 8 or 15	Lectures and Exams

## FIRST YEAR OF THE PROGRAM

In case of any difference between the first year requirements in this study guide and the first year requirements as stipulated in the Academic and Examination Regulations for 2021-2022 (AER), the AER for prevails.

In the first year of the Research Master’s program students have to complete 60 EC:

- 11 core course blocks (44 EC)
- 2 field courses (3 EC)
- Principles of Programming in Econometrics (1 EC)
- Business Foundations (1 EC)
- Seminar series (2 EC)
- Skills workshop I: Scientific Integrity & Ethical Data Analysis (1 EC)
- Research Hackathon I (4 EC)
- Personal Growth (1 EC)

**Students with a sufficient background in econometrics replace Mathematics, Statistics and Econometrics I, II, III with advanced courses (see below). Students who select the quantitative finance specialization take Asset pricing and Empirical Asset Pricing in year 1 (blocks III and V).**

List of first year courses in 2021-2022:

Course name	Instructor(s)	ECTS	Block
Principles of Programming in Econometrics	Bos	1 EC	0
Fundamental Mathematics	Wagener	4 EC	I
Statistics	Spreij	4 EC	I
Econometrics I	Camehl	4 EC	II
Econometrics II	V.d. Klaauw, Bloemen	4 EC	III
Econometrics III	Koopman	4 EC	IV
Business Foundations	Dellaert, Dullaert, Huysman, Khapova, Menkveld, Stam	1 EC	0
Decision Theory for Business	Van den Brink, Estevez-Fernandez	4 EC	I
Supervised Machine Learning	Groenen	4 EC	II
Unsupervised Machine Learning	Schoonees	4 EC	III
Parallel Computing & Big Data	Engelberts	3 EC	II
Simulation Analysis & Optimization	Heidergott, Ridder	4 EC	IV
Deep Learning	Raviv	4 EC	IV
Natural Language Processing	Donkers, Morren	4 EC	V
TI-BDS Field course/ABRI Specialization Course		3 EC	V
Research Hackathon I	Lindner	4 EC	II, IV, V
Personal Growth		1 EC	I, II, III, IV, V
Skills Workshop I		1 EC	V
Seminar Series		2 EC	II, III, IV

Students with a **sufficient background in econometrics** replace Mathematics, Statistics and Econometrics I, II, III with the following courses:

Course name	Instructor(s)	ECTS	Block
Advanced Mathematics	Wagener	4 EC	I
Asymptotic Theory	Spreij	4 EC	I
Advanced Econometrics I	Bos, Koning	4 EC	II
Advanced Econometrics II	Kleibergen, Pick	4 EC	III
Advanced Econometrics III	Koopman, Boswijk	4 EC	IV

Students who select the **quantitative finance track** take Asset pricing in block III in the first year and Empirical Asset Pricing in block V of the first year, and postpone the start of the Research Hackathon to year 2.

Course name	Instructor(s)	ECTS	Block
Asset Pricing	Laeven, Vellekoop	4 EC	III
Empirical Asset Pricing	Andonov, Eiling	3 EC	IV

The courses (Advanced) Mathematics, Statistics, Asymptotic Theory, (Advanced) Econometrics, Asset Pricing and Empirical Asset Pricing are joint courses with the Tinbergen Institute Research Master program.

For course descriptions we refer to the [website](#) and [Intranet](#) (account required).

See below the table for Year 1, listing blocks and courses in a chronological order:

Block	Business and Data Science	(Advanced) Mathematics and Statistics	Research
0	Business Foundations	Principles of Programming in Econometrics	
I	Decision Theory for Business	Fundamental or Adv Mathematics; Statistics or Asymptotic Theory	Seminars, Personal Growth
II	Supervised Machine Learning; Parallel Computing and Big Data	Econometrics I or Advanced Econometrics I	Seminars, Personal Growth
III	Unsupervised Machine Learning	Econometrics II or Advanced Econometrics II	Seminars; Research Hackathon*, Personal Growth
IV	Simulation Analysis & Optimization; Deep Learning	Econometrics III or Advanced Econometrics III	Seminars; Research Hackathon*, Personal Growth
V	TI-BDS Field course/ABRI Specialization Course; Natural Language Processing		Skills Workshop; Research Hackathon*, Personal Growth

**\* Students who select the quantitative finance specialization take Asset pricing in block III in the first year and Empirical Asset Pricing in block V of the first year, and postpone the start of the Research Hackathon to year 2.**

At predetermined times throughout the first year, the DGS interviews students to discuss their progress in the program.

