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**Faculteit Economische Wetenschappen en**  
**Bedrijfskunde, Masteropleiding Infonomics**  
**Universiteit Maastricht**

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# Inhoudsopgave

<b>Voorwoord</b>	<b>5</b>
<b>Voorwoord commissievoorzitter</b>	<b>7</b>
<b>Deel I      Algemeen deel</b>	<b>9</b>
1. Inleiding	11
2. Taak en samenstelling commissie	13
3. Werkwijze commissie	15
4. Algemene inhoudelijke bevindingen	19
<b>Deel II      Opleidingsdeel</b>	<b>21</b>
1. The Master programme Infonomics of Maastricht University	23
<b>Bijlagen</b>	<b>71</b>
Bijlage A:      Curricula vitae van de leden van de visitatiecommissie	73
Bijlage B:      Domeinspecifiek referentiekader	75
Bijlage C:      Programma van het bezoek van de visitatiecommissie	85
Bijlage D:      Lijst met afkortingen	87



## VOORWOORD

Dit rapport is onderdeel van de kwaliteitsbeoordeling van universitaire bachelor- en masteropleidingen in Nederland. Het doel van het rapport is om een betrouwbaar beeld te geven van de resultaten van de voor beoordeling voorgelegde opleidingen, alsmede een terugkoppeling te geven naar de interne kwaliteitszorg van de betrokken organisaties en als basis te dienen voor de accreditatie van de betrokken opleidingen door de Nederlands-Vlaamse Accreditatie Organisatie (NVAO).

De stichting Quality Assurance Netherlands Universities (QANU) beoogt onafhankelijke, objectieve en kritische beoordelingen te laten plaatsvinden en opbouwende kritiek te leveren, zo veel mogelijk uitgaande van een gestandaardiseerde set van kwaliteitscriteria met oog voor specifieke omstandigheden.

De Visitatiecommissie Economie van QANU heeft haar taken met grote toewijding uitgevoerd in een periode die wordt gekenmerkt door de overgang naar de bachelor-masterstructuur. De opleidingen zijn beoordeeld op een grondige en zorgvuldige manier en binnen een duidelijk beoordelingskader. Wij verwachten dat de oordelen en de aanbevelingen in zorgvuldige overweging zullen worden genomen door de betrokken opleidingen, faculteitsbesturen en Colleges van Bestuur.

Wij zeggen dank aan de voorzitter en de leden van de visitatiecommissie voor hun bereidheid deel te nemen aan deze beoordeling en voor de toewijding waarmee ze hun taak hebben uitgevoerd. Ook gaat onze dank uit naar de staf van de betrokken afdelingen aan de universiteiten voor hun inspanningen en hun medewerking aan deze beoordeling.

Quality Assurance Netherlands Universities

mr. C.J. Peels  
directeur

drs. J.G.F. Veldhuis  
voorzitter bestuur



## VOORWOORD COMMISSIEVOORZITTER

Tussen augustus 2006 en maart 2007 heeft onze commissie elf bachelor- en masteropleidingen beoordeeld, die georganiseerd worden door vier universiteiten: Radboud Universiteit Nijmegen, Universiteit van Amsterdam, Universiteit Maastricht, en Universiteit Utrecht. Om tot het oordeel te komen heeft de commissie de zelfstudies bestudeerd, scripties gelezen en ter plaatse gesprekken gevoerd met een groot aantal staffleden, studenten en alumni.

Op basis van deze informatie kon de commissie tot een afgewogen oordeel komen, met name omdat de zelfstudies een goed inzicht gaven, de gesprekken in grote openheid werden gevoerd en de gevraagde informatie (handboeken, tentamens, reglementen et cetera) steeds in de vergaderkamer aanwezig was of op aanvraag onmiddellijk ter beschikking werd gesteld.

Bij de beoordeling heeft de commissie als uitgangspunt gekozen, dat een oordeel werd gevraagd over de wo-bachelor en wo-master, dus over een BSc en MSc, dus over een 'science' opleiding. In deze opleidingen moet de student dus beoordeeld worden op zijn wetenschappelijke analyses, het duidelijkst tot uitdrukking komend in de BSc-scriptie en de MSc-scriptie. Daarom heeft de commissie zeer veel aandacht geschonken aan de beoordeling van deze scripties. Daarbij werd niet alleen gekeken naar de inhoudelijke kwaliteit van de scripties maar ook naar de evaluaties door de docenten evenals de beoordelingsprocedure. De commissie beveelt aan om in de instroomprogramma's voor de hbo-afgestudeerden de bachelorscriptie verplicht te stellen om zo tijdig te toetsen of de student aan de eisen van de masteropleiding zal kunnen voldoen.

Namens de commissie wil ik het bestuur van de opleidingen, alle gesprekspartners en vooral de personen die de visitatie hebben voorbereid en begeleid, hartelijk danken voor hun inzet. Deze dankwoorden gelden zeker ook voor de begeleiding van de QANU.

De commissie heeft in grote harmonie en een goede sfeer gewerkt en het oordeel kunnen baseren op heldere discussies en goed geformuleerde opinies. Daarvoor ben ik de medecommissieleden bijzonder erkentelijk. Dat dit mogelijk was dankt de commissie aan de zeer professionele ondersteuning van de secretaris, mevrouw dr. J.J. Roeleveld. Ter voorbereiding op de bezoeken van de opleidingen legde zij aan de commissie vele helder geformuleerde vragen voor, bewaakte zij systematisch de voortgang en legde de oordelen van de commissie vast in een helder eindrapport. Hartelijk dank ook voor steun aan mijzelf, als voorzitter van de commissie.

Piet Verheijen, voorzitter Visitatiecommissie Economie



## **DEEL I: ALGEMEEN DEEL**



# 1. Inleiding

In dit rapport brengt de Visitatiecommissie Economie (hierna de commissie) verslag uit van haar bevindingen.

Het rapport bestaat uit twee delen:

- Een algemeen deel (I). Dit deel gaat in op de taak, samenstelling en werkwijze van de commissie. Hierin komen ook enkele algemene bevindingen van inhoudelijke aard ter sprake.
- Een opleidingsdeel (II). Per bachelor- en masteropleiding behandelt de commissie de 21 facetten uit het beoordelingskader. In dit deel spreekt zij oordelen uit op facet- en onderwerpniveau.

Dit algemene deel geeft, conform de richtlijnen in het QANU-kader, een beschrijving van de uitgangspunten van de commissie.



## **2. Taak en samenstelling commissie**

### **2.1. Taak van de commissie**

De taak van de commissie was het verrichten van een visitatie conform het beoordelingskader (versie 3.1) van QANU. De commissie kreeg de taak om op basis van de door de faculteiten aan te leveren informatie en door middel van ter plaatse te voeren gesprekken een oordeel te geven over de verschillende aspecten van de kwaliteit van de betrokken opleidingen, zoals beschreven in het bovengenoemde kader. De beoordeling bevat impliciete aanbevelingen; echter de nadruk ligt op het beoordelen en verantwoorden van de basiskwaliteit.

De commissie beoordeelde de volgende opleidingen:

Universiteit Utrecht:

- Economie (bachelor) (56401)
- Economics and Geography (master) (60727)
- Economics and History (master) (60387)
- Economics and Law (master) (60388)
- Economics and Social Sciences (master) (60389)
- International Economics and Business (master) (60648)

Universiteit Maastricht:

- Infonomics (master) (60018)

Universiteit van Amsterdam:

- Economie en Bedrijfskunde, studierichting Bedrijfskunde (bachelor) ( 50905)
- Business Studies (master) (60902) voltijd en deeltijd

Radboud Universiteit Nijmegen:

- Economie (bachelor) (56401)
- Economics (master) (66401)

### **2.2. Samenstelling commissie**

Tot leden van de commissie werden benoemd:

- prof. dr. P.A. Verheijen, emeritus hoogleraar Bedrijfseconometrie en oud-voorzitter College van Bestuur Universiteit van Tilburg, tevens voorzitter;
- prof. dr. ir. J. Bots, hoogleraar Controlling bij de Business Universiteit Nyenrode, alleen voor de visitatie van Maastricht;
- prof. dr. D.G.A.E. Van Den Bulcke, emeritus hoogleraar internationaal management en ontwikkeling en oud-voorzitter van het College voor Ontwikkelingslanden (1995-2000) van de Universiteit Antwerpen;

- drs. V.I. Goedvolk, voormalig lid van de Hoofddirectie van Fortis ASR Verzekeringsgroep N.V.; en oud plaatsvervangend secretaris-generaal van het Ministerie van Financiën;
- prof. dr. J.P.M. Groenewegen, hoogleraar Economie van Infrastructuren aan de TU Delft, bijzonder hoogleraar Institutionele Economie aan de Erasmus Universiteit Rotterdam, bijzonder hoogleraar aan de Universiteit Utrecht;
- drs. J.H.L. de Vries, voormalig lid College van Bestuur Universiteit Utrecht (1982-1987), voormalig voorzitter van het College van Bestuur van de Hogeschool Enschede en toegevoegd Inspecteur wetenschappelijk onderwijs;
- mw. S.R. Zwinkels B.Sc., student aan de Vrije Universiteit Amsterdam bij de masteropleiding Business Administration; tevens adviserend student-lid in het bestuur van de Faculteit der Economische Wetenschappen en Bedrijfskunde.

Tijdens de installatievergadering van de commissie werd prof. dr. J.P.M. Groenewegen gekozen tot vicevoorzitter. Projectleider/secretaris van de commissie was mw dr. J.J. Roeleveld, als senior consultant deel uitmakend van het netwerk van TriasNet Consultants, hiertoe geëngageerd door QANU.

De heer Bots heeft alleen deelgenomen aan het bezoek aan de Universiteit Maastricht. De heren Goedvolk en Groenewegen hebben niet deelgenomen aan het bezoek aan de Universiteit Maastricht. Bij het bezoek aan de Universiteit van Amsterdam is de heer Groenewegen op 31 oktober 2006 als voorzitter opgetreden.

De leden van de commissie hebben allen de onafhankelijkheidsverklaring die is opgenomen in het QANU-kader, ondertekend.

Een overzicht van de curricula vitae van de leden van de commissie is opgenomen in bijlage A.

### **3. Werkwijze commissie**

#### **3.1. Inleiding**

De commissie hield op 3 oktober 2006 haar startvergadering. Tijdens deze vergadering werd de commissie geïnstalleerd, werd de taakstelling en werkwijze van de commissie besproken en werd tevens de taakverdeling binnen de commissie vastgesteld. Ook werd het document ‘Vakspecifieke richtlijnen WO bachelor economie’ van het Disciplineoverlegorgaan Economie (DEC 02.03) besproken (zie bijlage B). De commissie besloot dat aan de betrokken opleidingen zal worden gevraagd hoe het referentiekader een rol heeft gespeeld bij de vormgeving van de bacheloropleiding, bij het schakelprogramma en bij de masteropleiding. Het QANU-kader is leidraad geweest voor de werkwijze van de commissie.

#### **3.2. De voorbereidingsfase**

Allereerst heeft de secretaris de zelfevaluatierapporten gecontroleerd op kwaliteit en compleetheid van de informatie. Nadat de zelfevaluatierapporten in orde waren bevonden, zijn de commissieleden en de secretaris zich inhoudelijk gaan voorbereiden op de bezoeken.

De commissieleden lazen het zelfevaluatierapport en vulden voor iedere opleiding een checklist in die is gebaseerd op het QANU-kader, en formuleerden vragen die werden doorgegeven aan de secretaris. De secretaris compileerde de ingevulde checklisten tot een samengestelde checklist en de vragen tot een samengestelde vragenlijst per gespreksorgaan. Deze zijn door de commissie gebruikt tijdens de visitatie. Bij de voorbereiding heeft ieder commissielid alle rapporten gelezen met uitzondering van de heer Bots die alleen voor de opleiding MSc Infonomics in de commissie zitting had.

Ook lazen de commissieleden ter voorbereiding ieder ten minste twee scripties per opleiding conform het QANU-kader inclusief de bijbehorende beoordelingsformulieren. Indien dit niet mogelijk was, wordt dit bij de betreffende opleiding vermeld. Deze scripties werden door de secretaris in overleg met de voorzitter geselecteerd. Aangezien de commissie opleidingen dient te beoordelen die leiden tot een wetenschappelijke titel (BSc of MSc) heeft zij zeer veel aandacht besteed aan het beoordelen van het wetenschappelijke niveau van de scripties, de zorgvuldigheid in de inhoudelijke beoordeling daarvan door de staf blijkende uit de bijbehorende beoordelingsformulieren en de beoordelingsprocedure zelf. In de scriptie dient de student immers aan te tonen over de vereiste kwalificaties te beschikken. Opmerkingen naar aanleiding van de scripties zullen bij verschillende facetten worden gemaakt.

Binnen de commissie zijn er afspraken gemaakt over een interne taakverdeling op grond van inhoudelijke expertise. De commissie wenst te benadrukken dat zij in haar geheel verantwoordelijk is voor de oordeelsvorming en het eindrapport.

Tijdens een voorbereidende vergadering aan het begin van het bezoek werd elke visitatie concreet voorbereid.

### **3.3. Het visitatiebezoek**

De secretaris maakte een conceptprogramma voor de (dag-)indeling van het visitatiebezoek. Dat programma werd in samenspraak tussen de voorzitter, de secretaris en de contactpersoon van de betreffende faculteit/universiteit aangepast aan de specifieke situatie van de opleiding (zie bijlage C). Tijdens het bezoek is gesproken met de samenstellers van het zelfevaluatie-rapport, met een (representatieve) vertegenwoordiging van het faculteitsbestuur, het opleidingsbestuur, de afgestudeerden, de opleidingscommissies, de examencommissies, de studievoorzichting en -begeleiding en overige ondersteunende medewerkers. Daarnaast werd er steeds afzonderlijk gesproken met student- en docentvertegenwoordigers van de bachelor- en masteropleidingen (en van de opleidingscommissies) en de schakelprogramma's.

Tijdens ieder bezoek bestudeerde de commissie het ter inzage gevraagde materiaal en gaf zij gelegenheid tot een spreekuur ten behoeve van studenten en docenten die zich voorafgaand aan het bezoek hadden aangemeld. Van dit spreekuur is geen gebruikgemaakt. Ook heeft de commissie bij elke instelling een presentatie van de elektronische leeromgeving ontvangen.

De commissie gebruikte een groot deel van de laatste middag van het bezoek voor de voorbereiding van de mondelinge rapportage en een discussie over de beoordeling van de opleidingen. Aan het einde van het bezoek heeft de voorzitter, respectievelijk de vicevoorzitter bij de Universiteit van Amsterdam, een mondelinge rapportage gegeven van de eerste bevindingen van de commissie. Daarbij ging het steeds om een aantal algemene waarnemingen en een aantal eerste indrukken per opleiding.

De oordelen werden pas na afloop van de bezoeken in twee vergaderingen definitief vastgesteld op basis van het conceptrapport van de commissie over de opleidingen en de commentaren daarop van de commissieleden. Tevens heeft een additioneel bezoek aan de Universiteit van Amsterdam plaatsgehad voordat de commissie tot een definitief oordeel kwam.

### **3.4. Beslisregels**

In het accreditatiestelsel is voor de beoordeling op facetniveau een vierpuntsschaal voorgeschreven (onvoldoende, voldoende, goed of excellent) en op onderwerpniveau een tweepuntsschaal (voldoende of onvoldoende).

De commissie heeft de standaard beslisregels van QANU gevolgd. Deze zijn:

De beoordeling 'onvoldoende' wijst erop dat het facet beneden de gestelde verwachting ligt en dat beleidsaandacht op dit punt nodig is.

De beoordeling 'voldoende' houdt in dat het facet beantwoordt aan de basisstandaard of basisnorm.

De beoordeling 'goed' houdt in dat het niveau van het facet uitstijgt boven de basiskwaliteit.

De beoordeling 'excellent' houdt in dat voor het facet een niveau wordt gerealiseerd waardoor de beoordeelde opleiding zowel nationaal als internationaal als een voorbeeld van goede praktijk kan functioneren.

In de ogen van de commissie kan zij het oordeel 'voldoende' toekennen, ook wanneer zij kritische opmerkingen heeft gemaakt. Het is dan wel noodzakelijk dat er tegenover die kritische opmerkingen ook positieve observaties staan

Omdat de meeste masteropleidingen pas recent van start zijn gegaan dan wel recent een gewijzigd programma hebben ingevoerd, kon de commissie niet in alle gevallen varen op ervaringen met de programma's van die opleidingen of oordelen van studenten daarover. Zij koos er in die gevallen voor om plannen te beoordelen. Plannen kunnen niet zomaar een 'goed' krijgen, met het nadeel dat het moeilijk is het oordeel goed uit te spreken.

Wanneer de commissie een good practice heeft aangetroffen, luidt het oordeel in principe: 'goed'. Wanneer er binnen een facet zowel een aantekening wordt gemaakt als een good practice wordt uitgesproken, wordt voor het oordeel een gemiddelde genomen: voldoende.

### **3.5. Rapportage**

De secretaris heeft, op basis van de bevindingen van de commissie, per instelling conceptrapporten opgesteld. Deze zijn aan de voorzitter en de leden van de commissie voorgelegd. Tijdens de vergaderingen op 29 november en 20 december zijn deze conceptrapporten besproken.

### **3.6. Slotbijeenkomst**

De aangepaste conceptrapporten zijn aan de opleidingen toegezonden ter toetsing van feitelijke onjuistheden. De commissie heeft het commentaar van de opleidingen besproken en de definitieve tekst op 13 februari 2007 vastgesteld.



## **4. Algemene inhoudelijke bevindingen**

### **4.1. Inleiding**

De commissie heeft haar bevindingen van de visitatie gerapporteerd in vier rapporten met een algemeen deel en een specifiek opleidingsdeel per instelling. De commissie wil daarenboven de volgende algemene bevindingen rapporteren, welke met name betrekking hebben op de procedure en de rapportage van de beoordeling.

Voorafgaande aan de algemene bevindingen wil de commissie nog een specifieke opmerking maken en wel betreffende de opleidingen Economie en Bedrijfskunde, Business Studies en Infonomics. Het feit dat over deze opleidingen het oordeel van deze commissie wordt gevraagd impliceert dat de opleidingen worden beoordeeld vanuit een economisch kader. Natuurlijk worden daarbij de specifieke aspecten betrokken.

### **4.2. Algemene bevindingen**

De commissie is van mening dat in het beoordelingskader te veel aandacht wordt geschonken aan de beroepsoriëntatie van de bacheloropleidingen. De bevindingen van de commissie tijdens de gesprekken leiden tot de conclusie dat het merendeel van de afgestudeerden van een bacheloropleiding in het wetenschappelijk onderwijs doorgaan met een masteropleiding. Dientengevolge besteden de opleidingen weinig aandacht aan de beroepsoriëntatie, wat – bij strikte toepassing van de regels – leidt tot een ‘onvoldoende’!

Naar de mening van de commissie wordt in het beoordelingskader te weinig aandacht besteed aan de instroom. Naar verwachting zal er een toenemend aantal bachelorafgestudeerden vanuit het hbo zich aanmelden voor een masteropleiding in het wetenschappelijk onderwijs. Het aantal is zelfs zo groot dat deze instroom ook gevolgen heeft voor de samenstelling van de groep masterstudenten. De opleiding staat dan voor de keuze om deze groep als groep bijeen te houden in de masteropleiding of te mengen met de eigen BSc-afgestudeerden. Het zou nuttig zijn om hierover de mening van de opleiding te kennen en te beoordelen.

