

**The development of the educational MSc. Programme
from BMVB and RE&H to MBE**

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Dear is durable

A single, perfectly spherical red drop of liquid is suspended in mid-air, centered above a series of concentric ripples that spread outwards from a point directly beneath it. The background is a deep, dark purple, and the ripples are highlighted with a bright, glowing white light, creating a strong contrast. The overall composition is symmetrical and centered.

Liber Amicorum for Hans de Jonge

Liber Amicorum for Hans de Jonge

Dear is durable

Presented on 30 September 2016
at the farewell of Hans de Jonge as professor of
Real Estate Management and Development
at the Faculty of Architecture of the
Delft University of Technology

Delft / 2016



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Management in the Built Environment

formerly: Real Estate & Housing



Photo: Erwin Heugens

The development of the educational MSc. programme: from BMVB and RE&H to MBE

Matthijs Prins and Fred Hobma

Origins and start of the educational programme

Officially the Department of BMVB ('Bouwmanagement & Vastgoedbeheer', in English: Real Estate & Project Management) started in September 1992 as a consequence of the demand from professional practice for a broader study profile at the Faculty of Architecture. More specifically, as stated in the first lustrum book of the Department Vijf jaar Bouwmanagement en Vastgoedbeheer' (5 years of BMVB; Krumm, P. red., 1996, DUP, Delft), the origins of the Department can be dated back to the report of the so-called "Verkenningcommissie", installed by the Minister of Education in 1987 to assess the programs of the Delft and Eindhoven Universities of Technology. In their first report, this committee formulated task profiles, one of them being 'project and process manager'. The committee stated that the faculty, with 80-90% of the students finishing their studies in the field of design, did not sufficiently respond to the market: less than 50% of the faculty's graduates actually got a job as an architect or urban designer. A statement which still has its relevance today.



The leading principles for our new curriculum are to strengthen its scientific base, and to provide a program in which students orientate themselves along the full width of the domain and also have sufficient possibilities to specialize themselves.

The final report of the committee (1989) advised the Minister to reform the entire architectural education in the Netherlands. A turbulent period started in which both faculties of architecture (TU Delft and TU Eindhoven) chose to continue and finally were provided with the possibilities to do so. The Faculty of Architecture of the Delft University of Technology explicitly made the choice for a broader educational profile, which resulted in the start of the Department of Real Estate & Project management, currently called Management in the Built Environment (MBE). Hans de Jonge was appointed as one of the enthusiastic founders of the new Department and its educational programme. For many years, Hans chaired the Department with a strong will to build and maintain a flourishing community of researchers and lecturers.

European influences

At the same time, more or less in line with the above, the European Commission on Architects' education finalised the so-called 'Article 3' Special requirements, which are still valid today. The requirements

refer to the education of architects in the member states of the EU, such as: insight in social, client and users factors when realising architectural projects, attention for the human factors in relation to the built environment, and the ability to realise projects within the constraints of budgets and legal/organisational requirements combined with insight into procedures and processes of decision making. A few years later, based on the UIA (International Union of Architects) rules as well, the BNA (Royal Society of Dutch Architects) came up with similar requirements and wishes.

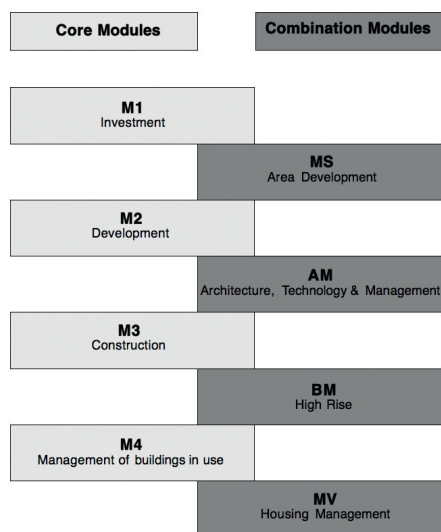
BMVB: The Department's first curriculum (1992-2001)

Due to the perseverance of the initial chairs Hans de Jonge and Bas Menheere, early staff members like Hans Baller, Sjoerd Bijleveld, Kees Gerritse, Ep Huttinga, Frits Seyffert, Jo Soeter and Hans Valk, and the enthusiasm of the first students and participating professionals from practice, the new Department of BMVB grew rapidly. Initially the educational programme was mostly economic and cost based and constructed from modules taken from the existing Architects curriculum and the faculties of Civil Engineering and Philosophy and Social Sciences. However, already in its first year the Department rapidly developed its own specific graduation programme.