At the end of the first year, only students who have earned at least 48 ECTS from the first year courses and who attended the seminar series can continue to the second year of the program. Students will also need to meet additional entrance requirements specific to each second year course.

## Seminar series

Throughout the first year, seminars are held which introduce all research groups connected to the program and discussing relevant topics and research questions in the corresponding fields.

In the seminars, scholars relate ongoing research projects in their research groups. After having attended all seminars in the series, students select a research topic and address a professor who is

not teaching in the first year of the program. Students write a research proposal (2-3 pages) and discuss the proposal with the researcher.

The seminar series facilitates the matching process between students and prospective supervisors and introduce researchers to students who they did not (yet) encounter in the class room. The research seminars are organized at the Amsterdam and Rotterdam campus.

Active attendance of all seminars is mandatory and will be checked by means of attendance sheets. Signing off for fellow students is considered fraud and will disqualify both students for the 2 EC for the seminars. Further penalties may be imposed by the examination board.

## Research Hackathon

This course allows students to put their methodological knowledge to the test and to address business research questions that are of high academic and managerial relevance. It offers an important meta-learning experience, connecting all the teachings preceding the course and thought simultaneously.

The assignment can be further developed into a research paper in year 2, during the Research Clinic, and during the second Research Hackathon where the second-year students can up their game, moving their work away from a student-assignment type of output and closer to a research publication.

For this course, students are expected to have prior experience with one or more high-level programming languages, such as R, Python, C++, and MATLAB. And to work with LISA.

Students are expected to bring their own laptop.

## Skills Workshop 1

The skill workshop series enables students to fine-tune skills needed for a successful academic career. The series opens by tackling important issues related to the scientific integrity, transparent algorithm and ethical data management, which are highly relevant for a business data scientist.

## Field courses block V

Next to the Natural Language Processing course, students select one field course.

- Students interested in Quantitative Finance are expected to take Empirical asset pricing.
- Students interested in Supply Chain Analytics are expected to take Integer Linear Programming.
- Students interested in Management Science can selected one course from of the ABRI specialization seminars in Marketing, HR and Organization Behavior, Research on Digital Innovation and Strategy and Entrepreneurship.

## Personal Growth

The first Monday of every block is reserved for your own personal growth. In block 1, we launch this initiative with a workshop by a professional. To highlight the importance of a healthy work-life

balance, we reward your focus on your own personal growth (on activities not related to your study program) with 1 EC.

### Registration for and withdrawal from courses

First-year students do not have to register for courses in blocks I and II; starting from block III onwards, students have to register for the courses of their choice.

### Assessment, grading, credits, and retakes in the core

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. The final grade for a course block is rounded to the nearest multiple of .0 or .5, with the following exceptions: any grade between 5.0 and 5.5 is rounded to a 5; a 5.5 is rounded to a 6; a 0.5 does not exist. Grades for homework or midterm examinations do not need to be rounded.

The Business Data Science program does not schedule retakes. Failed exams in the first year cannot be retaken in the same academic year. Instead, students should retake failed first year courses in their second year in the program. Students cannot re-sit examinations that they have already passed or for which they have earned credits.

A compensation rule applies to students who have completed the Seminar series and have earned at least 48 ECTS for first year courses by August 1 of the first academic year. Students may 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 up to two courses in the core course sequence B. The compensation rule applies across years. Core course sequences are:

- **Course sequence A:** (Advanced) Mathematics/Statistics/Asymptotic Theory/(Advanced) Econometrics i-iii;
- **Course sequence B:** Supervised Machine Learning/Unsupervised Machine Learning /Deep Learning/Natural Language Processing/Decision Theory for Business/Simulation Analysis & Optimization.