Diverse zogenaamde schakelprogramma's worden door de opleidingen aangeboden. Deze programma's worden niet expliciet meegenomen in het beoordelingskader. De commissie heeft zich wel op de hoogte laten stellen van de inhoud van deze schakelprogramma's tijdens de visitatie. Het verdient aanbeveling dat het kader van Facet 8 (instroom) wordt uitgebreid of dat in de Facetten 4, 5 en 6 expliciet een oordeel wordt gevraagd over de schakelprogramma's

Tot slot wil de commissie een opmerking maken over de rapportage. Deze rapportage is nu zeer omvangrijk en verwarrend. Het rapport moet namelijk de feitelijke situatie weergeven en het oordeel van de commissie daarover. Dientengevolge worden grote delen van de door de opleiding samengestelde zelfstudie overgenomen. Het is dan niet duidelijk of de commissie deze passages slechts weergeeft of met instemming weergeeft of deze situatie negatief beoordeelt. Wil de commissie volstrekt duidelijk zijn, dan moet ze over elke passage aangeven hoe het oordeel is. Dit leidt tot vele herhalingen.

De commissie is van mening dat het de voorkeur verdient een kort rapport met de oordelen van de commissie per onderwerp en facet op te stellen met de zelfstudie als bijlage. Publicatie van de zelfstudie dwingt de opleidingen naar verwachting van de commissie ook tot een compactere tekst.

## DEEL II: OPLEIDINGSDEEL



# 1. The Master programme Infonomics of Maastricht University

## Administrative data

### Master programme Infonomics:

Name of the programme:	Infonomics
CROHO number:	60018
Level:	Master
Orientation:	University
Study load:	60 ECTS
Degree:	Master
Variant(s):	Full-time
Location(s):	Maastricht
Expiration of accreditation:	31 December 2007

The visit of the committee to the Faculty of Economics and Business Administration of Maastricht University took place on 19 and 20 October 2006.

### 1.0. Structure and organisation of the department

The self-study gives the following overview:

The MSc Infonomics programme is part of the educational programme of the Faculty of Economics and Business Administration of Maastricht University (in this document abbreviated as FEBA). FEBA is a high-level European faculty for Economics and International Business Administration. FEBA provides high-quality education to students, conducts excellent research, and offers an international perspective in both education and research. Small-scale teaching methods supported by an electronic learning environment, a portfolio of international study programmes, and strong incentives for top-quality research are the main instruments in the fulfilment of this mission. Emphasis on educational innovation drives the learning philosophy at FEBA. All degree programmes are based on problem-based learning (PBL), with a strong emphasis on the development of problem-solving skills, group-work skills, and self-directed learning skills. The emphasis on skills development prepares students in the best way possible for the needs of the European knowledge society.

FEBA is part of Maastricht University. The university's profile is based on four pillars which together define its mission: 1) international profile, 2) problem-based learning as a leading method of instruction, 3) innovative in education and research, and 4) contributing to the regional community. Maastricht University's mission is to be an institute for higher education and academic research. It is:

- a university where innovation in education is a continuous process;
- a university of high-quality education, research and social service matching international standards;
- a university that focuses its education on high-quality Master programmes;
- an internationally oriented university, not only in the quality of education and research but also in the content of the programmes and the nature of its academic and social life;

- a university that contributes to the economic, social and cultural development of the region.

FEBA's mission and activities are closely related to the university's mission. As a result of strategic discussion panels, the mission has been revised, and a strategic plan *Building on Excellence* for 2005 – 2008 has been developed.

The mission of FEBA is to 'educate and train undergraduates, graduates and professionals, who are capable to effectively function in careers in international business and economics, and to generate ideas that advance scientific economic and management knowledge and practice. Through these objectives it creates value for the society of which it is part'.

All degree programmes within FEBA are governed by a Programme Director. The Board of Examiners, consisting of the Programme Directors of the various Bachelor and Master programmes, deals with specific legal administrative affairs and general educational issues. Members of the Board are appointed by the Dean of the Faculty. The Programme Director holds final responsibility for the coordination, development and evaluation of the programme. The Programme Director cooperates with the chairs of the various departments to plan, propose and implement programme changes. The programme is reviewed on an annual basis. Furthermore, the law stipulates the existence of Programme Committees for each programme. They serve as advisory bodies to the Programme Board, the Programme Director and the Faculty Council. The Programme Committee is urged to provide advice on the quality of the degree programmes, the contents and formats of examinations, and the outlines of research plans. Both staff and students are represented on the Programme Committees.

The committee wants to stress explicitly that it has focussed on the MSc in Infonomics programme; it has not evaluated the claims mentioned above in the wider setting of the total faculty.

### **1.1. Introduction of Bachelor-Master structure and termination of previous 'doctoraal' programme: state of affairs**

In the self-study the following overview is given:

In 1988 FEBA established the research institute MERIT to strengthen research into the economics of innovation and technological change as one of the three main research pillars of the faculty. Recently, the FEBA-based institute MERIT started cooperating with the UNU institute INTECH and is now called UNU-MERIT. This new joint effort has already been recognised by researchers and policy-makers worldwide as a leading institute in this area.

By the end of the 1990s, many researchers recognised the profound importance of ICT as general-purpose technologies. It was recognised that these technologies allow alternative application modes which are not technologically determined but depend very much on the particular environment in which the technologies are being used: hence the importance of the social and economic integration of such technologies. This called for a broader, interdisciplinary approach beyond economics, a recognition that led to the establishment of the International Institute of Infonomics, initiated by Professor Luc Soete, director of UNU-MERIT and a leading authority on the impact of the new information technology on society at large and economics in particular. The institute was established in 2000 and brought together scholars

from many disciplines to conduct research into questions linked to the digitisation of society, which had been ignored or at least downplayed to the most contradictory features and the relevant research questions for a particular discipline.

At the same time as the establishment of the International Institute of Infonomics, the researchers at FEBA recognised a demand for a new kind of economist: one who can analyse and predict the economic impact of the ever more rapid spread of information through ever more sophisticated technology. Within FEBA a curriculum was designed for an economics programme on Infonomics, which started in 2000. This programme anticipates the rapid developments in information technology and their consequences for the international economy.

Since its introduction, the programme has undergone two transformations for various reasons. Originally, it was designed as a four-year programme with a standard economics programme in the first year, and a specialised Infonomics programme in the last three years. A previous review committee for the *doctorandus* in Economics programme (July 2003), of which the Infonomics programme was a part, graded the Infonomics programme as a programme of high academic quality. Relevant aspects of the programme were rated as follows: Breadth of Coverage 6; Depth, Integration, Level, and Thesis as 7.

As a result of the introduction of the Bachelor-Master structure within the European Union, the four-year programme was transformed into a three-year Bachelor of Science programme and a one-year Master of Science programme. In this transformation, the curriculum of the MSc Infonomics programme was developed as a multidisciplinary approach to the role of information technology in modern economies. As a result, students were offered courses on legal, social and economic perspectives on the role of information technology. As within the former '*doctoraal*' programme, FEBA distinguishes between a broad introduction in the field of Infonomics (offered in the BSc programme), and the specialisation offered in the MSc programme. Table 1 indicates the timeline of major events related to the Infonomics programme.

*Table 1: Timeline for the Infonomics programme*

<b>Date</b>	<b>Major event</b>
1988	Establishment of MERIT on the economics of technological change and innovation.
1999	Initiative to create the International Institute of Infonomics, which was formally founded in 2000
September 2000	Introduction of the 4-year Infonomics ' <i>doctoraal</i> ' programme
September 2003	Introduction of the 3-year Infonomics programme as specialisation within the Bachelor of Science in Economics
September 2003	Introduction of the 1-year Infonomics Master of Science programme.
2004	First graduates of the <i>doctorandus</i> Infonomics programme
2005	First graduates of the BSc Economics/Infonomics programme
2006	First graduates of the MSc Infonomics programme
31 August 2006	Last graduates of the <i>doctorandus</i> Infonomics programme
September 2006	Introduction of a new curriculum for the BSc and MSc Infonomics programme

In general, it can be said that the initial MSc and BSc programmes were firmly based on the outlines of the former *doctorandus* programme. The same holds true for the educational methods as well as exams (including examination rules), which have not changed substantially since the transformation of our programmes into a BSc and MSc. The first MSc Infonomics

programme offered a multidisciplinary approach, and the role of information technology was studied from an economic, legal and sociology perspective.

In 2006, the Infonomics programme underwent a second major change. There were two major reasons for this transformation:

- As a result of a review procedure in 2004, the review committee found that the multidisciplinary structure of the programme resulted in a lack of focus, as a result of which it remained unclear what type of problems Infonomics graduates should be able to tackle.
- In 2005, FEBA adopted a strategy, *Building on Excellence*, to further develop broadly defined Bachelor's programmes in combined specialised Master's programmes.

As a result of both elements, new programmes for both the BSc and the MSc programme were designed in 2006 and started in September 2006. The new MSc programme forms the basis for this assessment report.

### **Comments by the visitation committee:**

The committee wants to make the following two remarks before going into the detailed assessment in chapter 1.2.

The committee has the task to evaluate the quality of the MSc Infonomics programme. In the last three to four years there were few students following this programme. The committee has followed the framework of assessment as used by QANU. An evaluation of the economic viability of the programme does not belong to the task of the committee.

Furthermore, the assessment has a mixed character. On the one hand, it concerns the former MSc Infonomics programme while on the other, it concerns the newly restructured programme that started in September 2006. Where necessary and/or appropriate, the committee will make a distinction in its assessment of the different facets in this report.

## **1.2. Framework of assessment**

### **1.2.1. Aims and objectives of the degree course**

#### **F1: Domain-specific requirements**

The final qualifications of the degree course correspond to the requirements made to a degree course in the relevant domain (field of study/discipline and/or professional practice) by colleagues in the Netherlands and abroad and the professional practice.

#### **Description:**

In the self-study, the objectives of the MSc Infonomics programme have been summarised as follows:

- to offer an unique combination of an economic and a business approach towards the highly relevant central theme of the role of ICT in the information society;
- to offer MSc students a programme that provides them with a clear and distinctive profile, which clearly distinguishes them from other economics and business graduates in the labour market;

- to offer MSc graduates a clear and diverse labour market orientation, directed towards commercial, non-profit and governmental organisations;
- to train students in advanced academic and professional skills;
- to provide students with international experience by working in international classrooms and working on course materials related to international business practice;
- given the high pace of new ICT developments, to prepare students well for life-long learning through problem-based instruction;
- to develop problem-solving skills and teamwork competences through working in small groups.

Infonomics students thus learn how information and communication technologies are implicated in economic changes and the effects of these changes for companies, regions, nations and the global environment. Infonomics students will be equipped to transfer economic concepts to practical applications that can be used in a wide range of contexts. The programme is therefore designed to train students from different backgrounds such as economics, business and technically oriented studies to function effectively as advisors and consultants to large international firms, non-profit organisations as well as governments.

### *Qualifications*

The qualifications for the MSc Infonomics programme, which are listed in the table below, have been used as a basis for modelling the MSc Infonomics programme, to create a programme that (1) builds around the economic and business analysis of ICT as its main theme, (2) uses problem-based learning as its main educational technology and (3) has a strong international profile.

*Table 2: Qualifications of MSc Infonomics graduates*

<b>Programme Objectives of the MSc Infonomics</b> <b>Knowledge, skills, attitude, international experience</b>	<b>Qualifications of MSc Infonomics graduates</b>
Scientific knowledge	Have a detailed knowledge of the academic literature that focuses on the link between economics, business and information and communication technology Are able to function in international positions on an advanced academic level Are able to understand top-level academic literature Are able to distinguish between good and mediocre research, valid and invalid data, realistic and overstated conclusions Are able to conduct academic research on complex ICT-related problems
Awareness of broader context	Have acquired in-depth knowledge about their own discipline within the broader context of economics and business Have knowledge of other fields or disciplines, such as law Are able to link their specialised knowledge to adjacent academic fields Are knowledgeable about different approaches to economic research

Table 2: Qualifications of MSc Infonomics graduates (continued)

Academic reasoning	<ul style="list-style-type: none"> <li>Are able to distinguish main issues from side issues</li> <li>Are able to interrelate ICT issues from an economic perspective</li> <li>Are able to draw up logical reasoning</li> <li>Are able to assess and evaluate the relevancy of theoretical frameworks in the analysis of economic and business problems, particularly in the context of information technology</li> </ul>
Problem-solving skills	<ul style="list-style-type: none"> <li>Are able to process and analyse (quantitative) research results</li> <li>Are able to gather relevant information</li> <li>Are able to recognise problems and opportunities</li> <li>Are able to define and analyse problems</li> <li>Are able to come up with new ideas and solutions</li> <li>Are able to question underlying assumptions and select useful approaches to deal with the situation</li> <li>Are able to apply academic knowledge for solving complex or ill-defined problems</li> <li>Are able to evaluate the outcomes and the problem-solving process</li> </ul>
Learning skills	<ul style="list-style-type: none"> <li>Are able to learn new subjects</li> <li>Are willing to question their own and other people's ideas</li> </ul>
Self-management skills	<ul style="list-style-type: none"> <li>Are able to work within a budget</li> <li>Are able to perform well under pressure</li> <li>Are able to take decisive action</li> <li>Are able to perform work without supervision</li> </ul>
(International) communication skills	<ul style="list-style-type: none"> <li>Are able to communicate complex matters in English</li> <li>Are able to make ideas clear to others</li> <li>Are able to deal with cultural differences</li> </ul>
ICT skills	<ul style="list-style-type: none"> <li>Are able to make use of extensive information and communication technology</li> </ul>
Interpersonal and teamworking skills	<ul style="list-style-type: none"> <li>Are able to cooperate productively</li> <li>Are able to mobilise the capacities of others</li> <li>Are able to chair a meeting</li> <li>Are willing to stand up for their own point of view</li> <li>Are willing to respect the point of view of others</li> </ul>

**Assessment:**

The Infonomics programme is offered by FEBA, as part of the University of Maastricht. International acknowledgement for FEBA has been granted through international accreditations from AACSB (2002) and EQUIS/EFMD (2005). The AACSB accreditation was granted for all four-year programmes in Economics (including Infonomics) and International Business. EQUIS accreditation is valid for the FEBA as an academic institution delivering degree programmes in International Business, International Economic Studies (including Infonomics), and related studies.

However, the commission wants to stress that it conducted an independent inquiry into the quality of the MSc in Infonomics programme according to the framework in use by Quality Assurance Netherlands Universities (QANU).

The DEC (*Disciplineoverlegorgaan Economie*) has formulated requirements for Economics, but there are no discipline specific requirements and guidelines formulated by the DEC for a Master in Infonomics programme available to the committee. According to the assessment by the committee, the objectives of the MSc in Infonomics programme meet national and international academic and professional standards. The end-qualifications of graduates are explicitly derived from the objectives of the programme.

FEBA benchmarks its MSc Infonomics programme with other related programmes worldwide. As the field of Infonomics is a new, multidisciplinary discipline, domain-specific standards are limited. The programme is supported by the participation of FEBA in several distinguished networks according to the self-study.

The mission for this programme, as formulated by the Faculty, is to deliver students a unique combination of business and economics as the main disciplines with a special understanding of the role of information and communication technologies on businesses and economies at large. This general objective can be implemented in two ways, i.e. with a focus on science or on professional practice or on a combination of both. Depending on this profile different courses will be selected and requirements for the thesis formulated. The self-study report is not clear with respect to this choice. However, the committee has concluded from the discussions that a professional profile is preferred to a certain extent by the Faculty.

The committee is convinced that more opportunities exist at the research and training institute MERIT, partly focussed on Infonomics and connected to the department, than are used at this moment. Furthermore, the professional profile can be broadened. The International Advisory Board consisting of (inter)national representatives of business can be of value in providing advice to FEBA and, therefore, to the MSc in Infonomics programme.

The committee concludes that before 2006 the programme lacked focus, but the structure of the new, redesigned curriculum is clearly improved and directed towards the economics background with expert knowledge on information technology.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

**F2: Level**

The final qualifications of the degree course correspond to general, internationally accepted descriptions of the qualifications of a Bachelor or a Master.

**Description:**

The self-study gives the following overview:

The Master of Science (MSc) degree is based on a one-year programme of study comprising compulsory courses, which address academic subjects within the discipline of Infonomics, a Master's thesis and a skills training course.

The MSc programme in Infonomics is an advanced programme that is aimed towards the developments in information technology and the consequences thereof for the international economy and international businesses. The programme has been developed because businesses, governmental agencies and international organisations require professionals who combine a solid economic background with expert knowledge on information technology. This has resulted in a set of courses that covers topics such as the selection and evaluation of ICT investments, the governance, security and control of information systems, information economics, the role of intellectual capital and intellectual property, and the impact of information technology on innovation and economic performance. During the second half of their study year, students will work on an individual project. To ensure a good start to this project and develop their academic capabilities fully, students will be introduced to the necessary elements

for conducting academic research during a two-week skills training. Personal faculty advisors will then guide students through their projects and support them in the writing of their final Master's thesis, which completes the programme.

The Master of Science programme in Infonomics can be described in terms of the following Dublin descriptors.

*Knowledge and insight:* Demonstrates knowledge of and insight into the field of Infonomics, extending the knowledge and insight gained in previous education at the Bachelor's level. Has the capability to contribute to the development or application of original ideas, as an individual or in teams.

More specifically:

- Students have gained in-depth academic knowledge in the field of Infonomics.
- Students are well informed about the nature of Infonomics research, and its relevance for studying international business practice.
- Students are capable of conducting scientific research on a specified research topic under the guidance of an academic supervisor.

*Knowledge and insight put into practice:* Demonstrates the capability of applying knowledge, insight and problem-solving skills in unknown or ill-defined circumstances when encountering problem situations in the field of Infonomics. Has the capability to integrate various perspectives when encountering complex problems in the field of Infonomics.

More specifically:

- Students are capable of understanding how academic research can contribute to developing further understanding of current issues in one of the specialisations in the field of Infonomics.
- Students are capable of applying academic knowledge and insights to unknown or ill-defined problem situations in professional practice.
- Students are encouraged to take part in international business cases and challenges, policy advisory positions, internships and projects.

*Judgement:* Demonstrates the capability to develop a judgement based upon incomplete or limited sources of information. Shows awareness and professional responsibility with respect to societal and ethical aspects of Infonomics practice.

More specifically:

- Students are able to distinguish between good and mediocre research, valid and invalid data, realistic and overstated conclusions.
- Students are capable of collecting and interpreting quantitative and qualitative information in complex business environments.
- Students are capable of working together with international professionals and operating in an international business setting.
- Students are aware of ethical dilemmas in the international business context.

*Communication:* Demonstrates the capability to clearly communicate conclusions orally and in writing, including the knowledge, motives and arguments on which conclusions are based, to an audience of business specialists and non-specialists.

More specifically:

- Students are able to effectively communicate on issues, assignments and projects.
- Students are capable of participating in a group setting, being a leader, a secretary and a participant.
- Students are able to handle cultural differences in the Maastricht educational setting and in the setting of exchange studying abroad.

*Learning skills:* Is equipped with the learning skills to enter specialised further education with a highly self-supporting and autonomous character.

More specifically:

- Students develop self-directed learning skills and are capable of conducting self-assessments with respect to the evaluation of developments in the field of Infonomics.

### **Assessment:**

It is the opinion of the committee that the end-qualifications of the MSc Infonomics programme do correspond to the Dublin descriptors with further specifications appropriate for a Master level as described above.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

### **F3: Orientation**

The final qualifications of the degree course correspond to the following descriptions of a Bachelor and a Master at universities:

- The final qualifications are based on requirements made by the academic discipline, the international academic practice and, if applicable to the course, the relevant practice in the prospective professional field.
- A University (WO) bachelor possesses the qualifications that allow access to a minimum of one further University (WO) degree course at master's level as well as the option to enter the labour market.
- A University (WO) master possesses the qualifications to conduct independent academic research or to solve multidisciplinary and interdisciplinary questions in a professional practice for which a University (WO) degree is required or useful.

