

HANDBOOK
DUAL MASTER BUSINESS ANALYTICS

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1 Introduction

This handbook is provided for information purposes and is primarily intended for students (and prospective students). It offers a guide to the work period which form part of the Dual Master Business Analytics program.

The Business Analytics (BA) master's dual program is two years in duration. During the first sixteen months, students are required to divide their time equally between work and study. The final six months is devoted to the graduation project. The dual master's is therefore very similar to a traditional 'sandwich course' in which study and work are fully integrated. You are an employee and a student at the same time. You are on the payroll of the host organization (for which you will conduct work which is of direct relevance to your study program), and you will also attend lectures, sit examinations, etc. The Vrije Universiteit Amsterdam has established contacts with many large companies in order to realize this particular combination of learning and work experience. These companies acknowledge the importance of 'on-the-job' learning and the need to acquire an adequate theoretical grounding. Moreover, they are all large enough to offer good development opportunities, whereby students starting the dual master's program will be required to undertake less 'heavy' work than those in the latter stages. Should you decide to join the host organization after graduation (if indeed you are invited to do so), you will be thoroughly familiar with the organization and what it does. Remember that this works both ways: the organization will also know you very well!

Because many of the individual subject courses are assessed on the basis of practical work, it is possible to complete the dual variant program within 2 years, to include the graduation project (which is a mandatory component of the Business Analytics program).

The work period itself carries a value of 48 EC (including the final internship) or 12 EC excluding the internship. It is also possible to obtain 6 EC by producing a report of a case study taken from the immediate work setting for your Research Paper Business Analytics. Accordingly, a total of 54 EC can be obtained directly from work experience, being the equivalent of almost one year of the program.

Admission to the dual Master's program is granted to those who have a Business Analytics Bachelor's degree. For those with another university Bachelor's degree, such as Mathematics, Econometrics, Computer Science, or a Bachelor's degree from an institute of higher education, admission may be granted on an individual basis. Those seeking admission to the dual Master's program should realize that admission also depends on obtaining suitable employment. The Vrije Universiteit Amsterdam has contacts with a number of companies that are interested in participating in this program.

For more information concerning the dual master's program, contact the [internship coordinator](#) or the master coordinator.

2 Difference between a dual work period and an internship

There are clear differences between the work period undertaken as part of the dual master Business Analytics and the Master Project Business Analytics internship.

- In most cases, you are employed by the host company on a fixed-term contract and are therefore officially on that company's payroll. The internship student rarely has the same status.
- Your working activities will be more closely involved with the host organization's primary business processes. An intern will usually be required to undertake an assignment which will (or may be) of importance to the organization only at a later date.
- You will often be required to work with others in a team setting, whereby it may not be possible to identify clearly your own contribution or the products for which you are (individually) responsible. The intern usually works alone.
- Your work period is of fixed duration, whereas the internship can sometimes be extended if more time is required to complete the assignment (for at most with two months).
- The assessment takes specific and significant account of your performance during the work period, whereas the assessment of an internship relies more on the final report.

3 Content of the dual Master Business Analytics program

Students can choose between the three specializations, or 'tracks', of the dual master Business Analytics program:

- Optimization of Business Processes
- Risk Management for the Financial Sector
- Computational Intelligence.

Specialization is not mandatory; you may select and combine subject courses from different tracks. However, the logical approach would be to select a combination of subject courses which are particularly relevant to your work and/or career plans.

The Business Analytics program strives to achieve an appropriate balance between subjects which are regarded as absolutely essential to good professional performance, and those which reflect the most recent developments in business practice. New courses are regularly added to the curriculum while existing courses may be updated.

The dual Master's program combines work and study. During this program the student is employed part time, and studies part time. The work has to be relevant for the study and the dual work period is granted with 12 EC. Moreover, it is possible to do the Research Paper Business Analytics (6 EC) on a case-study that is work related, provided the case-study is combined with a sound theoretical basis. Often, the external master project is carried out at the same organization as the dual work period. So, both the Research Paper Business Analytics (6 EC) and the Master Project internship (36 EC) could be directly related to the work itself. This makes the total of work related credit points 54 EC, being almost the equivalent of one year of study. In most cases, the Master Project internship will be undertaken during the final phase of the overall master's program, and will culminate in the production of a report. The students can only start their internship or Master Project after having finished the compulsory Research Paper Business Analytics (6 EC) and having completed all but possibly one program component.