### Right of inspection

As soon as possible and 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. Inspection of the assessed work can only take place while the student is supervised by the examiner or an employee of the TI education office. A student may lodge an appeal with the Examination Board against the way in which the result was reached within six weeks of the announcement of the result.

## Checklist year 1

- Students complete 60 EC in year 1
- Course attendance is mandatory
- Students need to register in Osiris for Block III and V courses
- Students with a strong background in econometrics take advanced courses in statistics, mathematics and econometrics
- Students who want to take the quantitative finance track take the finance courses in blocks III and V and postpone the Research Hackathon to year 2
- Students have to complete 48 EC of first year courses for access to year 2 of the program
- Compensation rule allows under conditions to compensate insufficient grades (fives)
- No retakes scheduled

## SECOND YEAR OF THE PROGRAM

The requirements in this section apply to the 2020 cohort of Research Master students.

In case of any difference between the second year requirements in this study guide and the second year requirements as stipulated in the Academic and Examination Regulations for 2020-2021 (AER), the AER for prevails.

In the second year students complete 60 EC in total: at least 5 field courses (3 EC each), the course Bayesian Econometrics (3 EC), a Research Clinic (5 EC), a Skills workshop (4 EC), a Research Hackathon (3 EC) and a thesis (30 EC).

**Students who took the finance specialization in year 1, take 3 field courses (instead of 5) and take the Research Hackathon together with the first year students.**

### Program for year 2:

Block	Business and Data Science	(Advanced) Mathematics and Statistics	Research
I	Field Course 2; 3; 4		
II	Field Course 5	Bayesian Econometrics	Research Clinic
III	Field Course 6		Skills Workshop II; Thesis
IV			Research Hackathon; Thesis
V			Thesis

Students are expected to complete their thesis and at least three field courses in their track of choice, selecting from:

- Quantitative finance
- Management science
- Supply chain analytics



The field specific courses for 2021-2022 are listed [here](#). Note that field courses may be cancelled in case there are fewer than five registered students.

Students who want to take external courses for credits need permission from the Examination Board (see below). The program allocates typically 3 credits to any field course, including external courses, irrespective of the number of credits allocated to the same course elsewhere.

The thesis is a research project, set up by the student under experts' supervision. The matching of students and supervisors, while largely the results of individual conversations between the two parties, is supported by the DGS.

Students are strongly advised to complete all modules of the program before the end of the second academic year (i.e. within 24 months). Any extension beyond August 31 complicates the matching to PhD employment positions and involves the payment of tuition fees for (part of) the third academic year.

### Research Clinic

This course is designed to stimulate students to generate new research ideas drawing from the existing literature. Identifying a relevant research question is not a trivial task. This course focuses on addressing a relevant problem statement. In many cases, the input for this research will be drawn from the existing literature, although it may also involve the use of computer-generated data. Its focus embraces aspects of business, and data science.

### Skills Workshop 2

In the second year, practical aspects related to how to handle the review process, and grant applications will be discussed. In these workshops, writing and positioning skills are emphasized. The series closes with a workshop on presentation skills for research talks and conference presentations.

### Assessment, grading, credits, retakes and inspections in the second year

Assessment methods for field courses are a combination of class participation, presentations in class, essay assignments and take-home or sit-in examinations. No retakes are scheduled for field courses.

Field courses are graded along the same lines as core courses. The program does not schedule retakes. Instead, students can take another field course or write a field paper to replace the failed course.

Inspections follow the rules for the core courses explained above.

### Registration for and withdrawal from courses

Second year students register via Osiris for the full program of second year courses and a field paper (if applicable). Students also need to register for first year courses they have to retake.

**Registration deadline:** July 15, 2021. Changes in the selection of courses after this date requires explicit support in writing of the student's supervisor and needs the DGS' approval.

Important note: field courses may be cancelled in case less than 5 students sign up for a course. If a course is cancelled, an additional course can be selected by affected students.

Students who want to withdraw from one of their registered courses should inform Carine Horbach by email ([courses@businessdatascience.nl](mailto:courses@businessdatascience.nl)) no later than the first Sunday after the first lecture.