### **Description:**

The self-study gives the following overview:

*Target Profile of the MSc graduate:* Infonomics is the right programme for students who are interested by economics, businesses and new technology and who see opportunities in the economics of technological change and innovation. At the same time, it is well suited for students who are aware of different market regulations that are created in the information society, provoking legal, social and ethical questions. The programme trains students in decision-making and helps them develop ideas for underlying business solutions based on a thorough academic understanding of business practice. Graduates of the Infonomics programme face a stimulating future career. The findings of FEBA's internal quality assessments and national and international rankings show that graduates are greatly valued by their employers for their analytical skills and sound academic understanding of international business practices. Their ability to work together with people from different cultural backgrounds is considered to be a valuable asset.

According to the self-study, graduates with a Master's degree in Infonomics are expected to aim at a position in the high end of the ICT and other consultancy worlds or at an infor-

mation management position in a large international firm or a governmental environment. Infonomics MSc graduates have knowledge of long-term strategy and planning in ICT and of guiding large ICT projects in a multinational setting. They also have knowledge of policy analysis related to the adoption, diffusion and usage of ICT. With respect to the consultancy branch, Infonomics Masters not only have the ability to participate in large ICT projects but are also able to aid companies and governments in long-term decision-making processes in which ICT plays an important role. The main focus of Infonomics MSc students will be on projects that assess and chart the economic and business impact of existing and new ICT on various levels.

#### **Assessment:**

The former MSc Infonomics programme lacked focus and resulted in a wide range of topics for the Master theses (see F4 Assessment). The committee wants to stress that the topics of the Master theses focused on economics in general and that the academic level was in order.

The newly restructured MSc programme as started in September 2006 [for reasons see the introduction to the following facets] pays sufficient attention to conducting independent scientific research – which will be made clear by the committee’s comments on some of the following facets – and to solving multidisciplinary problems in a professional setting for which a university degree is required.

Input from contacts of the academic staff with professional practice are clearly being used in the individual courses, but are less prominent in the development of the MSc in Infonomics programme as a whole based upon the new curriculum. The International Advisory Board, as recently founded by FEBA, can play an important role in providing input for developing the programme.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

#### **Assessment of the topic “Aims and objectives of the degree course”**

Based on the assessment per facet the committee comes to a summary assessment for the topic “Aims and objectives of the degree course”. For the Master programme Infonomics this assessment is **satisfactory**.

### **1.2.2. Programme**

#### **Description of the old MSc Infonomics programme:**

The old MSc programme in Infonomics is designed as a broad but specialised multidisciplinary programme focussing on three disciplines that are highly important in the Information Society: Economics, Law and Sociology. These three disciplines structure the compulsory part of the programme. Besides the compulsory aspects, students must choose three electives from a selection of other courses provided as compulsory courses in other studies at the faculty or as special Infonomics electives.

A broad list of topics is discussed in the Infonomics programme. How must one define and apply “property rights” in an information society? How does the information society influ-

ence market behaviour? What are the consequences of the increased speed of information dissemination for society? How does the information society influence daily business practices? These are just a few of the questions that are discussed. The Infonomics programme reflects the multidisciplinary nature of the subject which is then addressed in each of the compulsory courses. The programme is further completed with three electives: one technology-related course, one specialization course and one broadening course. Students conclude their programme with a Master's thesis.

The elements of the old Master programme Infonomics were:

- course: Network Society Hypermedia and the Web;
- course: Intellectual Property Law and the Information Society;
- specialisation elective: Information Economics or New technologies and Economic Growth;
- course on skills: writing a Master thesis
- Network Economics Broadening elective (mainly from the International Business programme)
- Master's thesis
- Finalizing the thesis

As mentioned in the introduction, the Infonomics programme underwent a major change in 2006. There were two major reasons for this transformation:

- As a result of a review procedure in 2004: the review committee found that the multidisciplinary structure of the programme resulted in a lack of focus, making it unclear what type of problems Infonomics graduates should be able to tackle.
- In 2005, FEBA adopted a strategy to further develop broadly defined Bachelor's programmes in combined specialised Master's programmes.

### **Taskforce Infonomics**

A taskforce was asked to make recommendations for a new Infonomics programme at the Bachelor and the Master level. The taskforce concluded that the Infonomics Master programme suffered from the following problems:

1. The programme does have a broad signature whereas it is currently clear that students prefer a well-defined and specialised Master programme (which complements a broadly defined Bachelor programme).
2. The programme has a multidisciplinary character and lacks a focus on economic and business-oriented topics.
3. The current programme depends on the efforts of other faculties, which results in a lack of commitment within the Faculty of Economics and Business Administration as well as a relatively unattractive financial structure.

To respond to the need for innovation and repositioning of the Infonomics programme, and to ensure formulation of an effective proposal for the new (Bachelor and) Master of Infonomics programme, the following four process steps were undertaken by the taskforce:

1. A systematic review of comparable programs at the Bachelor and Master level offered in the Netherlands, Germany and the United States. The objective of this review was to provide insight into the educational structure of these programmes, the job market profile targeted by each programme, and the number of students in the programmes. The review was based on a thorough analysis of the websites of each programme, supplemented as necessary with email or telephone requests for further information.
2. Developing a concept for the new Infonomics programme within the taskforce, both at the Bachelor and Master level, highlighting the education structure and job market profile communicated to students and potential employers.
3. Discussions with key stakeholders on the basis of this concept proposal, eliciting feedback and suggestions. Key stakeholders included department chairs involved in the program and content experts such as original program initiators. Email feedback from potential employers was also solicited.
4. Formulating the final programme proposals with confirmed support from the department chairs involved in the new structure.

### **Description of the new MSc Infonomics programme:**

The newly restructured MSc Infonomics programme consists of a one-year programme of study comprising six courses, a Master's thesis and skills training courses for each MSc programme, as stated in the Masters guide 2006/2007. The study load of the MSc Infonomics programme is 60 ECTS credits. To receive the MSc Infonomics degree, students have to meet the following requirements:

- six mandatory courses (6 x 6.5 ECTS = 39 ECTS);
- skills training course on research methodologies and writing a Master's thesis (4 ECTS);
- The Master's thesis project (17 ECTS), covering two courses plus one skills period.

This focus of the Infonomics programme is evident from the title and content of all courses that are part of the Master's programme. Given the restricted length of the programme it is fixed and does not include any electives.

Furthermore, the programme includes all the basic elements (such as a Master's thesis, skills training on research methodology) that are part of the other Master's programmes at FEBA. As a result, the MSc Infonomics degree gives access to PhD placements. It offers thorough knowledge of the economic role of information and ICT in businesses and society, linked with insights into conducting academic research. The programme also includes special research workshops aimed at further developing academic research capabilities. The MSc programme holds a special course on research methodologies and academic research projects. This course provides insight into how to conduct academic research in the domains of Economics and Information Management. Students must complete a Master's research project. The individual Master's project enables students to review theoretical concepts and conduct empirical research. To fully develop academic capabilities, students will be introduced to the necessary elements for conducting academic research: literature research, data analysis, research design and writing a scientific report. These courses are designed to prepare students for and support them during the writing of the Master's thesis, which completes the programme.

Table 3 presents the courses that are part of the Infonomics MSc programme which starts twice a year (September and February). Students follow two parallel courses in each course period (with a total study load of 40 hours per week). The Master's project concludes with a Master's thesis. The courses address several general themes:

- Courses (1), (2), and (7) deal with the organisation, delivery and use of high-quality business information, aimed at the use of business information for economic purposes. The relationship between ICT investment, innovation and economic performance is also dealt with. Furthermore, students learn the theoretical and methodological background on the relationship between intellectual capital, knowledge systems and business performance.
- Courses (3), (4), and (6) deal with the impact of information technology on the economic structures in an information society. These courses highlight the role of information in economic systems, and in so doing, introduce the main theories about individual decision-making under uncertainty and the impact of informational asymmetries on economic relationships established by contracts or trade institutions. Furthermore, economic issues that result from the rise of the Internet are studied from the perspective of the theory of industrial organisation. Finally, these courses cover the substantial legal aspects of industrial and intellectual property law with specific relevance for the information society as well as the management of intellectual property rights.
- Courses (5) and (8) are reserved for a Master's thesis project.

*Table 3: Structure of the MSc Infonomics programme*

<b>MSc Infonomics</b>		
Term I	Information Analysis & Business Intelligence (1)	ICT, Innovation and economic performance (2)
	Intellectual Property Rights in the information society (3)	Internet Economics (4)
	Skills on research methodologies and writing a Master's thesis (5)	
Term II	Information Economics and Policy (6)	Master's thesis project (8)
	Intellectual Capital and Knowledge Systems (7)	Master's thesis project (8)
	Master's project 3: Finalising the Master's thesis project (8)	

#### **F4: Requirements**

The programme meets the following criteria applicable to a degree programme at a University (WO):

- The students acquire knowledge on the interface between teaching and academic research within the relevant disciplines;
- The programme follows the developments in the relevant academic discipline(s), as it is demonstrated that it incorporates current academic theories;
- The programme ensures the development of skills in the field of academic research;
- For those courses for which this is applicable, the course programme has clear links with the current professional practice in the relevant professions.

#### **Description:**

The self-study gives the following overview:

### *Interaction between research and teaching*

The institutes MARC, UNU-MERIT and ROA are closely linked to the Infonomics programme. These close connections to research – both purely academic and more market-oriented research – and the research institutes offer various opportunities to select Master's thesis assignments. Moreover, these close connections also guarantee an educational programme that keeps up with the state of the art in research and contemporary business practice. Infonomics is a highly dynamic field and thus requires a dynamic attitude towards keeping the courses and course material up to date.

In the MSc programme students work on research questions with increased complexity (as compared to the BSc programme) and are trained in the development of advanced academic research skills. Assignments and course work are explicitly linked to research activities and the development of general research skills such as data gathering, data analysis and evaluation of results. Table 4 lists how research is linked in various ways with elements of the MSc Infonomics programme. Although almost all courses provide this link, the ICT, Innovation and economic performance course is presented here explicitly as an example that deals with these issues during the course, and the main course assignment concerns a small research project to be carried out in small groups.

*Table 4: Links between research and education*

<b>MSc Infonomics</b>	<b>Links between research and education</b>	<b>Instructional activities</b>
Course period 1	Academic Reasoning, Development of Research Skills.	In the ICT, Innovation and economic performance course, students have to assess ICT-based investment projects by researching either case studies or data at a more aggregate level. The cases and/or data stem from research projects carried out by the instructors in various projects. Research methodology is explicitly included in this course
Course periods 1 - 4	All courses address issues of academic research	Assignments to conduct research activities, prepare presentations and reports, perform case studies
Skills period 1	Skills related to Master's thesis project	Integrated course dedicated to various aspects of how to write a Master's thesis. Students learn specific research issues as addressed in their study.
Course periods 3 – 4	Master's thesis project	Two mandatory course periods are dedicated to working on the Master's thesis project. Departments offer meetings to discuss the progress of the thesis.
Skills period 2	Master's thesis project	Students finalise their work on the Master's thesis

### *Acquisition and development of advanced academic and research skills*

In each course of the MSc in Infonomics, students read international top-level articles that further train their academic thinking. Many courses also include small research projects, often in cooperation with business practice, e.g. on case studies, or academic research, some of which come from research projects carried out at for example UNU-MERIT. Methodological aspects and academic reasoning are included in all courses. For example, the course on Intel-

lectual Capital and Knowledge Systems explicitly deals with the methodological background on the relation between capital, knowledge systems and economic performance. This includes a theoretical understanding of concepts like human capital, intellectual capital and intangible capital, and students are trained on how to make these concepts operational. It is more or less inherent in the subject of the study that all courses and subjects are derived from recent problems and developments in the information society.

A two-week skills training prepares students for conducting their personal research project: the Master's thesis project. Moreover, this skills training also trains students to write project proposals in general. The Master's thesis project is guided by a faculty supervisor and culminates in the Master's thesis.

#### *Infonomics relates to the professional world*

FEBA's problem-based learning (PBL) approach is the best evidence of its preoccupation with the reality of the professional world. Right from their first day of study at Maastricht University, students learn from current business and academic concepts and problems. Courses are designed in such a way that students encounter a wide range of problems.

Facet 1 above lists the involvement of companies and other organisations in the Infonomics programme. Additionally, there are several ways in which the link between the education programme and professional practice is ensured:

- The Infonomics programme not only includes cases but also guest speakers from companies representing different parts of the corporate world. The typical Maastricht approach to PBL is a guarantee for real-time learning from business and other organisations. Internships are also classified under this heading.
- A fairly large number of faculty positions are combined with a business career. Within the different functional and other departments we see different configurations of parallel and sequential positions in business and academe. Several full chairs are sponsored by companies. At the moment at least four new, full chairs are under discussion with companies.
- Most full professors are allowed to work (on average) one day a week for third parties. This permission is granted to facilitate the exchange and accumulation of applied expertise. Quite often, this takes the shape of a consultant's role. In the Maastricht context, several other faculties regularly cooperate or exchange views with companies. Students' internships and their supervision are other typical examples of consultancy in disguise.
- Faculty expertise is called on by companies and can take different forms. Faculty members may be invited to chair or participate in a working group, or they may also be asked to write a proposal or recommendation.

All these aspects ensure that the programme has clear links to current professional practice in the relevant professions.

#### **Assessment:**

The report of the Taskforce Infonomics was provided as an appendix to the self-study. The committee has reviewed the report and agrees with its conclusions about the lack of focus of the old programme.

The committee has reviewed the five available Master theses (not being 'doctoraal' theses) from the (old) MSc Infonomics programme. The relationship between the topics of the theses

and the essence of the Infonomics programme was unclear. This may have been a result of the lack of focus in the old programme. Also, the grades were a bit too high. Therefore, the Master's theses need special attention. The representatives of the programme agreed with the committee that more focus on the core courses of the programme is desirable. The programme uses a standard assessment form for evaluating the Master's thesis. The committee is of the opinion that both assessors need to continue to make explicit and quantitative use of the eight criteria on this form. Furthermore, more interaction is possible between the programme and the research institute UNU-MERIT in the area of Master's theses (see also F20).

According to the committee enough evidence has been provided for the existence of a clear interaction between teaching and research activities in the programme. During the visit in Maastricht, the committee reviewed a selection of the literature used in the programme, the readers with recent scientific articles and exam questions and model answers. The programme corresponds to recent developments in the relevant academic disciplines and incorporates current academic theories.

In the self-study the six courses in the Master's programme were described. During the discussions with the faculty, the content of and the relationships between these courses were clarified in a way that the committee finds attractive. The programme ensures the development of skills in the field of academic research. The management of FEBA has informed the committee that an evaluation will take place at the end of the academic year: attention will be paid to the different courses and their coherence as well as the different requirements to be met by the six courses, such as with respect to quantitative methods.

The self-study provides evidence of sufficient relationships to the professional world.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

**F5: Relationship between aims and objectives and contents of the programme**

- The course contents adequately reflect the final qualifications, both with respect to the level and orientation, and with respect to domain-specific requirements.
- The final qualifications have been translated adequately into learning targets for the programme or its components.
- The contents of the programme offer students the opportunity to obtain the final qualifications that have been formulated.

**Description:**

The self-study gives the following overview:

Infonomics involves a collaboration between the departments of micro and macro economics and accounting and information management. As presented above, the main objective of the programme is to educate professionals who are able to analyse the economic impact of new technologies in general, and information and communication technologies in particular, and who understand the implications of these technologies for companies, markets and societies at large.

Infonomics students thus learn how information and communication technologies are implicated in economic changes and the effects of these changes for companies, regions, nations and the global environment. In order to function effectively they will need to:

1. Understand the economic impact of ICT on society and business.
2. Understand the economic environment in which their organisations and clients function.
3. Recognize the importance of innovation and human capital for companies and for societies at large.
4. Learn theoretical and methodological background on the relation between physical capital, intellectual capital, knowledge systems and economic performance.
5. Understand the consequences of ICT for markets, social interaction and consumers' choice.
6. Understand information as an economic concept.
7. Learn necessary methodologies for policy and strategy analysis.
8. Be able to analyse complex relations between new technologies and economic performance at both the company level and the level of society.
9. Be able to interact with decision-makers in the public and private sectors about the policy and strategy implications of their analyses.
10. Be able to conduct scientific, well-founded research in their future career within private firms, governmental organisations or research communities.
11. Understand the economic importance of intellectual property rights, especially with respect to digital goods and services.

In order to achieve the competences listed above, the Infonomics programme combines courses provided by the economics and information management departments and receives additional support from the law faculty. Some competences demand a single-disciplinary approach such as, for instance, the understanding of information as an economic concept. Other competences allow or even call for a combined approach, such as understanding the economic impact of ICT on society and international firms. This implies that some courses are provided by a single department whereas others are the result of close collaboration between two departments.

Table 5 displays the titles of the six courses of the new MSc Infonomics programme, the main disciplines involved and the domain-specific aspects from the above-mentioned qualifications which are addressed in each specific course. With the exception of two cases, all courses are particularly designed and shaped for the Infonomics programme.

*Table 5: Courses and disciplines for MSc Infonomics*

<b>Course title</b>	<b>Main Discipline(s)</b>	<b>Aspects addressed</b>
Information Economics and Policy	Economics (Micro)	2, 5, 6, 7, 9, 10, 11
Internet Economics	Economics (Micro)	1, 2, 7, 8, 9, 10, 11
Information Analysis & Business Intelligence	Business (IM)	1, 3, 4, 6, 8, 9, 10
Intellectual Property Law and the Information Society	Law and Economics	3, 6, 10, 11
ICT, Innovation and Economic Performance	Economics (Micro/Macro) and Business (IM)	1, 2, 3, 4, 7, 8, 9, 10
Intellectual Capital and Knowledge Systems	Economics (Micro/Macro) and Business (IM)	1, 3, 4, 8, 9, 10

At the Master's level, authentic learning requires that, like in professional practice, students encounter ambiguous data in need of interpretation. When problems already contain obvious

conclusions and interpretations, no real thinking will occur. The academic Master's project stimulates students to formulate new theoretical insights, devise their own research questions, and learn how to assess the reliability and validity of their research findings. As mentioned before, FEBA aims to mirror professional practice in its courses and programmes. Therefore – if possible and relevant – courses contain problem or case materials that are ill-structured, and contemporary, in order to initiate productive group sessions. The use of relevant actual problems is strongly endorsed to foster higher-order reasoning skills, which are relevant to practice.

### **Assessment:**

The committee refers to facet 1 for comments on the Master's theses.

According to the committee the relationship between the general objectives of the new programme, the end-qualifications of the MSc graduates and the individual courses in the curriculum have been clearly identified in the self-study (see tables 2 and 4 for review). The committee has reviewed the detailed relationships between the qualifications and the curriculum as provided in an appendix of the self-study. They are clearly identified.

Furthermore, the committee concludes that the final qualifications have been translated adequately into learning targets for the new programme and its components based on the review of the material made available during the site visit, such as course descriptions, literature used and readers.

The contents of the new programme offer students *a priori* the opportunity to obtain the final qualifications formulated. The committee advises the management of FEBA to evaluate this aspect once the first year of this newly restructured programme has been completed.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

#### **F6: Coherence of the programme**

Students follow a programme of study that is coherent in its contents.