The Comb

Characteristic of this first curriculum of BMVB is its interrelatedness with Architecture, Urbanism, Technology and Social Housing in the so-called combination-modules (AM, BM, MV, MS). Besides these combination modules the Department had its own specialized core modules (M1-4), each representing the managerial aspects of one specific phase of the real estate life cycle: Initiative, Preparation, Construction and Use. The core modules had an emphasis on the acquisition of knowledge, the combination modules an emphasis on insight and skills. Simulation games were used to train students in very realistic settings. This program, that was based on three months periods, is often referred to as 'The Comb'.

Actually this initial period provided an undivided five year program, with two years of generic design training and a three year specialization in five tracks, including Real Estate & Project management. This was vital to the profile of a design based management curriculum. In the first years the program attracted so many students that it rapidly became the second largest program in the school.



The Department's first educational program: the 'comb structure'

RE&H: The Department's second curriculum - Introduction of the BSc/MSc structure

From 1999 the Department was forced to a quick adaptation to the new Bachelor-Master structure (BaMa): the EU Lisbon agreement wanted a EU harmonisation of educational systems that would facilitate international exchange of students. This entailed introducing a new diploma structure as well as a new semester based curriculum. More or less at the same time the Department of Real Estate and Project management merged with the Department of Housing. Three new themes were added to the curriculum: Design Management (as an articulated part of Design & Construction Management - DCM), Urban Area Development (UAD, later renamed as Urban Development Management, UDM, as part of Real Estate Management - REM) and Housing (H). The change to the BSc-MSc system also entailed a change from a system with a two year base program and a three year specialization into a three year BSc program followed by a two year specialization leading to a MSc degree. A new name of the Department was chosen: Real Estate & Housing (RE&H). Real Estate & Housing also became the name of one of the four tracks within the MSc Architecture, Urbanism and Building Sciences. Thus, the faculty chose for one MSc holding four tracks.

A sharp rise in the number of staff employed at the Department followed. Because of the change to the 'BaMa' process, the graduation period was shortened from three to two years. For the Department these adaptations entailed a range of major changes for the organisation, the research programme as well as the educational programme.

Matrix Structure

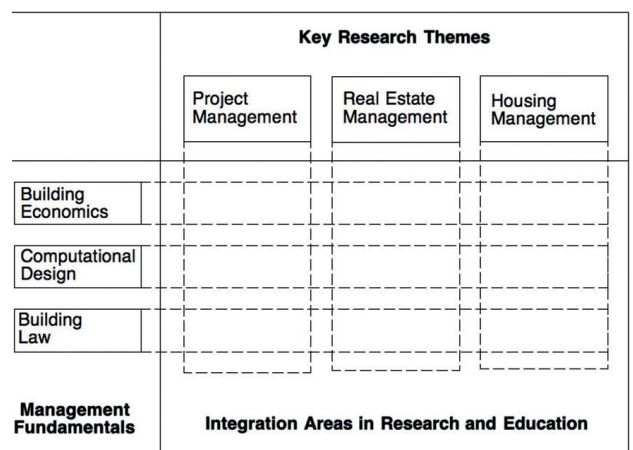
The Department developed a matrix structure of its organisation around the three full chairs (Design and Construction Management, Real Estate Management, and Housing) and three so-called 'Constituting Fundamental Disciplines': Building Law, Building Economics, and Building Informatics.