In general, students are only allowed to register for field courses if they have earned at least 48 ECTS of first year's credits including the seminar series. Furthermore, students have to meet the entrance requirements that are specified for each individual course.

## Taking external courses

Taking external courses for credits needs to be approved by the examination board (see below). The university may charge a tuition fee for the course and additional requirements for participants may apply. Carefully check the university deadlines. Urgent advice is to start the procedures at least 2 months before the start of the course. Costs are only reimbursed if the DGS has advised to take the course.

- Courses at Erasmus University Rotterdam: check [here](#).
- Courses at Vrije Universiteit: check [here](#) (registration form is in English)
- Courses at University of Amsterdam: check [here](#).
- Courses of the national MasterMath program: check [here](#).
- PhD courses of the Dutch Network on the Mathematics of Operations Research: check [here](#).

## Thesis writing and matching to a supervisor

The Research Master thesis represents the students' final moments of integrating business and data science, and will showcase their ability to identify relevant problems and address them using cutting-edge techniques to make a substantive contribution to the field. In the first year of the program, students are encouraged to select a research topic for the final thesis and to actively explore potential supervisors. The matching of students and supervisors, while largely the results of individual communication between the two parties, is supported by the DGS.

Timeline for the thesis in the second year of the program:

- March/April in year 1: meeting with DGS on research topic and potential supervisor
- September/December: students who did not find a supervisor will be assisted
- January: official start of the thesis trajectory
- August: end of the thesis trajectory

The thesis manual published on the Intranet gives details on requirements and assessment, the student's and the supervisor's responsibilities and procedures. Students match up with a master thesis supervisor before block V in the first year of the program, and no later than December of the second year.

Master thesis supervisors are available at the three Schools participating in the BDS research master. Under conditions and with permission of the DGS, students are allowed to work with a thesis supervisor from another school and/or university. The assessors of the thesis must be faculty members of one of the three partners in the BDS research master's program.

The matching with a supervisor is largely a result of individual conversations between the student and the supervisor. While there is no formal registration process, the DGS can only support the matching process effectively if all students inform Judith van Kronenburg ([thesis@businessdatascience.nl](mailto:thesis@businessdatascience.nl)) via email of their matching process. If there are difficulties in the matching process, students contact the DGS ([dgs@businessdatascience.nl](mailto:dgs@businessdatascience.nl)).

The three faculties participating in the Business Data Science Research Master Program have PhD positions available for students who have completed the program. In many cases, the thesis supervisor will fulfill the role of PhD thesis supervisor. The DGS updates the students towards the end of the first year about the number of expected PhD positions at the three universities. Students are advised to check with their thesis supervisor under what conditions they can transfer to a paid PhD position with that same supervisor. Students are also encouraged to investigate externally funded PhD opportunities available at the Schools. To facilitate this, potential supervisors present to students their externally funded PhD projects.

Note that PhD positions are given by the faculties and that the DGS has no influence over the number of positions or the distribution of positions to specific supervisors. In a typical year, all students who perform well and pass the research master program can transfer to a PhD position. However, as the faculties and not the DGS provide PhD positions, the DGS cannot guarantee a PhD position for all students.

All theses are checked for plagiarism.

The official defense of the thesis can only take place if the student has earned the credits for all other study units (core and field courses, skill workshops, seminars, research hackathon, research clinic, personal growth).

Students are strongly advised to complete all modules of the program before the end of the second academic year (i.e. within 24 months). Any extension beyond August 31 complicates the matching to PhD employment positions and involves the payment of tuition fees for (part of) the third academic year.

A graduation ceremony is organized each year, usually in November.

## Seminars

Faculty members organize a wide variety of seminar series and conferences. Student participation in seminars is highly recommended. However, no course credits are allocated. Seminar schedules can be found [here](#).