### **Description:**

The self-study gives the following overview:

The MSc Infonomics programme builds on three cornerstones: advanced academic knowledge, practical relevance, and skills development. During their studies, students get acquainted with academic knowledge that helps them to deal with complex problems. They learn to judge the information at hand, question underlying assumptions and select useful approaches to deal with the situation. Coherence in the programme is monitored by the Programme Coordinator through regular meetings with department heads, course coordinators, thesis coordinators, student advisors, and students. The Programme Coordinator ensures that all relevant aspects as described above are included in the programme, that no unnecessary overlap exists between courses, and that the order in which courses and subjects are provided is logical.

As mentioned above, the programme combines several disciplines. Some topics are dealt with from a single discipline, e.g. Information Economics, whereas others demand a multidisciplinary approach. In order to cover all the relevant aspects at a rigorous academic level, the

programme does not allow for elective courses. This means that in addition to writing the Master's thesis and the related skills training, all remaining courses within the programme are compulsory.

Students can enrol in the programme in September and in February. Those who start in September will follow the courses in the order listed in table 2 above. Although these courses are clearly related, thus creating a coherent programme, there is no specific chronological interdependency, with the exception of the Master's thesis project, which has to be positioned in the second term. Moreover, the course "ICT, innovation and economic performance" defines some key elements of the programme and has to be located at the beginning of the study. This implies that those students who start in February will receive the same courses but in a slightly different order. They follow the courses that are listed in the right column in table 3 in exactly the same order, whereas the order of courses listed in the left column is: (6), (7), (5), (1), (3) and finally (8). This means that courses (2), (4), (5) and (8) are provided twice a year.

After the first term, all students take part in a skills training that prepares them for their Master's thesis. In the second term, students then work on their individual thesis project (as well as a single course of nominally 20 hours per week). Based on knowledge and interests developed in previous courses, students formulate an individual research proposal during the skills training period. Guided by a faculty expert they further develop their proposal, select a theoretical framework and methodology to come to theoretically and practically valuable results. This individual project culminates in the Master's thesis.

#### **Assessment:**

Evidence for the coherence of the MSc programme is clearly provided in the description of the programme content and structure. As the new MSc programme has not yet been running for a full academic year, evaluation is scheduled for September 2007. The quality assurance system that FEBA is using convinces the committee that there is adequate surveillance over the coherence of the programme.

*Master programme Infonomics* The assessment by the committee is **satisfactory**.

#### **F7: Study load**

The programme can be successfully completed within the set time, as certain programme-related factors that may be an impediment to study progress are removed as much as possible.

#### **Description:**

From the self-study:

##### *Analysis of actual versus planned study load*

Table 6 contains information about the perceived workload in the MSc Infonomics programme. During the full Infonomics programme, students take 2 courses simultaneously. Results show that the perceived workload is fairly high (35 - 38 hours per week) and generally in concurrence with the planned work load. The number of contact hours is about 8 hours per week or 4 hours per course. It should be noted that the estimates about the MSc programme in 2004/2005 are based on data taken from students who entered the selective Master. BSc graduates entered the MSc programme for the first time in September 2005, which may account for a decrease in the workload for some courses in 2005/2006. Note that the list of courses is

based on the previous Infonomics programme and that some courses are no longer included in the programme as from September 2006.

*Table 6: Students' estimates about perceived study load*

	Course	Study load per course in hours per week.*	
		Year 2004/2005	Year 2005/2006
Perceived study load by students as questioned in surveys	1042M (Network society)	20	14
	1037M (Intellectual property law and the information society)	13	17
	1032M (e-business and economics)	20	12
	1035M (Hypermedia & the web)	20	20
	1036M (Information economics)	14	14
Average study load per week**		37.2	34.8

\* Contact hours (about 4 per course) not included (targeted study load is 18 hours per course excluding contact hours)

\*\* Contact hours (about 8 per week) not included (targeted study load is 36 hours excluding contact hours)

#### *Factors affecting students' study progress*

FEBA has a number of facilities in place which ensure that students are provided with relevant and timely information to plan and maintain the progress of their study. These facilities are intended to positively affect the study progress of MSc Infonomics students.

#### Information about course requirements

Basically, all the information that students need for their study is mentioned in the study guide, the examination regulations and the course descriptions. This information material can be found electronically (EleUM) or at the Information & Service Desk. For all remaining issues, students can place a query with Surfyourself (electronic information service), make an appointment with the study advisors, or contact the course coordinators. *EleUM*: All relevant information for students (such as the academic calendar, schedules, regulations, deadlines and procedures, test results, etc.) is published in EleUM. EleUM is the university's electronic learning environment that is accessible via any PC with Internet connection (<http://eleum.unimaas.nl>). The information in EleUM is continuously extended and updated. It contains course descriptions and requirements, as well as scheduling information, course set-up, course materials, literature, exam results, and course evaluations. The system also provides facilities to post announcements about changes or any other matters for all course participants (or specific tutorial groups).

#### Information & Service Desk

The FEBA Information & Service Desk is the central place in the faculty to which students can turn with all their education-related questions and/or requests. In most cases, the staff members at the Information & Service Desk will be able to answer the question or handle the request. If not, the student is referred to the right offices/people. In general, the back offices work on an appointment basis in order to avoid students having to queue. Students can also obtain information brochures and course information at the information desk.

#### Surfyourself

In September 2001 the faculty introduced a completely new electronic service for students: Surfyourself. Surfyourself is an advanced information system containing the widest possible

range of standard information for current and future students in the form of questions and answers. This knowledge database contains information about education and exams, student life, enrolment and registration, scheduling, internationalisation, facilities, etc. If students cannot find the answer to a specific question in the Surfyourself database, they can submit the question. Students will receive an answer to their questions within two working days. Surfyourself is available 24 hours a day and 7 days a week and is accessible on the Internet at <http://www.fdewb.unimaas.nl/surfyourself>.

#### Monitoring study progression and completion

In the 1990s, the faculty developed its Management Information System for Education and Research (MISO), which has now grown into a fully fledged web-based professional information system. Among other things, MISO provides detailed information on study progression and completion rates for all programmes over a 13-year period. This database has become an indispensable source of information for Programme Directors and the Faculty Board for monitoring and decision-making. MISO provides information about the study length per programme and the percentages of students who finish their studies on schedule or with a delay. It also allows the progress of specific groups to be monitored, e.g. according to nationalities, gender, or prior education.

#### Programme Coordinator

At several stages in the programme, the Programme Coordinator organises meetings with students to discuss the programme, to signal problems that may occur, and to discuss possible suggestions to improve the programme. Since Infonomics is a small programme in terms of the number of students, students can also contact the Programme Coordinator directly.

#### Infonomics and Economics Students Network

The Network of Infonomics and Economics Students organises regular meetings and invites speakers from different backgrounds (academia, business, governmental organisations, etc.) to give their opinions and experience on current topics related to the study. The network also keeps in touch with the alumni and provides information on job offers.

#### Multiple starting dates

The MSc Infonomics programme starts twice a year. Students can enter the programme in September and in February. This offers a flexible structure, particularly for students transferring to the MSc programme after completing a Bachelor's programme. It avoids a situation in which students who have not completed their studies around the end of the regular academic year (July/August) have to wait a period that may extend to 11 months before they can enter the MSc Infonomics programme.

#### **Assessment:**

According to the committee, the workload can be called challenging. The students also considered this workload heavy, sometimes in terms of content and otherwise in terms of time pressure. However, students did not complain about the workload. This aspect should also be evaluated at the end of the first year of offering this new programme. The development of the workload requires attention.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

**F8: Intake**

The structure and contents of the programme are in line with the qualifications of the students that embark on the degree course:

- Bachelor's degree at a University (WO): VWO (pre-university education), propaedeutic certificate from a University of Professional Education (HBO) or similar qualifications, as demonstrated in the admission process.
- Master's degree at a University (WO): bachelor's degree and possibly selection (on contents of the subject).

**Description:**

The self-study gives the following overview:

Dutch legislation requires that faculties offer at least one directly connected Master's programme for each Bachelor's programme, which students can enter without any additional admission requirements if they have been awarded the corresponding Bachelor's degree. FEBA's BSc Infonomics degree, BSc International Business degree and BSc International Business Economics degree allow students to enter the MSc in Infonomics without meeting additional requirements.

Selection for the MSc in Infonomics is only done for candidates who received their Bachelor's degree in a different institution or in a different (not directly connected) programme at Maastricht University. All the FEBA Master's programmes require these applicants to have successfully completed a BSc study. Applicants from a country that is not a member of the European Union/European Economic Area have to demonstrate their proficiency in English by submitting the results of a TOEFL test or IELTS test. All applicants are required to send a curriculum vitae and a letter of motivation.

The MSc Infonomics programme has specific GMAT score requirements: Applicants to the MSc Infonomics programme will be admitted directly if they have a GMAT score of 600 or more, provided that they have fulfilled the other requirements. A score between 450 and 600 will be evaluated in combination with the other application information.

A Board of Admission has been established for each Master's programme. The Board of Admission consists of an uneven number of faculty members. They meet on a rolling basis, or when enough files have been collected. If all the other requirements are met (Bachelor's degree, GMAT, English language test), the application package is assessed. A different emphasis is placed on different parts of the application package depending on the intake profile of the study programme.

The Board of Admission's selection procedure for the Infonomics programme is based on the following criteria:

- a. Preparatory Bachelor's programme  
Students who have been awarded the degree of BSc in Economics/Infonomics or BSc in Economics at FEBA will be admitted to the MSc in Infonomics programme.
- b. Conditional admission  
Students who have not yet been awarded the degree of BSc in Economics/Infonomics or BSc in Economics at FEBA will be admitted to the MSc in Infonomics programme, provided that the student has fulfilled all the educational requirements of one of the aforementioned BSc examinations at FEBA before the start of the Master's programme and provided that the student fulfils the outstanding requirements of that BSc exam and

submits proof thereof to the Board of Examiners within one course period from the time of the student's commencement of the MSc in Infonomics programme.

#### *EU / EEA Students*

In order to be eligible for admission to the MSc in Infonomics programme a student needs to fulfil the following requirements:

- provide proof of having obtained a Bachelor's degree and provide a transcript of exam subjects and grades, and
- provide a satisfactory GMAT test score, entailing a denial of admission if the score is below 450, an evaluation along with all the other requirements if the score is between 450 and 600, and admission if the score is over 600 and all the other requirements are met, and
- write and submit a motivational essay on a pre-determined topic.

#### *Exemption from GMAT or GRE requirement*

The Board of Admissions can decide to exempt a candidate from the GMAT or GRE requirement if the candidate has passed at least four final Bachelor courses offered at FEBA, as specified in the study guide.

#### *Enrolment trends*

Data are available only from 2003, given that the Bachelor-Master structure was only introduced at FEBA at the start of the academic year 2003/2004. Enrolments in the MSc Infonomics programme were: 2 (September 2003), 5 (September 2004) and 3 (September 2005).

#### *Correspondence with prior education*

Due to increased diversity in student enrolment, FEBA has developed several flexible programmes – adapted to the individual needs of students – that help students to meet the admission requirements. FEBA offers pre-Master's programmes and provides a general introduction to the development of problem-based learning skills needed at FEBA.

#### *Public relations activities with respect to the content and prospects of the study*

The information provided to both internal and external parties is centralised in a special Infonomics website ([www.infonomics.nl](http://www.infonomics.nl)). This website provides access to all the information on the various Infonomics courses for potential students. The site is kept up-to-date by staff members involved in the Infonomics programme and by Infonomics students. At the start of the MSc programme, all new Infonomics students are linked to the Infonomics website. As a result, Master students can provide all kinds of information on their activities and experiences within the Infonomics Master programme. As such, the website provides prospective students not only with factual information on the Infonomics programme, but also with more personal insight into the Infonomics programme from former students.

#### *International marketing and student recruitment*

So far, the majority of foreign students have come from the neighbouring country Germany (77% of all foreign students). This is because international student recruitment activities in the 1990s focused mainly on this country, and FEBA's reputation further added to the growing number of applications from German students. Current student recruitment has broadened its zone of activity significantly. In 2002/2003, recruitment in Asia was strengthened by sending faculty staff to China (mainland) and Taiwan for selection purposes.

Specific promotional activities for external parties with respect to the Infonomics programme are embedded in the overall promotional activities within FEBA. Recruitment activities for Master's students organised by FEBA include:

- information days at the faculty (four times a year);
- participation in the student fairs in Central/South America;
- participation in the student fairs in China (with the UM activities);
- participation in the annual Dutch Masterfair, Utrecht;
- participation in various 'choose your study' websites (e.g. [www.bamas.nl](http://www.bamas.nl) or [www.universitaireMasters.nl](http://www.universitaireMasters.nl));
- promotion through the faculty website ([www.fdewb.unimaas.nl](http://www.fdewb.unimaas.nl));
- UM-wide Master flyer and a faculty Master brochure (new update ready in September 2006).

To promote the Infonomics programme in a more general sense, staff members are actively involved in maintaining the Infonomics-related pages on wikipedia.

Internal promotion to Bachelor's students focuses on both economics and business students. At FEBA, information to Bachelor's students is provided within a fixed structure that gives them a broad introduction to all the Master's programmes offered at FEBA. This structure is based on plenary presentations by staff members and small-scale meetings with Master's students to provide Bachelor's students with all information well before they complete their Bachelor's studies.

#### **Assessment:**

According to the committee the selection procedure for enrolment has broadly defined selection criteria, and the Board of Admissions ensures that enrolling students meet the requirements of the MSc in Infonomics programme

Since this newly restructured programme started in September 2006, the committee could not be informed by the students who just entered about their problems experienced in the connection between their previous degree programme and the MSc in Infonomics programme. This aspect should also be evaluated at the end of the current academic year.

According to the committee the objectives of the programme can only be met when a certain level of prior knowledge is present. In the self-study an overview is given of the possibilities for enrolment; these are too broad in the committee's opinion. More specific prior required knowledge needs to be defined.

The committee has discussed with the management and staff the measures taken in the Bachelor's programme (such as a new Infonomics course) in order to increase the number of Master's students in Infonomics. The current marketing of this programme, including the name of the programme, can be an obstacle to the recruitment of students at home and abroad.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

**F9: Duration**

The degree course complies with formal requirements regarding the size of the curriculum:

- Bachelor of a University (WO): 180 credits as a rule.
- Master of a University (WO): a minimum of 60 credits, dependent on the relevant degree course.

**Description:**

The programme of the MSc in Infonomics contains 60 ECTS study points and complies therefore with the formal requirements with respect to the size of the curriculum.

**Assessment:**

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

**F10: Coordination of structure and contents of the degree**

- The didactic concepts are in line with the aims and objectives.
- The teaching methods correspond to the didactic concept.

**Description:**

The self-study gives the following overview of the instructional design of the MSc Infonomics programme

Since its inception in 1984, all the programmes offered by FEBA have been designed around the key principles of problem-based learning (PBL). In addition, FEBA has consistently been working on courses for skills development, programmes with a high degree of academic rigour, an international profile of the students' classroom, international content of courses, and further development of educational innovation in economics and business. Finally, all the programmes are built on shared ideas (see, for example, the study guides, book publications, etc.) about student selection, the international classroom, international content, assessment, course and programme evaluation, and management of the programmes.

Innovation in teaching is part of the educational philosophy of FEBA, and the instructional method aims at preparing students for life-long learning. Graduates from FEBA are broadly educated specialists with the capacity to become the leading managers for the future. All degree programmes, including Infonomics, are composed of the following building blocks of FEBA's mission:

Based on the principles of problem-based learning: student-centred education, small-scale group learning, based on analysis of cases, problems or assignments, coached by tutors, assessed through a variety of evaluation methods, aiming at the development of problem-solving skills, with a strong focus on self-directed learning.

*International profile* in student body, course content and classroom composition.

*Development of multidisciplinary perspectives – where possible and relevant – in courses.* For example the ICT, Innovation and Economic Performance course deals with the role of ICT in business performance and in sectoral and aggregate economic performance. It includes modelling techniques from microeconomics to analyse the impact of ICT on economies, and deals with measurement issues from accounting and information management to analyse the impact of ICT on businesses.

*Linked with business practice or the economics context.* The majority of courses in all FEBA's degree programmes are organised around a leading theme from business practice or an economics context. For example, the Infonomics programme contains many courses organised around key issues and materials which are offered by companies. Course coordinators aim to get company materials, input, and personal commitment directly from companies.

*Academic rigour.* All degree programmes require students to acquire a body of analytical skills through course offerings in mathematics, statistics or other quantitative methods. In addition, all programmes require substantial work to be done on writing academic papers and presenting academic work in various forms. Finally, all Master's programmes require students to conclude their programme with a thesis.

#### *Continuous educational innovation*

FEBA considers continuous attention for educational innovation as a core activity. For that purpose, FEBA has a Department of Educational Development and Educational Research (EDER) whose goal is to contribute to further development of the pedagogies in our programmes through development, evaluation and research. Additionally, FEBA houses the EDiNEB secretariat. This international network organisation aims to offer a platform for the exchange of ideas, information and knowledge through organising international conferences and workshops, providing consultancy, and publishing books.

Over the years, FEBA has developed the policy of discussing potential ideas for projects that contribute to the further development of our educational activities with EDER on a frequent basis. Recent strategic plans have identified several issues in need of further exploration, so that projects are initiated that improve our educational profile. The following issues have been defined in the strategic plan as areas which are in need of further development:

- innovative Master alliances and consortia
- Master's courses that form a bridge between the academic world and corporate needs
- new pedagogical measures that improve selection procedures, provide new ways for academic counselling, adapt programmes to students' needs, and develop new practices for the intercultural classroom.

At the time of writing, the Faculty Board is working on the outlines of new proposals from EDER and several committees in these areas.

In summary, FEBA regards pedagogical innovation as an essential part of its policies. For that purpose it has built up an educational infrastructure (EDER & EDiNEB), developed a long tradition in stimulating participation in educational development projects, and set up a call for new proposals that contribute to the further development of its programmes.

#### *Course philosophy: Educational innovation based on small-scale teaching*

In order to cope with societal challenges and their educational implications, the use of PBL approaches in higher education has been promoted by many educators. FEBA has adopted this approach since its inception in 1984. In general, PBL refers in many ways to contextualised approaches to instruction, which take on different forms and are used in different domains. In PBL, it is essential that a problem initiates free inquiry by students working together in a group. PBL creates opportunities for students to work in groups in order to seek and acquire knowledge for problem solving, based on the use of authentic problems. To realise the full potential of PBL, teachers and course designers have

grounded their educational development in modern constructivist theories, or in research on collaborative learning.

PBL as a leading instructional philosophy has been implemented in various fashions. Nevertheless, all courses – with the exception of the skills trainings which by their very nature have to be different from PBL – have the following characteristics: small-scale instruction, strong connectedness to the corporate world or economic institutions, emphasis on the coaching role of teachers, and diversity in information resources.

#### *Variety of study activities*

The PBL system described above is primarily based on students working in small groups of five to twelve, with the assistance of a faculty tutor. Depending on the nature of the course, content, and position in the programme, each course may vary in terms of the degree of structure, the complexity of cases, the number of meetings, the role of additional instructional methods such as lectures and seminars, assessment, or the nature of information resources.

In most courses, lectures are organised to provide plenary instruction on specific themes or relevant real-life events. Also, lectures offer the opportunity to invite guest speakers from the corporate world to familiarise students with their view on the topics discussed in a particular course.

Many courses use instructional methods such as cases, workshops, student presentations and seminars, in addition to the PBL group meetings. Skills courses usually offer a more practical hands-on approach. For example, during the skills training related to writing a Master's thesis, students have to formulate an individual research proposal supervised by a faculty member.