A minimum of 66 ECTS must be obtained from the individual subject courses. The total value of the dual master Business Analytics program is therefore 120 EC.

Note: Every program, including the choice of optional courses, has to be discussed and agreed upon with the master coordinator and approved by the Examination Board. And every dual work needs to be approved by the [Internship Board](#).

4 Admission

If you wish to apply to join the master's dual program, the university will assess your prior qualifications and experience to determine whether there are any gaps in your knowledge.

Holders of a bachelor's degree in Business Analytics are automatically eligible for admission to the master's program. This can be either the 'standard' degree or the dual master. Applications from those with a bachelor's degree in a subject other than Business Analytics (e.g. Mathematics, Computer Science, Econometrics), and holders of a higher education diploma (Dutch HBO or equivalent) will be considered on a case-by-case basis.

Applicants may be required to complete a pre-master's course to resolve any gaps in their existing knowledge. The greater the distance between the applicant's prior education and the Business Analytics profile, the more likely such gaps will be. In all such cases, consultation with the mastercoordinator is essential. The university attempts to permit as many students as possible to complete the dual master's degree, provided the quality of the program is maintained at all times.

5 Application

If you are able to meet all the requirements for admission (see the study guide) and would like to take the dual master, you should contact the relevant [coordinator](#). Having done so, you can begin to look for a suitable host organization. In consultation with the coordinator, you will apply to one or more companies. Of course, you can state your preference for a certain company. Wherever possible, you will also be allowed to select the type of work you are to undertake.

It falls to the host organization (partner company) to decide whether you are a suitable employee, whether you will be able to achieve the desired career development, etc. In other words, the host organization must determine whether 'your face fits'. You will therefore be required to go through the regular application procedure just like any other prospective employee. If successful, you will join the payroll of the organization and will receive a regular salary. You will have a job description and you will be subject to the usual performance appraisals, etc.

The coordinator of the dual master Business Analytics program will assess the suitability of any position offered. The formal approval of the Internship Committee Business Analytics is also required before you can actually take up employment (see also Dual master programme work proposal Business Analytics on Blackboard). The Vrije Universiteit Amsterdam will attempt to ensure that the work experience you will gain, adequately reflects all aspects of the academic program, i.e. mathematics, business and computer science.

Direct supervision of your day-to-day activities is provided by the host organization. However, the university is also closely involved in that the quality of your academic work will also be subject to regular assessment. There will be frequent contact and consultation between yourself, the university and the host organization throughout the program.

6 The Contract of Employment and Insurance

You will enter into a standard fixed-term contract of employment with the host organization. You will be an official employee of that organization and will receive a regular salary. The contract is signed between the employer (the host organization) and the employee (yourself).

If you have any questions concerning the provisions of the contract, you should contact the host organization's personnel (HRM) department or optionally the dual master program coordinator.

Certain types of insurance cover may be required, depending on the exact nature of the work you are to perform. This is either the responsibility of the employer or of the employee (yourself). The host organization's personnel (HRM) department will be able to advise you.

Remember that you will also require health insurance. It may be possible to obtain this through the employer under a collective policy.

7 Coaching and supervision

You will study and work at the same time. Coaching and supervision in the workplace will be provided by the host organization itself, just as for any other employee.

During the work period, you will work under the direct supervision of a member of the host organization's staff (the 'external supervisor'). The coordinator of the Business Analytics dual master Business Analytics program acts as the 'internal supervisor' (for the Vrije Universiteit Amsterdam). The internal supervisor will maintain regular contact with both the external supervisor and yourself during the work period. In principle, this contact is concerned only with the progress of the work period, and not with any practical day-to-day matters. You are responsible for preparing for your meetings (agenda, report, recording the agreements made, etc.)