Taxonomy

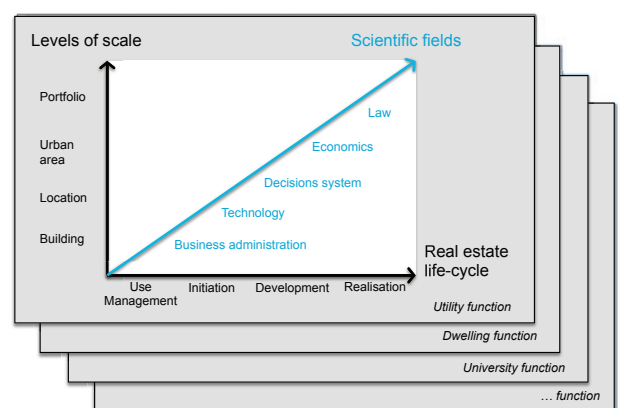
In terms of the taxonomy of the domain, there was a gradual shift from a primarily life cycle oriented perspective to a broader formulated integration perspective, as depicted in the figure below. This new approach more adequately addressed the different scopes of the variety of interests and groups within the Department and reflected broader developments within the research domain and profession.

Taxonomy of the RE&H domain

The combination modules of 'The Comb' got lost in the redesign of the curriculum (except the 'BM' combination, also known as 'High Rise', which still exists as a free elective till today). The different MSc tracks focused on their own core programme as a result of a shorter, two-year MSc track. In terms of both education and research the new programmes were modelled on the Department's new organisation scheme in which the three main full chairs were leading with the fundamentals as prime integration areas.

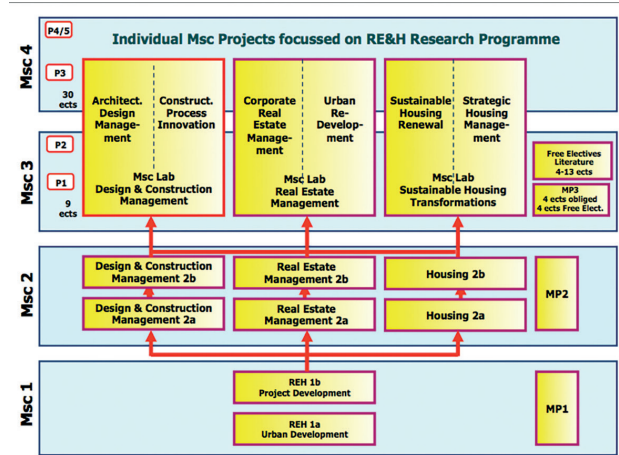


Matrix structure of the RE&H Department, with three full chairs and three fundamental constituting domains.



Taxonomy of the RE&H domain

Leading principles for this new curriculum were to strengthen its scientific base, providing a program in which students must orientate along the full width of the domain, but must also have sufficient possibilities to specialize themselves. Problem-oriented learning was introduced and the time schedule was based on semesters. The broad orientation was given in semester 1, specialization (intended to be foremost skills based) into one of the three main focus areas in semester 2, and a laboratory based individual research graduation project in semesters 3 and 4. In 2002 the new program, as depicted in the figure below, was implemented for the first time. The Master curriculum had to be offered in English from that time on.



RE&H curriculum after the BaMa reorganization.

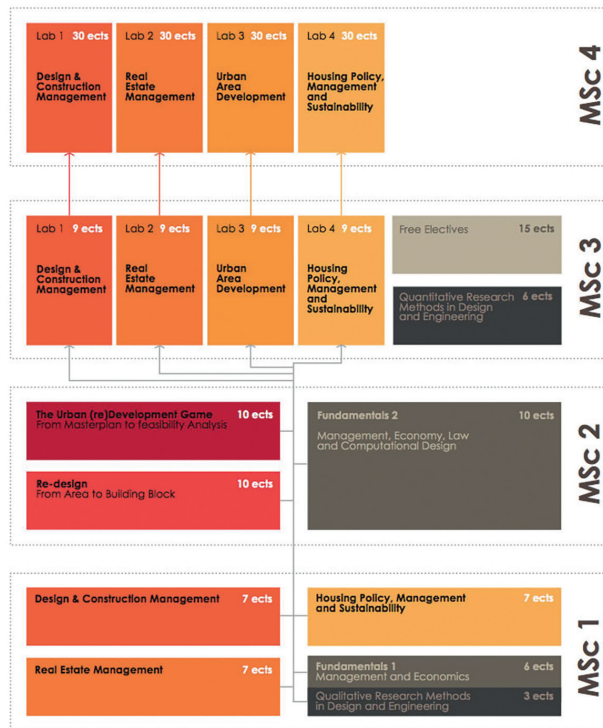
The Department's third curriculum 2010/2011

