

## Besluit

### Besluit strekkende tot het verlenen van accreditatie aan de opleiding wo-master Innovation Management van de Technische Universiteit Eindhoven

	<b>Gegevens</b>	
datum	31 augustus 2017	Naam instelling : Technische Universiteit Eindhoven
onderwerp	accreditatie wo-master Innovation Management van de Technische Universiteit Eindhoven (005700)	Naam opleiding : wo-master Innovation Management (120 EC)
		Datum aanvraag : 1 mei 2017
		Variant opleiding : voltijd
		Afstudeerrichtingen : Business and Product Creation; Managing Innovation Processes; Free track
		Locatie opleiding : Eindhoven
		Datum goedkeuren panel : 10 oktober 2017
uw kenmerk	CvB 2017/1649225	Datum locatiebezoeken : 18en 19 januari en 20 februari 2017
ons kenmerk	NVAO/20172180/ND	Datum visitatierapport : 18 april 2017
bijlagen		Instellingstoets kwaliteitszorg : ja, positief besluit van 6 mei 2014

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#### Beoordelingskader

Beoordelingskader voor de beperkte opleidingsbeoordeling van de NVAO (Stcrt. 2014, nr 36791).

#### Bevindingen

De NVAO stelt vast dat in het visitatierapport deugdelijk en kenbaar is gemotiveerd op welke gronden het panel de kwaliteit van de opleiding voldoende heeft bevonden.

#### Advies van het visitatiepanel

Samenvatting bevindingen en overwegingen van het panel.

The master's programme Innovation Management (hereafter: IM) is a full time programme, consisting of 120 EC spread evenly over two years. It is taught in English. IM is part of the School of Industrial Engineering (hereafter: School IE) with the bachelor's programme Technische bedrijfskunde (Industrial Engineering and Management in English; following the programme's practice, hereafter: IE) and the master's programme Management and Logistics (hereafter: OML), as offered by the Department of Industrial Engineering and

Pagina 2 van 7 Innovation Sciences (hereafter: Department IE&IS) at the Eindhoven University of Technology (hereafter: TU/e). The Educational Board of the School IE consists of a programme director, a vice-director, and two programme chairs. It is supported by a quality assurance officer and two study advisors.

IM has a unique profile, in so far that it is the only two-year engineering programme combining new product development, strategic marketing, business intelligence and entrepreneurship. The panel renders the programme's profile, with its emphasis on innovation and the design of products, appropriate and valuable, serving a clear demand for academic engineers within the Netherlands and beyond. The panel concluded that the programme's intended learning outcomes meet the Dutch qualifications framework and Dublin criteria and that they tie in with the perspective of the requirements set by the professional field. It recommends to further concretise these intended learning outcomes to strengthen the programme's profile, to create further transparency and to fuel student learning. It also suggests rendering the programme's international ambitions in both its profile and the intended learning outcomes to further strengthen its, and the School IE's, unique position in the field of IE&IS.

IM is one of two of the School IE's master's programmes. Its programme and curriculum design was completely revised to fit the newly created TU/e Graduate School, which introduced a uniform format for all TU/e master's programmes based on a structure of 15 EC per quartile in order to facilitate alignment between different tracks, programs and departments. The programme and curriculum are based on four elements that feed into their design: six core courses (30 EC), six elective courses in one of three tracks allowing for disciplinary specialisation within IM (30 EC), six elective courses (30 EC) and a master's thesis project, including a preparatory research proposal (30 EC). The IM programme and curriculum is embedded in the School IE's research interests, but also provides a clearly distinctive master's programme. The panel recommends the programme to consider introducing the literature review as a compulsory second-year course. This could potentially result in more focus during the thesis process and a more developed scientific underpinning of the presented research in the theses.

*The curriculum offers two distinctive tracks for further specialisation within the field and also allows excellent and ambitious students to either specialise into research or to combine degrees in a third, or 'special', track. The first track 'Business and Product Creation' focuses on creative idea generation, opportunity generation, entrepreneurial action and initiating break-through projects in emerging new markets and new services. The second track 'Managing Innovation Processes' is set in existing markets and services. It is directed towards analysis of the market and the management of supporting processes to secure continuous improvement and innovation. The third track differs from the first two tracks and is directed towards promoting excellent research. It is identified as the 'Special/Free Track', and is created for students who want to focus on research. With their mentor's close advise, students choose within this track six elective courses at master's level that must create a coherent study path and are tailored towards their individual needs and research interests. The panel ascertained that the three specialisation tracks offer plenty of opportunity for gaining expertise within the discipline while also creating an distinctive profile for individual students. The programme also benefits from a wide variety in excellence programmes offered by the School IE and the university.*

Pagina 3 van 7 The internationalisation programme of IM is extensive and ambitious. The panel appreciates the programme's emphasis on internationalisation within the master's programme, considering it an example of good practice in the Netherlands. During the site visit, the panel learned that the teaching staff, and in particular mentors, closely advised students regarding potential courses at international universities. The panel considers this practice not only as an excellent way to vet universities and courses abroad, but also indicative of the broad international networks in which the teaching staff of the School IE participate and interact. It is therefore exemplary for the international outlook of the TU/e and indicative of the School IE's chances to actually meet their ambitious internationalisation goals.

The panel verified that the student learning environment at the master's programme IM enables students to meet the intended learning outcomes. The coherence and content of the programme is well-structured and based on up-to-date scientific research and embedded within an engineering context, reflecting IM's focus on innovation and programme design. The panel was in particular appreciative of 'Design Project for Managing Innovation Processes', which it considered an excellent preparation for both the master's thesis project and the actual practice within the work field. Also, the clear and well-laid out thesis manual was considered commendable. The development of students' professional skills is organised on an individual basis, supervised by the students' mentors. Although the panel appreciated the centrality of the professional skills in the TU/e Graduate School, its highly personal and individualised set up demands continuous evaluation of both students' and mentors' performance.