#### **Assessment:**

The committee concludes that the MSC in Infonomics programme operates within a department with a clear and highly qualified didactic concept: problem-based learning. This concept is reflected in the small group size in the curriculum, the close relationships between the students and the members of the academic staff, and the variety of study activities. Research by EDER accompanies PBL.

The committee wants to stress that the context for a good programme exists. The programme attracts few students currently, resulting in working in a small group and high student orientation. However, the committee has focused on the quality of the programme as such (as mentioned in the introductory chapter) and the didactic environment in which Infonomics operates.

According to the committee, the relationship between contact hours, self-study hours and other study activities in the MSc Infonomics programme correspond well to the well-known and highly valued didactic concept of PBL at FEBA.

*Master programme Infonomics:* The assessment by the committee is **good**.

**F11: Assessments and examinations**

The system of assessments and examinations provides an effective indication whether the students have reached the learning targets of the course programme or its components.

**Description:**

The self-study gives the following overview:

*Coherence between programme content and examination*

The method of examination and assessment in all the Master's programmes offered at FEBA is connected to the PBL technique and to the intended objectives of the curriculum to the maximum possible extent. However, as the method of examination and assessment remains the individual responsibility of a course coordinator, it differs widely per course. In most cases, students have to pass a written or oral examination at the end of a course, but it is also possible that the final examination consists of writing a final paper. Moreover, students are often required to write papers and/or give presentations during a course. The precise requirements that students need to fulfil in order to pass a course are described in detail in the course manual for the particular course.

Given the variety of objectives for the courses that are offered in the MSc Infonomics programme, and the didactic forms used within them, a uniform testing system is not considered desirable either. This does not mean, however, that consultation concerning and streamlining of the way in which examination and assessment takes place cannot be optimised. Unity in the way in which knowledge and skills (e.g. presentation skills, writing skills, research skills, etc.) are assessed in a single course is considered necessary because this increases the examination and assessment transparency for students. Moreover, it is believed that consistency in the feedback given to students optimises the effect of education.

Although every Master's thesis is 'tailor-made' and needs to be considered as such, the faculty has developed a number of assessment criteria with regard to the content and form of the Master's thesis. With regard to its content, it is assessed on three aspects: subject matter, reasoning and method. With regard to its form, it is assessed on two aspects: appearance and structure. Subject matter, reasoning and method together determine the partial grade for content, which constitutes 80% of the final grade; appearance and structure together determine the partial grade for form, which constitutes 20% of the final grade. Both partial grades need to be at least 5.5. The Master's thesis is graded by the student's supervisor and a second examiner. The second examiner is assigned by the department. Students who have obtained a grade of 5.5 and higher have to defend their final thesis in front of their supervisor and a second examiner. The examiners supply what is referred to as an 'exam script', containing the final grade and a short report. The defence can change the grade by one point (+1 or -1) at the most. If the resulting grade is lower than 5.5, a single resit of the defence will be offered.

*Feedback to students*

For each exam, the course coordinator prepares an answer key or answer model which provides students with feedback on the content of the answers that are expected. The procedure for publication of the answer key is indicated on the front page of the exam. The typical procedure is that an electronic version of the answer model is published through EleUM shortly after the exam has been held.

Publication of the results of exams takes place within 15 working days after the date of the exam and is done by the FEBA exams office.

Within a period of three weeks after the publication date of the results of a written examination, students will have the opportunity to inspect their assessed work. In the case of closed question exams (multiple choice, true/false questions), comments or complaints on the exam must be submitted to the course coordinator within a limited number of days after the exam, to be announced by the course coordinator.

The course coordinator is responsible for the announcement and organisation of the opportunity offered to students to inspect their assessed work. This is usually announced on the front page of the test, with the digital publication of the test results, or on the course's or the course coordinator's website.

If a student can demonstrate that there are/were circumstances beyond his/her control as a result of which he is/was unable to inspect the exam at the indicated time and at the indicated location, another opportunity for inspection will be offered to this student within the above-mentioned period of three weeks.

After the inspection, the student has the right to file a complaint with the course coordinator. The required procedure (i.e. in writing, during special office hours) is determined and announced by the course coordinator. If it proves impossible to reach agreement between the student and the course coordinator, the student can submit the complaint by means of a motivated and documented letter to the Board of Examiners within a period of four weeks after the publication date of the test results.

If the student is not satisfied with the decision of the Board of Examiners regarding the complaint, he/she can lodge an appeal with the Board of Appeal for Examinations. A student can only appeal if a decision has directly harmed his/her interests.

The written or digital statement of the result of the examination indicates that the student has the right to appeal to the Examination Appeals Board pursuant to Article 7.61 of the Dutch Higher Education and Scientific Research Act (*WHW*) and the period within which the appeal should be lodged. Note: appeals to the Board of Appeal for Examinations should also be lodged within the period of four weeks after the publication date of the test results. The procedures of the Board of Appeal for Examinations are described in the Board of Appeal for Examinations Regulations for Appeal.

#### *Uniformity and consistency*

FEBA has developed several assessment regimes for different parts of the programmes. The course test takes place in week 8 of the course period concerned. The result of a course test is organised in the next test period. Where marks are given, they will be in whole or half mark points on a scale of 1 to 10. Assignments will be marked "satisfactory" or "unsatisfactory". The requirements for the writing assignment(s) and the method of assessment are stipulated in the 'regulations for the first-year writing assignment'.

Any form of exchange of information during the execution of written assessments is forbidden, unless explicitly stated otherwise. If such exchange is detected, this will be considered cheating. With regard to writing assignments, any form of plagiarism is forbidden. Plagiarism

is defined as the unauthorised copying or adoption of other people's texts. This is considered cheating. FEBA uses anti-plagiarism software (Turn it-in) to detect whether students have committed plagiarism.

Particularly during the first years of its history, FEBA searched for innovative ways of student assessment to support its programme's aims and objectives. The current assessment regimes are the outcome of a period of extensive testing and evaluating of various modes of assessment. The Department of Educational Development and Educational Research (EDER) conducted a series of evaluation studies in the 1990s to advise FEBA on developing appropriate assessment methodologies. During this period, FEBA evaluated the provisions that should be made for resit assessments, for example, the minimum test length for true/false exams, the assessment criteria needed to develop reliable procedures for judging writing assignments, what kind of criteria should be employed to evaluate the reliability and validity of true/false tests, and what kind of evaluation criteria should be developed to assess students' progress.

The Board of Examiners, consisting of the Programme Directors of the various Bachelor's and Master's programmes, deals with specific legal administrative affairs and general educational issues. Members of the Board are appointed by the Dean of the Faculty. Furthermore, the Board of Examiners sets the examination rules for all the educational programmes.

#### *Quality and Evaluation of Assessment Regimes*

FEBA has built an ongoing monitoring system for assessment regimes. By using MISO (Management Information System for Education and Research), Programme Committees, Programme Directors and all academic staff can monitor the students' academic progress in parts of the programmes, pass rates per course, and drop-out rates per course. Upon registration of deviations in terms of passing rates, the Programme Committees and Programme Directors can take action to find out the causes of high fail or high pass rates. In everyday practice, assessment regimes do not often result in unacceptable pass/fail rates. However, as soon as a deviation is registered, standard procedures are followed to find out the causes and obtain detailed information from course coordinators.

#### *Organisation of the examinations*

The FEBA Education and Exams Office (EEO) organises all written exams for which at least ten students are enrolled. The organisation of exams for which fewer than ten students are enrolled and the organisation of oral exams are the responsibility of the course coordinator.

The examination schedules can only be planned per period. This is because students register for electives per period, and the number of participants in each course has to be known before the examination schedule can be drawn up. This schedule will be published in EleUM (electronic learning environment) about a week before the start of the course period concerned. The schedule for resits of graduate courses will be published in the week after the deadline for registration for the same reason: exams can only be planned when the number of participants in each test is known.

All practical information with regard to the written examinations and resits – such as registration terms, location, date and time – is stated in the examination schedules. With regard to date, time and location of an examination, the information mentioned in the examination schedule (or in the version revised by the exam coordinator) always applies. Nevertheless, there may be some additions and/or changes in the examination schedule after its publication due

to unforeseen circumstances, for example due to overcrowding of a location. Changes in the schedule up to two weeks before the planned examination date will be published in EleUM. If anything needs to be changed less than two weeks before the planned examination date, students will be notified personally by e-mail.

In accordance with the examination rules, all students who have been scheduled by the Education Office for a course are automatically registered for the corresponding exam, i.e. the first opportunity in the current academic year. All students who have participated in this first opportunity but have not passed the exam will automatically be scheduled for the corresponding resit by the Education Office. In all other cases students are obliged to register themselves. Students can only register for written exams by computer during the registration periods. Registration is organised by means of an electronic system (ISS) which can be used by students to register for exams they want to take. The ISS is accessible via the Internet. This allows students to register at any location with an Internet connection.

Students must make sure that they register correctly and in time. Registrations can be checked by means of the option 'Inquiry' in the module 'Examinations' of the ISS. Cancellation of an exam registration can only be made during the appropriate registration period. Every student who has registered for an exam is expected to take it. This means that if a student registers for an exam but does not take it, he/she will receive a grade of zero.

#### **Assessment:**

The committee has reviewed the system of assessments and examinations and finds it well designed. The committee has reviewed a number of recent exams as made available during the site visit in Maastricht. The procedures for evaluating the Master's thesis should be followed in practice, the assessment forms with the respective criteria should be completed in detail, and attention should be paid to the coordination between the assessors. For further information about the number of Master's theses available to the committee and their quality level, see facet 20.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

#### **Assessment of the topic "Programme"**

Based on the assessment per facet the committee comes to a summary assessment for the topic "Programme". For the Master programme Infonomics this assessment is **satisfactory**.

### **1.2.3. Deployment of staff**

#### **F12: Requirements for University**

The degree course meets the following criteria for the deployment of staff for a degree course at a University (WO):

Teaching is largely provided by researchers who contribute to the development of the subject area.

#### **Description:**

The self-study gives the following overview about the interaction between research and teaching:

The preparation of educational programmes as well as individual courses is the responsibility of a senior staff member (full professor, associate or assistant professor) or a team of senior staff members. All faculty members hold at least a graduate degree (*Doctorandus*, Master's or *Ingenieur*) in the area in which they teach. Assistant professors, associate professors and full professors are required to have a doctoral degree in the area in which they teach. With a few exemptions, faculty members possess a doctoral degree. All faculty members can be considered professionally qualified.

The content of the courses offered in the Master's programme is directly linked to the research of the faculty members involved in building and teaching these courses. As such, the Infonomics Master's programme is a binding element in the various research efforts within the faculty that are linked to the central profile of the Infonomics programme. (The self-study provides information about the link between the research interests of individual faculty members and the contents of the Infonomics Master's programme.)

The development of courses is a combined effort by various departments within FEBA, particularly those involved in micro-economics, macro-economics and accounting and information management. For a number of courses, the planning group consists of members of several of these fields to ensure a combination of a business economics (IBE) and a general economics (IES) perspective within individual courses.

All courses in the MSc Infonomics programme are developed by senior members of the FEBA academic staff. As such, they are heavily involved in the construction of teaching materials and the didactical design of Master's courses. Also, they usually give lectures within the context of the courses they organise.

As mentioned above, FEBA requires all members of its academic staff who hold the position of assistant professor or higher to have a PhD. As a result, tutors who act as teaching staff within the PBL system have all been awarded PhDs.

Guest speakers are invited within individual courses to confront students with internationally renowned researchers in one of the topics addressed within that course. The faculty employs researchers for a number of subjects who have an outstanding international reputation in their field of expertise.

Apart from the above-mentioned staff members who are directly involved in the study programme for the MSc in Infonomics, many other faculty members work in areas related to Infonomics. The self-study gives a list of these individual faculty members. This implies that education in general and the thesis project in particular receive input from a broad team of specialists.

There are a number of structures that ensure a close relationship between FEBA research and teaching staff and the corporate world.

#### *Company cooperation in research*

As was indicated earlier, there are several applied research institutes that were initiated both in the interests of the corporate world and of the faculty. Most of these research institutes and their programmes are sponsored by companies and/or research grants that were applied for by groups of companies and researchers or research teams. In other cases, government and com-

panies jointly sponsor particular projects. For example, three major commissioned research projects that are pending are: 1) Fraud (in affiliation with the Royal NIVRA and the NOVAA – the two Dutch institutes of auditors); 2) Business Failures (in affiliation with the UK-based European contact group of the big-six audit firms); and 3) Netschool (in affiliation with the Maastricht local authorities and two elementary schools).

#### *Consultancy by faculty members for corporations/organisations*

Most full professors are allowed to work (on average) one day a week for third parties. This permission is granted to facilitate the exchange and accumulation of applied expertise. Quite often, this takes the shape of a consultant's role. In the Maastricht context, several other faculties regularly cooperate with or exchange views with companies. Student internships and their supervision are other typical examples of 'consultancy in disguise'.

#### *Corporate World Project*

In September 2004, FEBA initiated the "Corporate World Project". The goals of the project are to obtain a better understanding of the relationship between the FEBA and companies (including profit and non-profit organisations, government organisations, European institutions, etc.) and to establish contacts and relationships in a more professional and structural manner. In addition, by using the FEBA alumni database, the project will research a) what the corporate world is looking for in university graduates; and b) if the skills and competences of FEBA alumni are in line with the expectations of the corporate world.

#### **Assessment:**

The committee confirms that a large majority of the academic staff (full, associate and assistant professors) of FEBA hold a PhD degree. The self-study also indicates that the course coordinators of the Infonomics courses all have a doctoral degree.

The committee confirms that the majority of teaching staff members do research in areas closely related to Infonomics, as supported by information given in the self-study. Scientific role models are present in the MSc Infonomics programme. The expertise of the staff covers the core domain of the MSc in Infonomics programme.

According to the committee there exist sufficient relationships between the academic staff and professional practice as indicated in the self-study. This was also clarified in the discussions the committee had with the academic staff.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

#### **F13: Quantity of staff**

The staff levels are sufficient to ensure that the course is provided to the required standards.

#### **Description:**

In the self-study the following review of the availability of qualified personnel is presented:

The MSc Infonomics programme is taught by FEBA faculty staff. Courses within the Infonomics programme are primarily developed and taught by members of the Department of Accounting and Information Management and the Department of Economics.

Table 7 lists the size of the departments that are most closely linked to the Infonomics programme. A faculty member is a full professor, associate or assistant professor, lecturer, or a researcher (not a PhD student). Although in the Netherlands PhD students are employees of the university, they are not counted here as faculty members. Both full-time and part-time faculty and administrative and support staff are appointed within departments.

*Table 7: Size of the Faculty of Economics and Business Administration FTE*

Department/unit	2002	2003	2004	2005
Accounting & Information Management	25.65	25.90	26.35	26.90
Economics	43.70	45.10	46.30	48.10

Administrative and support staff hold a position within a department, a research institute or the faculty office. They facilitate financial, ICT, personnel, legal and administrative matters, as well as marketing & communication, recruitment and selection of students, research and education processes. The number and composition of the departments have changed over the years, in compliance with changing research interests or emerging areas of research.

Faculty members with full-time appointments spend 50% of their time on education (lecturing, tutoring, educational innovation, course development, etc., on the undergraduate, graduate and executive level) and 40% on research. At most, 10% of their time is spent on management duties. Faculty staff with part-time appointments generally spend 80% of their time on education.

FEBA aims to consolidate the international composition of its staff. It also wishes to strengthen the international working environment by facilitating sabbatical leaves and the participation of visiting professors in the faculty's research and study programmes. On average, about five to six faculty members spend a sabbatical leave abroad each year for a substantial period of time.

#### **Assessment:**

According to the committee there are too few students currently in the MSc in Infonomics programme. Thus, the student-staff ratio has no meaning in the case of Infonomics. For FEBA the total ratio is circa 35 students per fte for teaching. The committee has been informed that staff time is sufficiently labelled to coordinate and execute the programme.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

#### **F14: Quality of staff**

The staff is sufficiently qualified to ensure that the aims regards contents, didactics and organization of the course programme are achieved.

#### **Description:**

The self-study gives the following information about the educational qualifications of the teaching staff:

The PBL approach differs in many ways from more traditional types of higher education. All FEBA staff members need to be trained and supported in the specific role of tutor, that of creating a stimulating learning environment instead of being an omniscient sage who tells students what to study and how to study. Workshops are provided to train staff under the heading

of “making teachers act more as professionals” (docprof). These workshops focus on relevant educational aspects of FEBA. They are of a short duration (1 to 4 mornings/afternoons) and are practical in nature. The key objective of the workshops is to acquire concrete results, which the participants are able to apply in their own teaching. Reflection on teaching practices and exchange of experiences are also important. There are three categories of workshops:

- Basic skills with PBL. All new teachers (including assistant professors, associate professors, full professors and PhD students) follow this obligatory course. In a two-day plenary course they learn more about the philosophy of PBL and basic tutoring skills. This course is followed by a series of training activities. The first one is training on the job: all teachers are observed individually in one of their tutorials. This session is videotaped and evaluated afterwards. During each period, teachers also attend a short thematic plenary session, e.g. focusing on how to give adequate feedback on presentations or writing assignments, how to deal with critical incidents.
- More advanced workshops. Workshops with special educational themes are given on a regular basis, such as assessment of student work, advanced PowerPoint and theatre skills in education, the use of the electronic learning environment (EleUM) in courses.
- Tailor-made workshops. Skills training for students is more effective when they can apply the skills they have just learned to relevant content. An important objective of the educational programme is to integrate content and skills. As a consequence, the tutor has a specific extra role. Teachers are supported in special instructional meetings related to an activity in the course they are teaching, such as project skills or the use of mind maps.

Besides these workshops, teachers can also receive individual coaching. The coaching programme is initiated either by the teacher or the faculty developer of the Department of Educational Development and Educational Research. The latter is part of a remedial teaching programme based on the results of a teacher’s IWIO reports.

So far, qualifications for university teaching have not been officially required in the Netherlands. Quite recently, some universities have initiated qualification programmes. The FEBA docprof programme aims to initiate a qualification programme for university lecturers. Important steps to be taken are the development of new training that fits into the qualification programme of university lecturers and the certification of these training programmes. The development of an electronic portfolio for lecturers could be an adequate instrument in this qualification.

#### *Faculty qualifications*

As mentioned above all faculty members including those involved with the MSc Infonomics programme hold at least a graduate degree in the area in which they teach. Assistant professors, associate professors and full professors are required to have a doctoral degree in the area in which they teach. With a few exemptions, faculty members possess a doctoral degree. All faculty members can be considered to be professionally qualified.

Since it is the mission of Maastricht University and of FEBA to be a high-quality education and research institute, a candidate’s previous experience and performance in the field of education and in the field of research (lecturers not included) are decisive in the selection procedure. New faculty members are expected to be open-minded about educational improvement. Their attitude towards teaching and the PBL teaching method are therefore discussed during the interviews. International experience is also an important quality. International work experience or holding an international degree is relevant. A candidate’s research is assessed in terms

of number of publications and their quality. The quality is assessed by the type of journal in which the candidate has published. Quality is the decisive criterion.

New faculty and staff members participate in a common, university-wide orientation programme at the university. This programme (lasting half a day) is organised by the HRM Department of Maastricht University. The major programme components are (1) information about the history, culture, structure and organisation of Maastricht University; (2) information about the mission and strategy of Maastricht University; and (3) explanation of the PBL method, followed by a city tour. In addition, new faculty and staff members of FEBA receive a PBL training session (lasting half a day), organised by the Department of Educational Development and Educational Research (EDER). During this training, attention is also given to the philosophy behind this educational method. EDER also organises tutor training sessions for all newly appointed faculty members. These sessions last 1.5 days. An introduction to the department, research institute or office to which new faculty or staff members will belong is also part of the orientation programme. The Department Chair or Managing Director is responsible for this type of introduction.