In 2008 it was decided to start with the development of a new MSc curriculum. The main reasons to start developing a new curriculum were to solve the problem of fragmentation and, connected to that, loss of didactical integration as well as a reduction in manageability and quality assurance of the curriculum. On the other hand there were demands from practice as well as the international research arena to have a stronger focus on integrating capabilities; a need for more in depth knowledge acquisition, more specifically on the separate knowledge areas of the Department, without losing the broad focus on the domain of RE&H as a whole; increasing the scientific level; a better international profile and last but not least a financially more feasible programme.

The new curriculum

The new developed curriculum started in the educational year 2010-2011, and was based on the 'drivers for change' stated above.

The first semester of the new curriculum has a strong focus on knowledge acquisition. As opposed to past times, the



The new 2010/2011 curriculum of RE&H.

‘constituting fundamental domains’ (Economics, Law, Informatics) now, within the MSc education, also each have their own part within the Management Fundamental series.

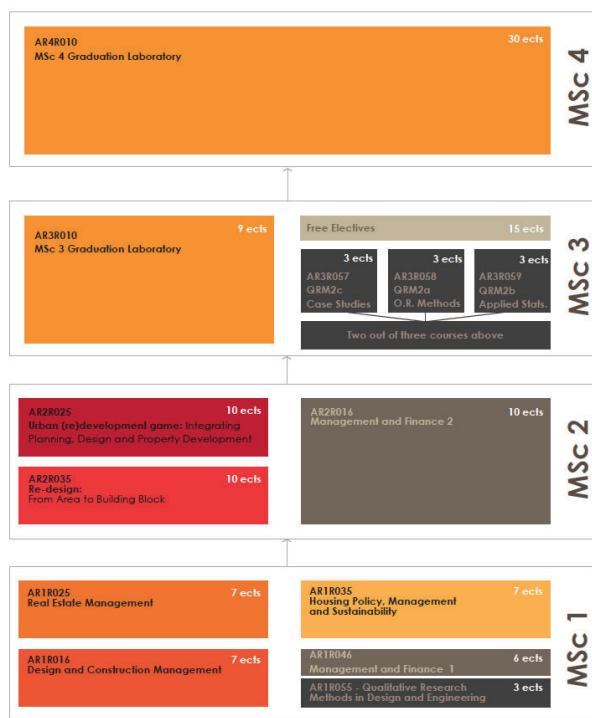
The second semester of the curriculum is even more focused on integration according to our taxonomy of the domain, but didactically it has an accent on skills acquisition. First by experiencing practice roles and secondly by describing, analysing, researching and improving practice based professional behaviour.

Within the third semester students start to formulate their individual graduation research proposal within one of the three main focus areas of RE&H (DCM, REM, UDM, H). Independent in this context means that the individual research proposal of the student must comply with explicit parts of the research projects of RE&H research staff. This model was enforced in 2015 with the introduction of ‘thematic graduation’. The three former laboratories merged into one, which made it easier to strategically connect graduation students to actual research projects of the Department.

The fourth semester of the study is totally focused on the individual graduation research project of the student. Regularly and in almost all cases, the graduation research is executed in close collaboration with a company in practice which provides a case based environment and utilisation directed reflection. The significant growth of graduation work presented in international scientific conferences the past few years shows the Department has taken steps into the right direction. Some students even published their graduation work into commercially available books, which got several re-prints.