Your study activities at the Vrije Universiteit Amsterdam will be supervised by the faculty staff. Our university is renowned for the high level of coaching and guidance provided to its students. However, this is only available during the time you are actually studying at the university. The success of the dual 'study and work' formula depends on all parties working together effectively. The university will therefore wish to remain in close contact with the host organization for the work period.

During the final phase of the dual master Business Analytics program, students undertake an 'integrated internship' (=Master Project), during which supervision is more intense. You must demonstrate that you are able to produce results of a high academic quality. While there will, of course, be some supervision from the host organization, you will be able to rely on greater help from the university and a supervisor will be appointed to coach and supervise you. From time to time there will be 'three-way communication' between yourself, the host organization and the Vrije Universiteit Amsterdam.

8 The report

You are required to produce a written report of your activities during the work period, and to do a presentation at the Vrije Universiteit Amsterdam. The report will describe the activities you have undertaken and should clearly demonstrate an understanding of the structure of the organization.

8.1 Contents

The report should describe the following aspects.

- The organizational structure of the company and the department in which you worked.
- The project in which you took part.
- The activities which you conducted.
- The relationship between these activities and the Business Analytics program.
- The supervisors (internal and external) and their input.

This assumes participation in only one project. If you are involved in more than one project, each should be described separately)

8.2 Sections and chapters

The report consists of the following sections and chapters:

- Front cover
- Title page
- Preface
- Table of Contents
- Organization: a description of the host organization, perhaps including its mission statement, a brief account of its history, recent developments, etc. You should also include an organizational chart. Establish the organization's position within its sector or industry (competitors, market share, etc.)
- Department: a description of the department in which you worked, its tasks and responsibilities. Place this information in the context of time (past and future), listing some significant projects. Describe the position of the department within the organization as a whole (using the organizational chart), and include an organizational chart for the department itself.
- Project: a description of the project (or projects) on which you worked. What was the objective and why was it implemented? Describe the products achieved thus far and those yet to be attained, together with a timeline. How are tasks and responsibilities divided among the project team members, and what is their relationship with the tasks of the department as a whole?

- Activities: a description of your own activities and input. What exactly did you do? Your responsibilities? Which products did you (help to) create? Include a timeline.
- The relationship between your work activities and the Business Analytics program: state which subjects were relevant to the work, whether any gaps in your knowledge became apparent, and what new knowledge or experience you gained during the work period.
- Appendices: literature and references, contact information for the organization and external supervisor(s). The organizational chart(s) may be included as an appendix if this helps to make the report itself more accessible.

The above list is provided as a guide rather than as a set of instructions. You may find it appropriate to combine certain sections or to devote more than one chapter to certain aspects.

8.3 Confidentiality

The host organization may regard some of the information in your report as confidential. It is your responsibility to ensure that confidentiality is respected at all times. Your report will then cover the relevant aspects in as much detail as possible without divulging information of a confidential nature.

8.4 Submitting your report and your presentation

You must submit a digital version of the report within two months of completing your work period to the [coordinator of the dual master Business Analytics](#), and to the external supervisor. Remember that the contents of the report could be made public. Besides your report you must give a presentation about your work period at the university. You are allowed to give your presentation until two months before completing your work period, and it has to be within two months of completing your work period. Therefore you have to contact the dual work coordinator and discuss a date and time. One of the other internship committee Business Analytics members will also attend your presentation. Preferably several dual students give their presentation at the same day. The other master students of the (dual) Business Analytics program, and students from the bachelor Business Analytics program will be invited for your presentation.

9 Assessment

The dual master Business Analytics coordinator will, in consultation with a member of the internship committee Business Analytics, and the external supervisor, give an overall assessment of the work period. This assessment will take into account the level and the manner in which the required activities were performed, the resulting report (where applicable), the presentation, and the [assessment forms](#) (to be completed by the external supervisor). The coordinator also contact your supervisor at the company to discuss the grade.

10 Useful addresses

Dual master Business Analytics coordinator:

[Annemieke van Goor](#)

Room R4.51

Telephone number: 020 598 7496

Master coordinator Business Analytics

[René Swarttouw](#)

Room R4.26

Telephone number: 020 598 7787