#### *Incentives and professional development*

FEBA aims to be a top-rate faculty in Europe, both in terms of research and education. For this reason, FEBA has created a number of built-in incentives for top research achievements (grants, additional research time), and the faculty anticipates a growing rate of publications in highly ranked international journals.

Each year the faculty awards various prizes to staff on the basis of their excellent performance in education, research or administrative support. Staff are nominated by colleagues or students for various awards (best tutor, best educational project, best fellow, most promising researcher), both by colleagues and by students. The prize winners are acknowledged and receive their awards during the traditional annual Christmas lunch.

FEBA encourages faculty members to attend major international conferences, and for this purpose each faculty member is given an annual budget. PhD students can use the budget unconditionally, while other faculty members must present a paper at the conference in order to be eligible for funding. FEBA has hosted several international conferences. Membership of professional organisations is also encouraged. FEBA hosts the secretariat of several international organisations, including the EDiNEB foundation.

#### *Personal development*

Once a year, an appraisal interview is held with every faculty member. During this interview, agreements made in the previous appraisal or assessment interviews are evaluated. Secondly, the position's core tasks are discussed in relation to the expectations of the department or chair of the department as well as general aspects of performance relating to knowledge, skills and attitude. Finally, employer and employee define the objectives of the position and how they can be reached. If necessary, a personal development programme is created in order to help the employee to achieve the objectives through training, courses, workshops, etc.

Once every three years, an assessment report is completed by the chair. This report contains an evaluation of the employee's performance with regard to the core tasks and general aspects of performance, and new agreements are made for future actions. On the basis of a good or excellent score, an extra raise, bonus or tenure may be granted.

**Assessment:**

The committee has reviewed and discussed the system of workshops in use at FEBA in order to train and support the academic staff in the PBL approach: the so-called FEBA docprof programme, as well as the coaching programme. This system is adequate according to the committee.

The committee confirms that the quality of the academic staff is such that the new programme can be offered in terms of content, didactic concept and organisation of courses. The quality of the academic staff, reflected by their great effort in teaching according to the PBL didactic concept and their local and international research activities ensures that the objectives of the new programme can be achieved.

The committee has discussed the job performance evaluation system in use at FEBA and concludes that it is professionally designed.

*Master programme Infonomics:* The assessment by the committee is **good**.

**Assessment of the topic “Deployment of staff”**

Based on the assessment per facet the committee comes to a summary assessment for the topic “Deployment of staff”. For the Master programme Infonomics this assessment is **satisfactory**.

**1.2.4. Facilities and provisions****F15: Material facilities**

The accommodation and material facilities are sufficient to implement the programme.

**Description:**

The self-study gives the following information:

Infonomics students have access to all the material and educational facilities that are available to FEBA students. The self-study provides an overview of all instructional resources, library and research facilities and other support facilities that are available to Infonomics students.

The self-study also provides a detailed overview of the computer facilities available to Infonomics students in the faculty building as well as the library building. Again, these facilities are available to all FEBA students, including the Infonomics students.

**Assessment:**

The committee was given a demonstration of the electronic learning environment EleUM. According to the committee the accommodation and material facilities including the ICT environment are sufficient to implement the programme. This was supported in the discussions of the committee with a selection of students, staff members and management of the MSc in Infonomics programme.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

**F16: Student support and guidance**

- The student support and guidance, as well as the information given to students are adequate for the purpose of students' progress.
- The student support and guidance, as well as the information given to students meet the requirements of the students.

**Description:**

The self-study gives the following overview of the system for tracking study progress and related supportive activities:

In the 1990s, FEBA developed its Management Information System for Education and Research (MISO), which has now grown into a fully fledged web-based professional information system. Among other things, MISO provides detailed information on study progress and completion rates in all programmes over a 13-year period. This database has become an indispensable source of information for Programme Directors and the Faculty Board for monitoring and decision-making.

FEBA offers various supportive activities that aid students in maintaining a proper study progress. These facilities are available to all FEBA students, including Infonomics students, and are discussed in detail in Appendix 10.

Around the academic year 2000, student polls in *Elsevier* and *Choice* showed that students evaluated the quality of “communication between the faculty and the student” relatively poorly. This outcome triggered a discussion about the services that students expect from the various faculty offices (ICT, timetabling, examinations and others) and about the quality of the products that these offices offer. The discussion resulted in a major restructuring of these offices and in the introduction of a ‘front office’ for students. This means that students can now address all their questions to a single desk where, if possible, they will be helped immediately. If the problem is more complex, they can make an appointment with personnel from the ‘back office’, without being sent from one person to another. In addition, FEBA has introduced a student helpdesk via the Internet. At this helpdesk, called Surfyourself, students can find frequently asked questions on all sorts of topics. Alternatively, students can ask questions by sending an e-mail, which will be answered within two working days.

**Assessment:**

At FEBA the MISO management information system for education and research contains a study progress tracking system. The self-study reviews all supportive activities provided for students by FEBA, including Master students in Infonomics. The committee concludes that the range of these activities is quite complete.

However, in the conversation with selected students, the committee noticed that students experience a certain distance in the electronic communication between the university and the student. This does not apply to the communication between the student and the Infonomics programme give the current small-scale character of the programme.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

### **Assessment of the topic “Facilities and provisions”**

Based on the assessment per facet the committee comes to a summary assessment for the topic “Facilities and provisions”. For the Master programme Infonomics this assessment is **satisfactory**.

## **1.2.5. Internal quality assurance**

### **F17: Evaluation of results**

The degree course is subject to a periodic review, which is partly based on verifiable targets.

#### **Description:**

The self-study gives the following overview of the internal quality assurance system.

FEBA continually monitors the quality of education. An efficient and effective management information system is available to do this, which includes an extensive scheme by which all courses are evaluated on a regular basis for aspects of study load, the quality of the course materials and the performance of the lecturer and/or tutor. This paragraph describes this system of internal quality control, which will also apply to the MSc Infonomics programme.

#### *Course and curriculum planning and evaluation*

All degree programmes are governed by a Programme Director. The Programme Director has final responsibility for the coordination, development and evaluation of the programme. The Programme Director is assisted by the Programme Coordinator, who is responsible for the coordination, development and evaluation of the Infonomics programme in particular. The Programme Coordinator cooperates with the chairs of departments to develop programmes and to plan, propose and implement programme changes. The programme is reviewed on an annual basis. During the winter term, the Coordinator invites all departments to submit their course proposals (including proposals for change) for next year’s programme. The proposals should include arguments for alterations, for example, benchmarks of other AACSB/EQUIS-accredited international schools or processing of labour market data from ROA or European labour market research among graduates, students’ quality measurements, study progress, information received from graduates via the IES network, etc.

Proposals are forwarded to the Programme Committee of the corresponding programme, asking for advice concerning course format and content. Courses that are not endorsed by the Programme Committee may still be considered by the Programme Director, but only after consulting the department chairs. All programmes will then be discussed in a meeting of the Education and Examinations Committee (EEC). The EEC discusses the advice of the various Programme Committees and prepares its recommendations for the Faculty Board. Next, the Faculty Council has to approve the proposed programme. This annual procedure begins around December and is finished by April. Approximately every three to four years, parts of the programme – called programme tracks – are reviewed by the stakeholders (students, faculty and employers).

The cross-checking in this procedure should be noted. Firstly, the Programme Coordinator collects the various proposals within the Infonomics programme and discusses them with the various departments and with the Programme Director. The Programme Director discusses

the proposals with the EEC. Secondly, the EEC discusses the total programme of the Faculty of Economics and Business Administration and can hence check for overlap, for cooperation possibilities, and so on.

The main criteria for evaluating proposals for programme changes are as follows:

- The added value to the existing offerings or the added value in comparison with courses that have been omitted.
- An up-to-date benchmark of other courses of internationally accredited schools or faculties in the fields of economics and business studies.
- Transparency of the programme in terms of a clear profile and learning objectives, fitting within the mission and philosophy of FEBA as well as UM.
- Execution of the programme, in terms of organisation, study load and feasibility from the student's point of view, avoiding unnecessary barriers for students to conclude the programme.

In their advisory and decision-making process, Programme Directors, Programme Committees and department chairs make use of both qualitative and quantitative information provided by the Management Information System on Education and Research (MISO). The development of MISO started in 1999 as a web-based information system that presents real-time information about all the FEBA study programmes. Over the past few years, FEBA has added more and more modules that allow for flexible queries to be submitted to the databases that underlie this management information system. The building blocks of this system were developed after careful analysis of information needs among different stakeholders. The peer review committee “Bedrijfswetenschappen” rated MISO and its related evaluation activities with the mark 8 (on a scale of 1 – 10).

Maastricht University has acknowledged the relevance of MISO as well, and is considering further university-wide development of this system. At the same time, several faculties implemented parts of FEBA's MISO in 2005. As a result of having a ‘good practice’ in quality assurance, Programme Directors are participating in a UM steering group on quality assurance education.

FEBA's system rests on the following pillars:

- All course activities are evaluated
- All evaluation reports are accessible through a web-based intranet system
- Management information is based on the needs of stakeholders
- Continual improvement of the planning & control cycle

The basic idea behind the quality management system is that all activities – education, research and services – need permanent monitoring on essential parameters. For education, this implies that all courses are continually evaluated with regard to key aspects of our PBL environment such as study load, quality of the teaching materials, course structure, tutor performance, and relevance of supporting curriculum resources such as lectures, assignments, e-learning environment, etc. To this end, students complete a questionnaire after each course. Since the academic year 2004/2005, all course evaluations have been collected through web-based data collection tools. This permits extremely fast, anonymous, teacher-independent, and fair data collection. Reports are available on the MISO website within hours after the data collection

is finished. Course evaluation reports are available to the Programme Director, the Chair of the Programme Committee, staff members as well as students. These reports form the basis on which the course coordinator makes adjustments to the structure or content of the course.

Curriculum committees, Programme Directors, and department chairs monitor course quality with the information provided on the MISO website. For that purpose, MISO delivers different tables (with different degrees of detail and specificity) for different education roles. For example, course coordinators will focus on information available at the individual group level, while curriculum committees can monitor courses compared to other courses for parts of the MSc programme. Department chairs can collect data about the input of their department to the MSc programme, or may want to take a close look at the evaluations of individual teachers within their department. Information about course and teaching evaluation is also used in the annual appraisal interviews with faculty staff. The data are also used in decision-making on tenure and promotion of faculty staff. Programme Directors can check the progress of programmes by inspecting tables that contain general information about all courses within their programme. Programme Committees usually meet after each course period when new information about course evaluations is available. They discuss and review course evaluations and formulate recommendations for change. In addition, they compare past evaluations with the current ones. MISO provides opportunities to compare courses on their past performance. This enables Programme Committees to monitor whether recommendations have been implemented.

Table 8 shows how MISO serves different target groups.

*Table 8: Target groups & target information for different stakeholders*

<b>Target groups in MISO</b>	<b>Available information on performance indicators</b>
All staff and students	Standard reports on: average score, standard deviation, number of students on the course, average score per item compared with last year's performances feedback on open questions and duration of tutorial meetings average score, standard deviation, number of students on cluster level per tutorial group overview of high/low scores of tutorial groups
Programme Directors and Programme Committees	Course viewer: Overview of courses on cluster level per course period per programme
Department chairs and chairs of sections within departments	Course viewer: Same as Programme Directors but per department or section

The self-study contains an example of a table that allows Programme Directors and Programme Committees to compare a selected set of courses within a programme on a range of quality indicators. This table has an interactive format and allows users to rank courses according to a selection of indicators, such as course load, quality of learning materials, teaching quality, etc. Typically, this table is used for monitoring purposes and not for a detailed analysis of particular course issues in need of further attention.

In conclusion: MISO is more than a management information system containing data about course and curriculum evaluations. It provides all kinds of information needed to direct and control policy and business operations in order to fulfil FEBA's mission and objectives. This makes MISO an effective tool to monitor and evaluate the faculty's performance. Finally, MISO is also used to check average grades per department in order to check the comparability of grades through the programme and also to signal grade inflation.

#### **Assessment:**

The committee has reviewed the workings of the internal quality assurance system in the conversations with a selection of students, faculty, the Education and Exams Committee (separate conversations with students and staff members) and concludes that the quality assurance system works adequately. A Programme Director, supported by a Programme Coordinator, is responsible for the coordination, development and evaluation of the MSc in Infonomics Programme. Furthermore, the committee has been provided with information about the annual evaluation of the programme in these conversations. The committee concludes that evaluation takes place yearly according to the procedure described above.

Furthermore the committee has found that certain tracks in FEBA's programme are evaluated by stakeholders (students, staff and employers) every three to four years.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

#### **F18: Measures to effect improvement**

The results of this evaluation form the basis for measures that can be demonstrated to improve the course and that will contribute to reaching the targets.

#### **Description:**

The self-study gives the following overview:

The subject of quality assurance systems is not limited to educational processes and outcome. FEBA has introduced a financial and staff planning and control system as well. Audits are made on these subjects on a regular basis, while participating in the university-wide INK quality system to improve operations (Institute for Dutch Quality Assurance). Outcome, financial data, etc. are also available on MISO.

In the last decade, priority has been given to developing MISO, initiated by the Department of Educational Research and Educational Development. However, improvements have not been limited to data and the information system. Governance, content and context have changed over time as well.

#### *Governance*

With the introduction of the Modernisation of University Administrative Organisation Act (MUB), the position of Programme Director has been introduced, leading to a change in the role and position of the Programme Committee. The Programme Committee is urged to provide advice on the quality of the degree programmes, the content and format of examinations, and outlines of research plans. Both staff and students are members of the Programme Committees. In addition, FEBA has installed specific committees on various issues, including the Library Committee (serving the needs of users) and the ICT platform (bringing together

ICT engineers, scientific staff, and students). Furthermore, some faculty members participate in both ad hoc and planned committees on student recruitment, student facilities, research and educational affairs.

In 2005, FEBA installed an advisory committee to audit its planning and control loops, and develop recommendations for further improvement of its procedures. In particular, FEBA was interested in recommendations to develop links between budgeting mechanisms and course quality, proposals to strengthen the link between monitoring course evaluations and the implementation of committee recommendations. This advisory committee developed a series of proposals that can be considered as the next step in the quality management systems. The committee proposed linking MISO databases with databases used for course timetabling and course administration. This would allow FEBA to build teacher portfolios consisting of evaluations of all the teachers' roles (tutor, course coordinator, skills trainer, lecturer) with information directly accessible on the MISO website. The committee also proposed taking the next step in data collection (moving beyond the collection of student ratings of instruction) and developing instruments that collect data from teachers about the educational process. This would enable FEBA to triangulate information from various sources. In addition, the committee proposed developing new evaluation instruments for assessing the supervision process and learning outcomes for student work on the final Master's thesis (implemented in September 2005). The final recommendation was to improve the communication to staff and students about how course evaluations are used to improve course quality. During the academic year 2005/2006 FEBA started a debate with Programme Committees and Programme Directors on how to implement these recommendations.

The accountability of Programme Directors has changed recently as well. The Director is still a member of the scientific staff and has a position within a department. However, as Programme Director, he or she operates under the responsibility of the Faculty Board, in particular the portfolio holder for educational affairs. As from January 2006 onwards, bilateral agreements will be made between the Faculty Board and Programme Directors with respect to activities, targets, accreditation, etc.

The Faculty Board is accountable to the University Board. Consultations take place every spring and autumn to inform each other about developments, plans and targets. Policy issues are evaluated and renewed targets formulated.

#### *Content and context: extracurricular quality improvements*

FEBA is faced with a growing number of students who lack a background in Dutch culture and/or education. This development towards an international student body demands specific attention with regard to both the content and context of programmes. In 2002, FEBA introduced an electronic learning environment, EleUM (based on Blackboard), for course delivery, planning, communication and evaluation. EleUM enables the faculty to detect deficiencies in students' prior knowledge, as well to offer students distance education to fill these gaps.

More emphasis is placed upon the social aspects of studying in a foreign country and in an international community. Investments have been made in improving the University Library, a central meeting point (the UM Visitors' Centre), and social and cultural activities during evenings and weekends. Related to this, staff development nowadays includes English-language training and intercultural communication training.

**Assessment:**

The revised MSc in Infonomics programme started in September 2006. This implies that the effects of programme changes can be measured in September 2007. However, the committee is confident about the outcome, taking into account the way FEBA handled results within the 'old' programme by taking target-directed actions.

The committee concludes that the quality system is in accordance with INK (Institute for Dutch Quality Assurance) based on the information provided in the self-study and on information provided by FEBA during the conversations in the site visit.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

**F19: Involvement of staff, students, alumni and the professional field**

Staff, students, alumni and the professional field in which graduates of the course are to be employed are actively involved in the internal quality assurance.

**Description:***Students*

Students are important stakeholders in FEBA. Students participate as student advisors on the Faculty Board or EEC, as members of Programme Committees and the Faculty Council in formal positions. But students are also involved as student assistants (for education and/or research). Informal contacts between Programme Directors, staff and students are encouraged. These contacts, varying from information meetings to social get-togethers, contribute to the wellbeing of students, as well as to information about concerns, organisational issues and course satisfaction.

*Alumni*

FEBA places great emphasis on the international profile of its programmes and the degree of innovation. As part of the ongoing evaluation process, the faculty monitors the performance of its graduates in terms of labour market entrance, position, salary, level, need for additional training, etc. To do this, FEBA has participated in a benchmark study among alumni of Dutch business schools. Every year, a poll is organised among former Dutch Economics and Business students who graduated in the previous year. The aim of the poll is to identify a representative opinion on the quality of the curriculum and the faculty organisation and to gain an insight into employment opportunities for students.

Since 2004, FEBA has also been participating in a European graduate survey. The survey is conducted among Master's students of various European business schools and universities and aims to give the faculty (as well as the corporate world) information about the labour market expectations of students, for example with respect to preferred employers (companies), work and learning opportunities. FEBA monitors its study programmes. Outcomes of this survey will be discussed in the Education and Examination Committee.

FEBA also supports the Infonomics and Economics Students' network, which is setting up an active alumni network to inform each other and future graduates about recent job opportunities, but also to play an important role in exchanging experiences and in signalling trends within their professional environment. The Programme Coordinator in particular is informed at regular intervals about these developments.

### *Employers*

In 2005, FEBA initiated the “Corporate World Project” to strengthen the links with employers (for example through establishing an International Advisory Board in 2006), and to monitor how the programmes meet the needs of the corporate world. One of the activities was a survey of employers asking about the quality of graduates.

### **Assessment:**

The committee has spoken with a limited selection of students and alumni during the site visit. The committee concludes that these stakeholders are actively involved and continue to be involved with the programme. Also the “Corporate World Project” can be an important source for improving the relationships with the professional world.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

### **Assessment of the topic “Internal quality assurance”**

Based on the assessment per facet the committee comes to a summary assessment for the topic “Internal quality assurance”. For the Master programme Infonomics this assessment is **satisfactory**.

## **1.2.6. Results**

### **F20: Level that has been achieved**

The final qualifications that have been achieved correspond to the targets set for the final qualifications in level, orientation and domain-specific requirements.

### **Description:**

The self-study gives the following overview:

A number of assurances are in place to guarantee that the quality of graduates matches the qualifications of the Infonomics programme. Most of these elements are discussed in detail in other parts of this report:

1. the selection of students who are allowed to enter the programme;
2. the selection of teaching staff;
3. the structure of the Infonomics programme;
4. the examination of courses within the Infonomics programme;
5. the continual student evaluation of courses in the Infonomics programme;
6. the assessment of the final thesis;
7. surveys of alumni and employers of Infonomics alumni.