From RE&H to MBE

Around 2012 more and more staff members of the Department felt that the naming of the Department needed a change. Indeed, the Department hosted more than just the sections of Real Estate Management and Housing. Other sections were not represented in the name Real Estate and Housing. However, the search for a new Department’s name was not an easy one. Some staff members were still satisfied with RE&H. After all, RE&H was an established ‘brand’ and one should be careful with a new brand name. Eventually, the Department’s management decided to hold a questionnaire amongst staff members. The outcome was that most staff members preferred the name ‘Management in the Built Environment’. One of the perceived plus-points of the name ‘Management in the Built Environment’ is that several programmes/tracks around the world have the same name. The change of name had no implications for the educational programme; the course programme remained unchanged. For students, the newly named MSc track MBE started September 2015.



The current MBE curriculum

Course evaluations

Systematic evaluation provides important feedback for lecturers. At present, an impressive system of course evaluations

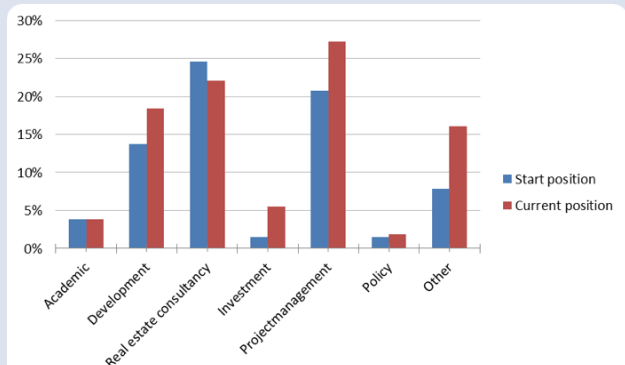
is institutionalised. The Faculty of Architecture and the Built Environment has a Department of Quality Assurance, which staff performs surveys among students. Every course is evaluated. If courses score below par, an improvement plan must be implemented. Further, once students have graduated, they will receive an 'exit evaluation'. This allows for a student's view of the master programme. Moreover, study association BOSS organises round table discussions for every course. During the round table, students and staff discuss the strong points and points for improvement of all courses.

Hans de Jonge placed great importance on the round table discussions and took care he was present at meetings where his courses were discussed. As always, Hans would listen carefully to the students and take many notes by pen in his notepad. Hans's own energetic lectures and dynamic chairmanship of workshops were always very much appreciated by students. The results of continuous improvement of courses are very satisfying for the MSc track. The recent Exit Questionnaire (April 2016) has shown graduated student highly value RE&H/MBE's MSc track. The track was awarded grade 8,1. This is the highest grade of all tracks within the faculty!

The 'output' of the MSc track: alumni

Alumni can be seen as the 'output' of BMVB/RE&H/MBE. As far as quantity is concerned, in 2015 a total of 1600 alumni were counted. This encompasses all students who graduated in 'management' including Housing (the former Department 'Volkshuisvesting') in the period between 1970 and 2015.

This massive group has been subject of regular research by staff member Peter de Jong. His most recent research has revealed the sectors in which the graduates are employed. The following table shows start position and current position.



Careers of graduates from Master track Management in the Built Environment

Professional profile MBE alumni, source: MBE graduation administration/LinkedIn BOSS Alumni | Real Estate & Housing (MBE) | TU Delft (<https://www.linkedin.com/groups/138916>). Elaboration: Rosan Pallada, Jeroen Meijler and Peter de Jong. Reference date: 2015. Research amongst 1600 graduates.

The division of 'current positions' of alumni is:

Academic career within the sector	4%
Project development	18%
(Corporate) real estate management/consultancy	22%
Real estate investment and finance	6%
Projectmanagement	27%
Policy	2%
Other	16%

The numbers show that the vast majority of alumni ends up in the private sector.