## Checklist year 2

- Students complete 60 EC in year 2
- Track: students complete at least 3 field courses and the thesis within their track of choice
- Students register before July 15 of the first year in Osiris for the full 2<sup>nd</sup> year course program and for retakes from year 1
- No retakes are scheduled
- Course attendance is mandatory
- For taking external courses: start procedures at least 2 months before the start of the course. Formal approval of the Examination Board and DGS is required.
- The thesis defense cannot be scheduled before the credits for all other study units have been earned
- Tuition fees and registration with the universities are due until the final examination, the thesis, has been passed.

## USEFUL INFORMATION

### The Academic and Examination Regulations

The Academic and Examination Regulations (AER) for the BDS research master program are published on the Intranet. The AER lists the requirements for the program, rules for cum laude, has an extensive chapter on plagiarism and misbehavior and defines the rights of the students.

### Plagiarism

Students are strongly advised to carefully study the chapter in the AER that defines plagiarism. Plagiarism is considered as a serious offense. The program is using electronic software to detect plagiarism in assignments, written examinations and papers submitted by students. Plagiarism identified or suspected is always reported to the Examination Board. The Examination Board decides on appropriate measures against the student.

### The Examination Board

The Examination Board serves two research master programs: the Tinbergen Institute research master program and the Business Data Science program. The Examination Board is responsible for the quality of examinations and diplomas.

The Examination Board consists of four members, one of each faculty participating in the research master programs and one external member. The responsibilities and tasks of the Examination Board are explained in the Academic and Examination Regulations and in the Rules and Regulations for the Examination Board (available upon request). The Annual Report of the Examination Board is available upon request.

Students may contact the Examination Board for the following reasons:

- The Examination Board decides on deviations from the curriculum that may have a bearing on the diploma. Therefore, any requests for items such as replacement of parts of the curriculum through courses provided by third parties, exemptions, postponement of deadlines should be sent to the Examination Board.
- Students who miss an examination due to e.g. verifiable illness may ask for a re-sit in the same academic year.

Requests for exemptions or deviations from the curriculum must include a motivation. The Examination Board will make a decision within three weeks of receiving the request. Requests must be addressed to [examinationboard@tinbergen.nl](mailto:examinationboard@tinbergen.nl). More information can be found on intranet.

The Examination Board may take measures against a student in case of fraud, plagiarism or misbehavior.

## Lodging an appeal

Students who wish to lodge an appeal against the result of an examination, an Examination Board decision or a decision regarding admission to the program, can submit a written, detailed notice of appeal to the Examination Appeals Board (COBEX) of the Erasmus University. Please follow the procedure of Examinations Appeals Board that are mentioned on the [university's website](#).

## The Educational Board

The Educational Board serves the same two research master programs as the Examination Board.

The Educational Board consists of six members. Three members are from the programs' teaching staff and/or research fellows; three members are research master students in one of the programs.

Student members are nominated by the students after elections and are appointed by the Faculty Board of the university of enrolment. Student members are appointed for 2 years. Members are listed on the website. The rules and regulations as well as the annual report of the Educational Board are available upon request.

The Educational Board issues advice, both solicited and unsolicited, to the Directors of Graduate Studies on all matters concerning the educational program, with the objective to maintain or improve the quality of the program. The Educational Board's advice may concern all aspects of the program including composition of the curriculum, student facilities and teacher quality.

The student members organize an annual comprehensive program evaluation the outcome of which is discussed in the Educational Board meeting.

Students are free to contact Educational Board members with any concerns they may have about the program.

## The Student Council

The Student Council is an independent student body that both informs and advises students, and organizes regular social events. For composition and agenda see the website.

## Facilities

The program supports students with various facilities, such as office space and reimbursement of travel expenses between Amsterdam and Rotterdam for coursework.

## Admission

The BDS research master program is a selective program. Selection of students is done in a careful selection process. Admission requirements are listed on the website.

## Funding

The program awards scholarships to selected students based on merit. Scholarships and tuition waivers are granted by the Admission Board. Students who accept a scholarship or tuition waiver are obliged to sign and thereby accept the scholarship regulations.

For second-year students, additional funding is offered by the faculties through research and/or teaching assistantships. These jobs offer valuable teaching and research experience. Students are encouraged to check job openings at the three faculties. Open positions are also advertised on the Intranet.





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