This system of elements ensures that any problems with respect to the quality of the programme or its graduates will be detected at an early stage so that any actions deemed necessary to correct problematic issues can be initiated.

### *Quality of Master’s thesis*

The procedures with respect to the writing and evaluation of the Master’s thesis have been described in detail in other sections of this report (see facets 4, 5 and 11).

The self-study provides an overview of the topics that Infonomics students have chosen for their Master's thesis as well as the final grade they received. The table shows that most Infonomics students received a grade higher than 7. Two Infonomics students have received the exceptionally high grade of 9.5, indicating an excellent quality of the final thesis.

#### *Position of graduates*

Evidence about qualified graduates is provided in several ways. Students tell the programme staff informally about their experiences in the MSc programme. Feedback is received from companies assuring the staff that the graduates excel in presentation skills, are in command of English language skills, demonstrate adequate problem-solving skills, and possess individual and team-working skills. Furthermore, the alumni provide informal feedback about their experiences in assessment centres and work settings. Since the start of the MSc Infonomics programme in 2003, Programme Directors have organised several meetings per year to discuss issues in need of improvement. These meetings gave indications about the strengths and weaknesses of the programme.

With respect to the MSc Infonomics programme it should be mentioned that formal information about job placement will only be available for the first time in 2006. The Research Centre for Education and the Labour Market (ROA) conducts its labour market surveys 1.5 years after graduation. Since the MSc Infonomics delivered its first graduates in 2004, with the exception of a few in 2003, no data were available at the time of writing the self-study. The Benchmark Study by ROA (see [www.fdewb.unimaas.nl/roa/](http://www.fdewb.unimaas.nl/roa/)) gives evidence that the qualifications of FEBA graduates are higher than or equal to the average of other business schools in the Netherlands. Clear differences are visible on issues related to preparation for the labour market. For example, the most recent Labour Market Scanner (*Arbeidsmarktscanner 2004 Kerncijfers meting cohort 2002/2003, ROA rapport 2005*) shows that there is a significant difference between FEBA graduates and the average Dutch business administration programmes about the extent to which they feel well prepared for the labour market. FEBA graduates feel better prepared.

#### **Assessment:**

In the chapter 'programme' (introduction to facet 4) the reason for the restructuring of the programme has been described earlier: more focus. The committee wants to make clear that the quality level of the Master's theses was adequate.

According to the committee, the quality of the MSC in Infonomics programme lies in the quality of the Master's theses. It is important that the quality level of the theses as well as the relationship to the core content of this highly specialised Master's programme are upheld by the faculty. The student should give evidence in the Master's thesis of sufficient knowledge of the discipline of Economics and of the specialisation in Infonomics.

After reading the five available Master's theses of the old programme (not 'doctoraal scripties' and not of the current, newly designed course in effect since September 2006), the committee was unanimous in its opinion: the relationship of the topics of the theses with the domain of the programme is unclear. Each thesis was read twice: by a member of the committee and by the member specifically appointed to the committee for the MSc Infonomics. Furthermore, the grades of these theses were a bit too high according to the committee, but the academic quality of the theses was sufficient. Special attention needs to be paid to the Master's theses. In the conversations with the management and staff of the programme these issues were recognized by the management and staff. More focus on the core courses is desirable, and action is already being taken, such as the

introduction of a portfolio of thesis subjects and a strengthening of the relationship with UNU-MERIT. Also, it is necessary that both assessors of a Master thesis explicitly (and quantitatively) use the eight criteria on the evaluation form as mentioned above.

The Master's theses as reviewed by the committee were not focussed enough on Infonomics, but their academic level was sufficient. The committee has enough confidence that in the future the focus of the Master's theses will be more related to the core of the programme and that the quality level of the theses will be appropriate.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

**F21: Results of teaching**

To measure the results of teaching, target figures have been set in comparison with relevant other degree courses.

The results of teaching meet these targets.

**Description:**

The self-study gives the following information:

In 2005, FEBA set general targets for its Bachelor's and Master's programmes. With respect to output and the duration of the Master's studies, a general target set was:

- after one year, 75% of the enrolled students in a Master's programme should have graduated;
- after two years, 80% of the enrolled students in a Master's programme should have graduated;
- the average duration of a Master's study is 14 months.

Given the fact that the current Master's programme started in September 2006, no data are available about the actual results of the programme in terms of completion rates or the average duration of the study by Infonomics Master students. Furthermore, the previous Master's programme that started in 2003 attracted too few Master students to provide any reliable data on these issues.

**Assessment:**

Students of the revised MSc programme are expected to graduate in August/September 2007. The committee is confident about the graduation rates, as for FEBA in total 77% of the Master students graduated within two years after the start in 2003. The committee does not have any indications that the graduation rates will be different for the MSc Infonomics programme.

*Master programme Infonomics:* The assessment by the committee is **satisfactory**.

**Assessment of the topic "Results"**

Based on the assessment per facet the committee comes to a summary assessment for the topic "Results". For the Master programme Infonomics this assessment is **satisfactory**.

## Summary of the assessments by the committee

### Master programme Infonomics:

Topic	Assessment	Facet	Assessment
1. Aims and objectives	Satisfactory	1. Domain-specific requirements	Satisfactory
		2. Level	Satisfactory
		3. Orientation	Satisfactory
2. Programme	Satisfactory	4. Requirements	Satisfactory
		5. Relationship between aims and objectives and contents of the programme	Satisfactory
		6. Coherence of the programme	Satisfactory
		7. Study load	Satisfactory
		8. Intake	Satisfactory
		9. Duration	Satisfactory
		10. Coordination of structure and contents of the degree	Good
		11. Assessments and examinations	Satisfactory
3. Deployment of staff	Satisfactory	12. Requirements for University	Satisfactory
		13. Quantity of staff	Satisfactory
		14. Quality of staff	Good
4. Facilities and provisions	Satisfactory	15. Material facilities	Satisfactory
		16. Student support and guidance	Satisfactory
5. Internal quality assurance	Satisfactory	17. Evaluation of results	Satisfactory
		18. Measures to effect improvement	Satisfactory
		19. Involvement of staff, students, alumni and the professional field	Satisfactory
6. Results	Satisfactory	20. Level that has been achieved	Satisfactory
		21. Results of teaching	Satisfactory

### Final assessment by the committee of the Master programme Infonomics

Based on the assessment of the topics and facets of the accreditation framework, the committee has reached the following final conclusion:

The *Master programme Infonomics* meets the level of quality required for accreditation.

# BIJLAGEN



## **Bijlage A: Curricula vitae van de leden van de visitatiecommissie**

**Prof. dr. P.A. (Piet) Verheijen** (voorzitter van de commissie) is emeritus hoogleraar Bedrijfs-econometrie en oud voorzitter van het College van Bestuur (1988-1991) van de Universiteit van Tilburg. Hij publiceerde onder andere over dynamische ondernemingsmodellen en financieringsmodellen. Vanaf 1991 deed hij onderzoek op het gebied van de economie van non-profitinstellingen. Hij is (was) bestuurder van non-profitinstellingen (onderwijs, gezondheidszorg, natuur en milieu) en commissaris van bedrijven met name in de energiesector.

**Prof. dr. ir. J.M. (Jan) Bots** is hoogleraar Controlling bij Business Universiteit Nyenrode. Daarnaast is hij bestuurder van de NIVRA-Nyenrode School of Accountancy and Controlling, waar hij als programmadirecteur verantwoordelijk is voor de controllersopleidingen. Hij onderwijst en onderzoekt op het terrein van Bestuurlijke Informatiekunde en Controlling.

**Prof. dr. D.G.A. (Daniël) Van Den Bulcke** is emeritus hoogleraar internationaal management en ontwikkeling en oud-voorzitter van het College voor Ontwikkelingslanden (1995-2000) van de Universiteit Antwerpen. Hij is master in Economics van de Universiteit van Toronto (Canada) en doctor in de economische wetenschappen van de Universiteit Gent. Hij doceerde aan meerdere Belgische instellingen (onder andere Universiteit Gent, Economische Hogeschool Limburg, Europacollege Brugge, Katholieke Universiteit Leuven, ICHEC Brussel) evenals in speciale programma's van enkele Nederlandse universiteiten Nederland. Tevens was hij gastprofessor in talrijke buitenlandse universiteiten en hogescholen in Indonesië, Polen, Filippijnen, Thailand, China, India, Cambodja, Bolivia en Vietnam. Zijn onderzoeksactiviteiten spitsen zich toe op de buitenlandse directe investeringen en de activiteiten van multinationale ondernemingen in het bijzonder in West-Europa en Azië (vooral China).

**Drs. V.I. (Victor) Goedvolk** is voormalig lid van de Hoofddirectie van Fortis ASR Verzekeringsgroep N.V. Hij studeerde bedrijfseconomie aan de Erasmus Universiteit Rotterdam, en werkte tot 1978 aan de Economische Faculteit aldaar. Vervolgens volgde een aantal jaren adviespraktijk. Vanaf 1982 werkte hij bij het Ministerie van Financiën. In 1990 nam hij daar afscheid als plaatsvervangend secretaris-generaal. Hij trad toen toe tot de leiding van Assurantieconcern Stad Rotterdam N.V., één van de rechtsvoorgangers van Fortis ASR. Hij is thans lid van een aantal besturen en raden van commissarissen in de profit- en non-profitsector. Vele jaren was hij betrokken bij diverse opleidingen, waaronder die van de postdoctorale controllersopleiding van de Erasmus Universiteit.

**Prof. dr. J.P.M. (John) Groenewegen** is in 1975 afgestudeerd aan de Economische Faculteit van de Erasmus Universiteit Rotterdam. Hij is in 1989 gepromoveerd aan de Universiteit van Maastricht. Sinds 2000 is hij bijzonder hoogleraar Institutionele Economie aan de EUR, sinds 2001 bijzonder hoogleraar aan de Universiteit van Utrecht en sinds 2004 hoogleraar Economie van Infrastructuren aan de TU Delft. Van 2000 tot 2004 was hij Opleidingsdirecteur van de Economische Faculteit van de EUR en tevens pro-decaan van die instelling. Hij is voorzitter geweest van de Amerikaanse 'Association for Evolutionary Economics' (AFEE). Hij is sinds 1998 algemeen secretaris van de 'European Association for Evolutionary and Political Economy' (EAEPE) en sinds 1999 voorzitter van de Vereniging van Politieke en Institutionele Economie (VIPE).

**Drs. J.H.L. (Jan) de Vries** was lid van het College van Bestuur van de Universiteit Utrecht (1982-1987), voorzitter van het College van Bestuur van de Hogeschool Enschede (1987-1993), lid van de Adviescommissie Onderwijsaanbod (ACO, 1993-2003) en tijdelijk Inspecteur wetenschappelijk onderwijs (1999-2000). Voordien was hij als neerlandicus verbonden aan de Universiteit van Amsterdam en de Universiteit Utrecht (1966-1971-1982). Hij vervulde daarnaast diverse bestuurlijke functies binnen en buiten de universiteit.

**Mw. S.R. (Sanne) Zwinkels (BSc)** is student aan de Vrije Universiteit Amsterdam. Na afronding van de bachelor Bedrijfswetenschappen, volgt zij nu de master Bedrijfswetenschappen, met als afstudeerrichting Management Studies. Na een aantal jaren actief te zijn geweest binnen de faculteitsvereniging, is zij nu adviserend student-lid in het bestuur van de Faculteit der Economische Wetenschappen en Bedrijfskunde.

## **Bijlage B: Domeinspecifiek referentiekader**

### **Vakspecifieke richtlijnen wo bachelor economie**

Het voorliggende rapport bevat vakspecifieke richtlijnen voor de academische bacheloropleiding in de economie. Bij het samenstellen van het rapport hebben de benchmark statements van de Engelse Quality Assurance Agency als voorbeeld gediend. Ook de functie is vergelijkbaar.

Het rapport is een ijkpunt voor eventuele nieuwe opleidingen, met name waar het de beoogde wetenschappelijke standaard betreft. Het kan om diezelfde reden gebruikt worden als instrument voor interne kwaliteitszorg en voor accreditatie. Ten slotte biedt het aanknopingspunten voor het geven van voorlichting over het vakgebied als zodanig.

Bij het samenstellen is geprobeerd zo concreet mogelijk te zijn en een beeld te scheppen waaraan alle bacheloropleidingen moeten voldoen. De auteurs willen geen afbreuk doen aan het feit dat de beoogde competenties op verschillende manieren tot ontwikkeling kunnen worden gebracht.

Het rapport is als volgt opgebouwd.

Hoofdstuk 1 bevat een korte beschrijving van de economie als wetenschap. Vanuit deze achtergrond wordt een schets gegeven van het opleidingslandschap. Deze mondt uit in een typering op hoofdlijnen van de bacheloropleidingen in de economie, zowel naar niveau als naar inhoud.

Hoofdstuk 2 bevat een beschrijving van de competenties waarover studenten aan het einde van de bacheloropleiding in de economie zouden moeten beschikken. Hierbij worden onderscheiden vakspecifieke en generieke competenties. Het belang van de generieke competenties schuilt in het feit dat hetgeen studenten tijdens hun opleiding leren een aanzienlijk ruimere draagwijdte heeft dan het vakgebied alleen.

Hoofdstuk 3 gaat in algemene zin in op de eisen die aan de leeromgeving gesteld kunnen worden.

### **1. Het vakgebied van de economie**

#### **Economie als wetenschap**

Economie is de wetenschap die zich bezighoudt met de bestudering van menselijk gedrag voor zover dat betrekking heeft op de aanwending van schaarse alternatief aanwendbare middelen. Op basis van de inzichten die systematische analyse van dit keuzegedrag biedt leveren economen een bijdrage aan het economisch beleid. De studie van de manier waarop huishoudens en bedrijven hulpbronnen gebruiken, krijgt hierbij veel aandacht, zowel op het individuele (micro) als het geaggregeerde (macro) niveau. Hierbij zijn tevens begrepen de institutionele alsmede de internationale context van het economisch gedrag. Economische analyses zijn zowel statisch (bijvoorbeeld de studie van output, werkgelegenheid, handel en financiering) als dynamisch (de studie van innovatie, technische vooruitgang, economische groei en cycli). Een vaak gemaakt onderscheid is dat tussen de algemene en de bedrijfseconomie. Algemene economen hebben meer belangstelling voor het functioneren van markten en volkshuishoudingen, al dan niet in hun onderlinge samenhang; bedrijfseconomen voor het functioneren van werkorganisaties. Beide disciplines kennen vele raakvlakken en raken steeds sterker verweven. In plaats van dit onderscheid wordt daarom ook de verscheidenheid aan perspectieven en domeinen genoemd om de complexiteit van het object tot uitdrukking te brengen. Perspectieven zijn bijvoorbeeld de neoklassieke, institutionele en evolutionaire economie. Bij domeinen kan men denken aan financiering, marketing, regionale en arbeidseconomie.

De studie van de economie heeft talloze raakvlakken met de andere sociale wetenschappen en in toenemende mate ook met de studie van natuur en milieu. Op het grensgebied van economie en rechtswetenschap is bijvoorbeeld de fiscale economie tot bloei gekomen. Aangezien economische kennis onmisbaar is voor ondernemingsgedrag, -strategie en -resultaat, is de economie een hoeksteen geworden van de bedrijfswetenschappen.

Mede vanwege de complexe verwevenheid tussen economisch gedrag en andere (maatschappelijke) omstandigheden, hechten economen veel belang aan abstractie en modelbouw. Dit stelt hoge eisen aan het vermogen tot logisch redeneren (zowel inductief als deductief) en het analyseren van zowel kwalitatieve als kwantitatieve gegevens. Wiskunde en statistiek vormen dan ook onmisbare instrumenten voor de econoom. De waarde van wiskunde en statistiek komt mede tot uitdrukking in de opkomst van het vakgebied van de econometrie. Tegelijkertijd wordt van economen gevraagd zich van het geabstraheerde karakter van de economische analyses bewust te blijven en hun inhoud te kunnen interpreteren in de bredere maatschappelijke context en het beleid.

### **Economie als opleiding**

De opleidingen in de economie bieden een programma waarin studenten zich de fundamentele van de algemene en de bedrijfseconomie eigen maken, waarna zij zich kunnen specialiseren in de bedrijfseconomie, de algemene economie of de internationale economie, zulks ter voorbereiding op de keuze van een masteropleiding. In de meeste universiteiten zijn de econometrie en de fiscale economie verzelfstandigd tot aparte opleidingen. Zij blijven in dit rapport dan ook buiten beschouwing. Op basis van een vooropleiding in de algemene of in de bedrijfseconomie dienen zich verdere keuzemogelijkheden aan in de afstudeerfase.

De verwevenheid van de economie met andere disciplines maar ook de gewildheid van een economische opleiding op de arbeidsmarkt, heeft geleid tot het ontstaan van nieuwe opleidingen zoals economie en recht, economie en geografie, beleidsgerichte economie et cetera. In opleidingen van dit type overheerst de inbreng vanuit de algemene economie.

De verwachting is dat de invoering van de bachelor-masterstructuur ertoe zal leiden dat specialisatie vooral zal plaatsvinden in de masterfase. De populariteit van het vakgebied zal voorts leiden tot de opkomst van 'joint bachelors', opleidingen waarin economie náást of in samenhang met een ander vakgebied wordt aangeboden. De masterfase zal veel varianten kennen, veelal in combinatie met masteropleidingen van bedrijfswetenschappelijke achtergrond.

### **De inhoud van de economische bacheloropleidingen**

Bacheloropleidingen in de economie zullen variëren in de mate waarin ze zich algemeen- dan wel bedrijfseconomisch profileren en in de mate waarin ze economie en elementen van een andere discipline combineren. Van een opleiding die het predikaat 'economisch' gebruikt mag worden verwacht dat studenten een coherent inzicht verwerven in economische begrippen, dat verder gaat dan een 'inleiding in...'. Deze begrippen omvatten micro-economische kwesties op het gebied van keuze en besluitvorming, de productie en ruil van goederen, de wederkerige afhankelijkheid van markten en de economische welvaart. Eveneens is aandacht gewenst voor macro-economische vraagstukken als werkgelegenheid, nationaal inkomen, betalingsbalansen, de verdeling van inkomens, inflatie en groei. Bij al deze zaken krijgt het internationale en het institutionele perspectief eveneens de nodige aandacht. Voorts maken studenten – in elk geval op inleidend niveau – kennis met vraagstukken op het gebied van financieel economisch management, marketing, organisatie en accounting alsmede het economische beleid van overheden. De ontwikkeling van een coherent inzicht in economische principes dient zowel een verbale als een grafische en een mathematische expressie te hebben. Bij het analyseren van economische data leren studenten economische rekenkunde, statistiek en wiskunde gebruiken.

Een bacheloropleiding stelt studenten in staat zich te verdiepen in één of meer richtingen op het aldus gelegde fundament. Dit kunnen de algemene of de bedrijfseconomie zijn, maar ook de internationale economie of het economische beleid.

### **Het niveau van de bacheloropleiding**

Hierboven is al een indicatie gegeven van het niveau van de inhoud van de bacheloropleiding. Het nagestreefde niveau zal in hoofdstuk 2 van dit rapport worden beschreven aan de hand van beoogde competenties en de kennis, vaardigheden en houdingen waarop deze zijn gebaseerd. De competenties die studenten verwerven liggen zowel op het gebied van de eigen discipline als in het academische vlak in het algemeen.