In addition, a recent report (I. Pit, F. Pliakis, How are our alumni doing? Faculty of Architecture and the Built Environment, May 2016) revealed that:

- 93% of graduates finds a (well paid) job on contract within 6 months after graduation;
- The track offers the highest job guaranty and quickest career path compared to other tracks;
- Salaries of alumni are excellent: 33% earns between € 60.000 and 96.000 after 5-10 years.

Judged by these numbers about alumni alone, we can say that the MBE Mastertrack is a success. It goes without saying that Hans, being professor and (for many years) head of Department, was a frequent and highly esteemed speaker at alumni events. Indeed, for many students and alumni he was the face of the Department and MSc track.

The future of the MSc track

Although the MSc track BMVB/RE&H/MBE has a solid reputation amongst students and in practice, there are a number of challenges ahead. One of them is to enlarge the number of international students. In the past years, the number of international students has risen, but only very slowly. Currently, internationals make up around 10% of the track's student population. In this respect, the track considerably lies behind other tracks within the AUBS master.

Another challenge is the 'competition' from 3TU Master Construction Management and Engineering (CME). This master at the TUD is based at the Faculty of Civil Engineering and Geosciences. The educational programme is oriented towards the management of large infrastructure projects. Several of its courses are quite similar to MBE's courses and involve topics like project and process management, finance and organisation. Fairly many students with a bachelor of Bouwkunde decide to continue their studies at CME and thus do not choose for MBE. On the upside, we can conclude that the departure of students from their 'home' (bachelor) faculty to another (master) faculty proves the success of the Bachelor-Master structure. On the downside, however, it means that there needs to be an influx towards MBE from bachelor students from other faculties (and universities). This, however, proves to be difficult due to the requirements of a transitional educational programme for students from other faculties and universities.

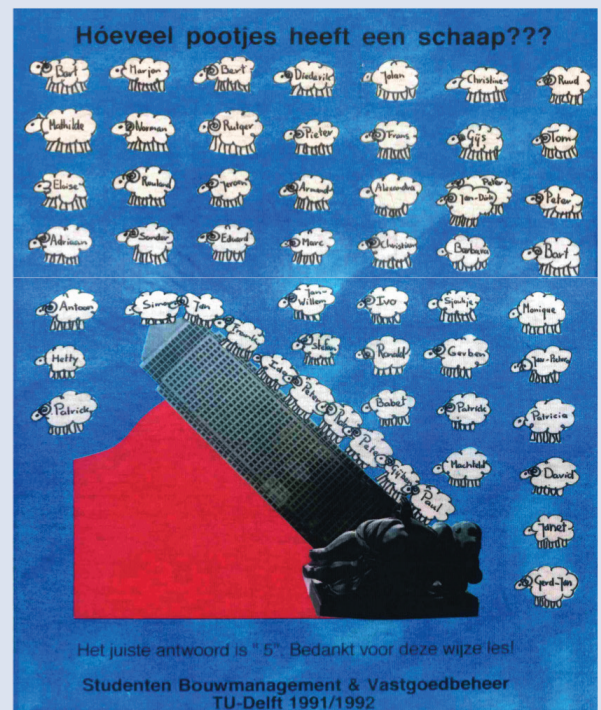
Despite of the challenges ahead, the future of the MSc track looks bright. It has a strong national base and has few national and international competitors: it still is one of the few management masters on top of a design bachelor. Increasingly, international students value this combination. Although there are numerous adaptations over time in terminology and focus areas, the basic and proven philosophy of the Department considering its educational mission did not drastically change since its establishment as it initially was designed by Hans de Jonge and his colleagues at the start.

Dr. Ir. Matthijs Prins is associate professor of Design and Construction Management at the Department of Management in the Built Environment, Faculty of Architecture TU Delft, and MSc coordinator of this department from 2001 until May 2015.

Mr. Dr. Fred Hobma is associate professor of Building Law at the Department of Management in the Built Environment, Faculty of Architecture TU Delft, and MSc coordinator of this department since May 2015.



Hans de Jonge and Alexandra Den Heijer with BOSS on study trip to Korea in 2012



Gift to professors from first group of BMVB students