Voor de eigen discipline geldt dat studenten op intermediate level kennismaken met de macro- en micro-economische analyse in zowel nationaal als internationaal perspectief. Dit houdt in dat ze relevante begrippen en theorieën kunnen weergeven en relateren, maar ook dat ze de inhoud en opzet van het aan de conceptuele kennis ten grondslag liggende onderzoek kennen. Studenten kennen de toepassingen van de economische wetenschap in de context van bedrijven en in die van het overheidshandelen. Ze kunnen de belangrijkste problemen die zich binnen deze toepassingsvelden voordoen interpreteren en analyseren. Dit uit zich onder meer in het vermogen tot het formuleren van relevante hypothesen, het kiezen van een onderzoeksopzet het verzamelen en bewerken van data en het trekken van conclusies, die ze helder kunnen verwoorden.

De masteropleiding stelt studenten in staat om voor een ten opzichte van de bacheloropleiding sterk begrensde deel van het vakgebied geavanceerde kennis te verwerven en mede op basis hiervan een eigen bijdrage te leveren aan zowel het economisch onderzoek als het ontwerpen van beleid.

Voor de ontwikkeling van generiek academische competenties is de bachelorfase onvervangbaar. Tijdens deze periode leren studenten niet alleen over de grenzen van het eigen vakgebied heen kijken – mede om deze reden is een major-minorsysteem aantrekkelijk – ze leren ook vakwetenschappelijke vragen in een bredere maatschappelijke context zien en hiervan de politieke en ethische dimensie te onderscheiden.

Het belang van de bachelor bij de ontwikkeling van academische competenties in aanmerking nemend, moeten voorzieningen om studenten met een hbo-bachelordiploma voor te bereiden op een instroom in een wo-master vooral gericht zijn op het tot ontwikkeling brengen van een wetenschappelijke denkwijze. Dit omvat het versterken van het inzicht in de samenhang tussen de afzonderlijke kennisgebieden, het zich eigen maken en gebruiken van onderzoeksmethoden en het leren reflecteren op de resultaten van (eigen) onderzoek.

## **2. Competenties**

In dit hoofdstuk wordt aangesloten bij de trend om de doelstellingen van een opleiding te beschrijven in termen van competenties. Competenties verwijzen naar gedrag dat mede dankzij een opleiding tot stand dient te komen. Hiertoe worden bepaalde kennis, vaardigheden en houdingen als bevorderlijk geacht. Deze worden hieronder gespecificeerd. Het hangt echter tevens van de leeromgeving af of het verwerven van kennis en vaardigheden inderdaad bijdraagt aan de ontwikkeling van de beoogde competenties. Vandaar dat hierover in hoofdstuk 3 nog een en ander wordt gezegd.

## 2.1. Vakwetenschappelijke competenties

De competenties die studenten in een economische bachelor verwerven kunnen in drie groepen worden verdeeld, die overigens ook voor andere disciplines gelden. De invulling ervan is echter specifiek voor de economie.

### 2.1.1. Studenten spreken de taal van het vakgebied

Het kunnen spreken van de taal van het vakgebied als doelstelling van een bacheloropleiding gaat aanzienlijk verder dan kennis van de belangrijkste concepten en theorieën alleen. Studenten zijn in staat om kennis te gebruiken als ze worden geconfronteerd met een niet al te ingewikkeld economisch probleem in een bedrijf of van de overheid. Bovendien moeten ze de betekenis van de gebruikte inhoud kunnen relativeren. Dit kan bijvoorbeeld door de ene theorie met de andere te vergelijken, maar ook door economische begrippen te confronteren met benaderingen uit andere relevante vakgebieden.

Onderdelen competentie	Omschrijving	Studenten zijn aan het einde van de bachelorfase in staat tot het:
Weergeven en interpreteren	Studenten geven de conceptuele en methodologische uitgangspunten van de economische wetenschap weer en discussiëren hierover met vakgenoten.	<ul style="list-style-type: none"><li>• weergeven en interpreteren van de belangrijkste concepten van de micro-economie: keuze en besluitvorming, kosten, de productie en ruil van goederen, de wederkerige afhankelijkheid van markten en de economische welvaart, mede in institutioneel en in internationaal perspectief;</li><li>• weergeven en interpreteren van de belangrijkste concepten van de macro-economie: werkgelegenheid, nationaal inkomen, betalingsbalansen, de verdeling van inkomens, de rol van incentives, inflatie en groei, evenwicht en stabiliteit, mede in internationaal perspectief;</li><li>• weergeven en interpreteren van belangrijkste economische vragen van werkorganisaties: kosten, prijs, winst en financiering;</li><li>• het hanteren van een aantal economische begrippen in besluitvormingssituaties van uiteenlopende aard (transferable concepts) , zoals opportunity costs, incentives (prikkels), evenwicht en stabiliteit, strategisch denken, onzekerheid en marginale kosten;</li><li>• vergelijken van de visies van de verschillende economische scholen op economisch beleid;</li><li>• interpreteren van verbale, grafische en mathematische weergaven van economische concepten en theorieën;</li></ul>

Analyseren en verklaren	Studenten analyseren en verklaren verschijnselen en problemen in de economie met behulp van de conceptuele en methodologische uitgangspunten van de economische wetenschap.	<ul style="list-style-type: none"> <li>• toepassen van economische concepten, theorieën, onderzoekstechnieken en -methoden, inclusief het gebruik van statistieken van relevante nationale en internationale economische organisaties;</li> <li>• analyseren, verklaren en beoordelen van het gevoerde economische beleid van en studies daaromtrent van erkende nationale en internationale organisaties;</li> <li>• het relateren van economische theorieën en modellen aan de grondslagen van het economisch beleid in werkorganisaties en van overheden.</li> </ul>
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### 2.1.2. Het vermogen om door middel van onderzoek bij te dragen aan de ontwikkeling van het vakgebied

Aan het einde van de bacheloropleiding kan een student een eenvoudig onderzoek uitvoeren. De nadruk zal daarbij liggen op het formuleren van een hypothese en het verzamelen, bewerken, interpreteren en presenteren van data. Het onderzoek in de masterfase is in sterkere mate theoretisch. Dat wil zeggen via een of meer hypothesen wordt ingegaan op de betekenis van een bepaalde theorie als zodanig.

Onderdelen competentie	Omschrijving	Studenten zijn aan het einde van de bachelorfase in staat tot het:
Formuleren doelstelling en probleemstelling	Studenten formuleren een economische probleemstelling uitgaande van wetenschappelijke concepten en theorieën.	<ul style="list-style-type: none"> <li>• afbakenen en definiëren van een economisch onderzoek;</li> <li>• formuleren en operationaliseren van onderzoeksvragen;</li> </ul>
Keuze van onderzoeksopzet	Studenten kiezen een onderzoeksopzet die aansluit bij hun vraagstelling	<ul style="list-style-type: none"> <li>• selecteren en gebruiken van de relevante kwalitatieve en/of kwantitatieve onderzoeksmethode;</li> <li>• efficiënt en effectief gebruik van databanken, waaronder internet en bibliotheken, ten behoeve van de gegevensverzameling;</li> </ul>
Keuze van methoden om data te verzamelen en te bewerken	Studenten kiezen een of meer geschikte methoden om de data te verzamelen en te bewerken	<ul style="list-style-type: none"> <li>• kunnen hanteren van gangbare mathematische en statistische methoden;</li> </ul>
Trekken van conclusies	Studenten doen uitspraken over de initiële probleemstelling op basis van de gevonden resultaten.	<ul style="list-style-type: none"> <li>• verwerken van de verzamelde gegevens en trekken van conclusies ten aanzien van de probleemstelling op basis van de verwerkte gegevens.</li> </ul>

### 2.1.3. Het vermogen om met kennis en inzicht die ontleend is aan het vakgebied beleid te ontwikkelen

Op bachelorniveau kan het vermogen om beleid te ontwikkelen beperkt blijven tot het formuleren van een plan van aanpak voor één specifiek probleem. In de masteropleiding dient veel meer aandacht te zijn voor de bredere context, hetzij in bedrijfsverband dan wel in relatie tot andere beleidsterreinen van de overheid.

Onderdelen competentie	Omschrijving	Studenten zijn aan het einde van de bachelorfase in staat tot het:
Ontwerpen van beleidsadviezen	Studenten doen voorstellen waarmee economische problemen kunnen worden opgelost op basis van economische concepten en theorieën.	<ul style="list-style-type: none"><li>• economische beleidsproblemen diagnosticeren;</li><li>• op basis van onderzoeksresultaten formuleren van uitgangspunten voor beleid gericht op de oplossing van concrete economische problemen;</li></ul>
Strategisch handelen	Studenten schatten in of de door hen vastgestelde beleidsaanbevelingen haalbaar en uitvoerbaar zijn.	<ul style="list-style-type: none"><li>• aangeven van mogelijke knelpunten bij de tenuitvoerlegging van beleidsaanbevelingen;</li><li>• berekend inschatten van de omvang van de effecten van het voorgestelde beleid;</li><li>• incalculeren van situationele kenmerken in veranderplan.</li></ul>

### 2.2. Generieke competenties

Bij generieke competenties gaat het om kennis, vaardigheden en houdingen die weliswaar binnen de context van een opleiding tot ontwikkeling komen, maar dat niet specifiek voor de desbetreffende opleiding zijn. Het zijn de generieke academische competenties die de basis vormen voor de latere academische denk- en werkhouding. De geringe arbeidsmarktspecificiteit van veel opleidingen – ook economische – leidt ertoe dat veel afgestudeerden na enige tijd werkzaamheden uitvoeren die weinig tot geen beroep doen op hun vakspecifieke competenties. Met name de volgende drie vakspecifieke vaardigheden dragen bij aan de gewenste generieke competenties: het hypothetisch-deductieve karakter van de economie, de methodieken van besluitvorming en het belang dat wordt gehecht aan empirisch onderzoek.

**2.2.1. Het vermogen om in een complexe situatie de stappen te onderscheiden die kunnen leiden tot de oplossing van een probleem**

Onderdelen competentie	Omschrijving	Studenten zijn aan het einde van de bachelorfase in staat tot het:
Abstractie	Studenten abstraheren in een gegeven context relevante variabelen uit een complexe samenhang.	<ul style="list-style-type: none"> <li>• onderscheiden van hoofd- en bijzaken;</li> <li>• inzien van de contextuele afhankelijkheid van het onderscheid tussen hoofd- en bijzaken;</li> </ul>
Analytisch denken	Studenten trekken logische conclusies uit gegeven aannames.	<ul style="list-style-type: none"> <li>• deduceren van conclusies uit gegeven premissen;</li> <li>• maken van logische gevolgtrekkingen uit waarneembare feiten (inductie);</li> </ul>
Onderzoekende houding	Studenten baseren uitspraken over de werkelijkheid op betrouwbare gegevens	<ul style="list-style-type: none"> <li>• herleiden van een beleidsprobleem tot een onderzoeksvraag;</li> <li>• onderscheiden van de gevaren van het verkeerd gebruik van statistiek;</li> <li>• benadrukken van de relatie tussen vraagstelling en conclusies van een onderzoek;</li> </ul>
Framing	Studenten gebruiken verscheiden interpretatiekaders (frames) bij het doen van uitspraken over de werkelijkheid.	<ul style="list-style-type: none"> <li>• onderscheiden van relevante frames in een gegeven probleemsituatie;</li> <li>• herinterpreteren van probleemsituaties als een spanningsveld tussen verschillende frames;</li> <li>• scheppen van nieuwe frames, voor zover dit tot een bijdrage aan het herontwerp van een probleemsituatie kan leveren.</li> </ul>

### 2.2.2. Het vermogen om effectief te kunnen samenwerken, communiceren en leiding geven

Onderdelem competentie	Omschrijving	Studenten zijn aan het einde van de bachelorfase in staat tot het:
Samenwerking	Studenten werken professioneel en doelgericht samen in teams met erkenning van een ieders belang, positie en waarden.	<ul style="list-style-type: none"> <li>• samenwerken met medestudenten in taakgerichte groepen van verschillende structuur (monodisciplinair-multidisciplinair);</li> <li>• vergaderen op effectieve en efficiënte wijze, notuleren en bewaken van de follow-up van afspraken;</li> <li>• omgaan met de (spanning)relaties tussen verschillende actoren in de groep;</li> </ul>
Leiding geven	Studenten geven effectief leiding in werksituaties.	<ul style="list-style-type: none"> <li>• omschrijven en toedelen van taken;</li> <li>• toezien op de uitvoering en taken en zonodig de toewijzing van taken wijzigen;</li> <li>• doen van uitspraken over de kwaliteit van de taakvervulling;</li> <li>• aanwijzen van omstandigheden die tot een minder goede uitvoering van de taakvervulling hebben geleid;</li> </ul>
Communicatie	Studenten communiceren effectief op schriftelijke en mondelinge wijze met personen en groepen van uiteenlopende aard.	<ul style="list-style-type: none"> <li>• presenteren van onderzoek, onderzoeksresultaten en beleidsadviezen in zowel schriftelijke als mondelinge vorm;</li> <li>• onderscheiden van hoofdzaken en bijzaken in de mondelinge en schriftelijke presentatie;</li> <li>• correct en verantwoordelijk argumenteren;</li> <li>• maken van keuzes met betrekking tot de manier en vorm van presenteren, afhankelijk van de aard van de gelegenheid en/of het publiek.</li> </ul>

### 2.2.3. Het vermogen tot reflectie en zelfsturing

Onderdelen competentie	Omschrijving	Studenten zijn aan het einde van de bachelorfase in staat tot het:
Reflectie	Studenten beoordelen hun denkbeelden op hun interne consistentie, empirische validiteit en kracht en stellen deze desgewenst bij.	<ul style="list-style-type: none"> <li>• blijven onderzoeken van eigen zienswijzen in het licht van (nieuwe) wetenschappelijke, maatschappelijke en ethische inzichten;</li> </ul>
Zelfsturing	Studenten profileren zich als een verantwoordelijk en academisch professional.	<ul style="list-style-type: none"> <li>• innemen en verantwoorden van de eigen positie ten aanzien van sociaaleconomische ontwikkelingen en problemen.</li> </ul>

### 3. Leeromgeving

Kenmerkend voor een wetenschappelijke opleiding is dat deze studenten aanspoort tot het verrichten van activiteiten die in het verlengde liggen van het beoefenen van de wetenschap. Het stimuleren van zelfstandigheid en het zonder al te veel bemoeienis van buiten laten werken in teams zijn hierbij van belang. Dit kan op zeer uiteenlopende manieren gebeuren. Hierbij geldt overigens ook dat hetgeen werkt voor de ene student, dat niet zonder meer doet voor een andere student.

In een wetenschappelijke opleiding besteden studenten de meeste tijd aan zelfstudie. Een effectieve ondersteuning daarvan is een van de beste garanties voor een goede studievoortgang. Bij het ontwerpen van de ondersteuning is het dienstig om ervan uit te gaan dat de opleiding studenten moet aanzetten tot een steeds grotere mate van zelfsturing naarmate de studie vordert. Een deel van de begeleiding is erop gericht dat studenten zich de conceptuele en methodische kennis van het vakgebied eigen maken. Mede met het oog op het vergroten van het zelfsturend vermogen is het belangrijk dat de begeleiding studenten prikkelt om eerst zelf te proberen om de literatuur te begrijpen alvorens een beroep op de docent kan worden gedaan voor het geven van uitleg. Studieopdrachten die worden nabesproken kunnen hiervoor een geschikt middel zijn. Indien deze opdrachten tevens een relatie met de praktijk leggen, leveren ze een bijdrage aan de versterking van de wendbaarheid van het ontwikkelende kennisbestand.

Het wetenschappelijke karakter van de opleiding komt met name tot uitdrukking in de gelegenheid die de opleiding biedt om afzonderlijke elementen van het vakgebied toe te passen op concrete beleids- en managementvraagstukken en deze door eigen onderzoek te analyseren. Studenten beseffen dan tevens hoe verschillende delen van het vakgebied elkaar kunnen aanvullen dan wel tegenspreken. De aanpak hiervan dient stevig te worden gestuurd vanuit de methodologie en studenten moeten van meet af aan statistische en mathematische technieken gebruiken bij het analyseren van hun probleemstellingen. De kwaliteit van het resultaat wordt sterk meebepaald door de tijd die ervaren docenten kunnen besteden aan feedback.

De toetsing dient zo veel mogelijk te zijn afgestemd op de beoogde competenties als geheel.



## **Bijlage C: Programma voor het bezoek aan de Universiteit Maastricht, donderdag 19 en vrijdag 20 oktober 2006**

<b>Dag 1:</b> <b>19 oktober</b>	Locatie: Maastricht
19.00 – 20.00	Vorbereidende bijeenkomst van de visitatiecommissie
20.30 -	Diner van de commissie met oud-decaan FdEWB (tot 1 februari 2006), lid Faculteitsbestuur, portefeuille Onderwijs, opleidingsdirecteur International Economic Studies/ Infonomics, directeur UNU-MERIT, UHD departement Algemene Economie/ MERIT, adjunct directeur FdEWB
<b>Dag 2:</b> <b>20 oktober</b>	Locatie van de dag: FdEWB gebouw, Tongersestraat 53, kamer A 1.23 Voertaal bezoek Nederlands, tenzij anders aangegeven
9.00 - 9.45	Gesprek met de samenstellers van het zelfevaluatie-rapport MSc Infonomics
9.45 – 10.30	Gesprek met Masterstudenten Infonomics (5 studenten; gesprek is Engelstalig)
10.30 – 10.45	Pauze
10.45 – 11.30	Gesprek met Docenten MSc Infonomics (7 docenten; gesprek is Engelstalig)
11.30 – 12.00	Gesprek met studenten uit medezeggenschapsorganen (OEC, Opleidingscommissie, studentadviseur Faculteitsbestuur)
12.00 – 12.30	Gesprek met Stafleden Onderwijs- en Examencommissie en Opleidingscommissie
12.30 – 13.00	Gesprek met services medewerkers: studieadviseur , career services coördinator, Eleum coördinator, lid facultaire bibliotheek commissie
13.00 – 14.00	Lunch en werkoverleg commissie Gestart wordt met een 15 minuten durende demo van de ICT
14.00 – 14.45	Afsluitingsgesprek met Faculteitsbestuur en Opleidingsdirecteur
14.45 – 15.45	Vervolg opstellen voorlopige bevindingen en voorbereiding mondelinge rapportage voorzitter
16.00 – 16.30	Mondelinge rapportage voorlopig oordeel door de voorzitter en afsluiting bezoek Uitgenodigd zijn alle deelnemers aan de visitatiegesprekken



## Bijlage D: Lijst van afkortingen

AACSB	Association to Advance Collegiate Schools of Business
AIM	Department of Accountancy and Information Management
CEEMAN	Central and East European Management Development Association
ECON	Department of Economics
ECTS	European Credit Transfer System
EDER	Educational Development and Educational Research
EDiNEB	Educational Innovations in Economics and Business
EEC	Education and Exams Committee
EFMD	European Foundation for Management Development
EleUM	Electronic Learning Environment University Maastricht
EQUIS	European Quality Improvement System
FEBA	Faculty of Economics and Business Administration
GMAT	Graduate Management Admission Test
GRE	Graduate Record Examinations
ICT	Information and Communication Technology
IES-network	Infonomics and Economics Students network
IM	Information Management
MARC	Maastricht Accounting, Auditing and Information Management Research Center
MISO	Management Informatie Systeem Onderwijs (Management Information System for Education and Research)
PBL	Problem-Based Learning
QE	Department of Quantitative Economics
ROA	Researchcentrum voor Onderwijs en Arbeidsmarkt (Research Centre for Education and the Labour Market)
TOEFL	Test of English as a Foreign Language
UM	Universiteit Maastricht (Maastricht University)
UNU-MERIT	United Nations University - Maastricht Economic and social Research and training institute on Innovation and Technology