The programme enjoys a dedicated teaching staff that uses innovative teaching methods to fuel student learning. Within the School IE, the panel considers IM an example of good practice in this regard. Staff members regularly meet and align their courses, and also take demands and practices of the work field into account. The variation offered of software packages, for example, prepares students for the different situations they may encounter upon entering the job market. The panel appreciates the staff's proactive attitude regarding the challenges posed by the new curriculum and programme design and the increased workload in response to the increase in students since 2012. Notable improvements regarding the professionalisation and reflection skills of the staff have been recognised by the panel, and it advises the management to continue doing so.

IM benefits from a diverse student intake, which the panel considers an advantage for a programme that focuses on product design and innovation, and the challenges these pose at management level within a company or organisation. The programme also manages to successfully prepare its diverse student intake to meet the intended learning outcomes. The internationalisation programme of IM is extensive and ambitious, and functions well. A high number of students take parts of their studies abroad, which the panel considers both desirable and praiseworthy. With a wide variety of options, a well-functioning homologation and internationalisation programme and a professional and innovative staff, IM's teaching-learning environment offers a good environment for students to achieve the intended learning outcomes.

The panel established that the master's programme IM has a satisfactory assessment system. The quality of assessment and achieved learning outcomes is safeguarded. Examinations are drafted with the involvement of two members of staff, and marked by two independent examiners. The quality of assessment of the master thesis is assured by the involvement of three members of staff: two supervisors and an independent assessor that

Pagina 4 van 7 assures the engineering aspect and disciplinary focus of the thesis project. The BoE's aims to develop test matrices for the different programmes in the school, an ambition warmly supported by the panel. Some other improvement could be considered. The panel recommends to redesign the thesis assessment forms for further qualitative feedback and additional transparency into the composition of grades. Furthermore, separate forms for all examiners would fuel further transparency into the assessment process.

*The Board of Examiners (hereafter: BoE) of the School IE functions within the constraints of the law. It regularly convenes with the management and informs both students and staff about assessment procedures and assures the quality of assessment throughout the programme. The BoE's MSc thesis assessment committee is bound to perform stratified spot checks of the BEP. This is appreciated and deemed necessary by the panel to safeguard the quality of assessment. Therefore, the panel concluded that the BoE at IM is in control and has various instruments in place to guarantee a fair assessment of all assessments, including the master thesis project.*

The panel learned that a course assessment committee has been introduced to perform spot checks, both proactively and reactively, on course assessments in December 2016. Although the panel could not verify the benefits of this measure yet, it warmly supports it. Adequate time allowances should be allocated to staff members performing this important task. The panel advises the BoE to also consider introducing spot checks by independent educationalists in order to annually screen (a selection of) individual courses in its totality to further assure the quality of the programme.

The panel ascertained that graduates of the master's programme IM achieved the intended learning outcomes at a satisfying level, based on the quality of their theses. The level of the master's thesis projects concurs with the level that could be expected from an academic master's programme. All theses were adequately graded. Master graduates easily enter the job market, on which their profile and skills are valued. Although the School IE has an established alumni organisation in place, the panel advises the programme to intensify its ties with its alumni and to strongly support Alumnia's initiatives.

### **Aanbevelingen**

De NVAO onderschrijft de aanbevelingen van het panel.

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Ingevolge het bepaalde in artikel 5a.10, derde lid, van de WHW heeft de NVAO het college van bestuur van de Technische Universiteit Eindhoven te Eindhoven in de gelegenheid gesteld zijn zienswijze op het voornemen tot besluit van 10 juli 2017 naar voren te brengen. Van deze gelegenheid heeft het college van bestuur geen gebruik gemaakt.

De NVAO besluit accreditatie te verlenen aan de wo-master Innovation Management (120 EC; variant: voltijd; locatie: Eindhoven) van de Technische Universiteit Eindhoven te Eindhoven. De opleiding kent de volgende afstudeerrichtingen: Business and Product Creation; Managing Innovation Processes; Free track. De NVAO beoordeelt de kwaliteit van de opleiding als voldoende.

Dit besluit treedt in werking op 31 augustus 2017 en is van kracht tot en met 30 augustus 2023.

Den Haag, 31 augustus 2017

De NVAO  
Voor deze:



**Dr. Marc Luwel**  
**Bestuurder**

Dr. A.H. Flierman  
(voorzitter)

Tegen dit besluit kan op grond van het bepaalde in de Algemene wet bestuursrecht door een belanghebbende bezwaar worden gemaakt bij de NVAO. De termijn voor het indienen van bezwaar bedraagt zes weken.

Onderwerp	Standaard	Beoordeling door het panel
<b>1. Beoogde eindkwalificaties</b>	De beoogde eindkwalificaties van de opleiding zijn wat betreft inhoud, niveau en oriëntatie geconcretiseerd en voldoen aan internationale eisen.	<b>Voldoende</b>
<b>2. Onderwijsleeromgeving</b>	Het programma, het personeel en de opleidingsspecifieke voorzieningen maken het voor de instromende studenten mogelijk de beoogde eindkwalificaties te realiseren.	<b>Goed</b>
<b>3. Toetsing</b>	De opleiding beschikt over een adequaat systeem van toetsing.	<b>Voldoende</b>
<b>4. Gerealiseerde eindkwalificaties</b>	De opleiding toont aan dat de beoogde eindkwalificaties worden gerealiseerd.	<b>Voldoende</b>
<b>Eindoordeel</b>		<b>Voldoende</b>

De standaarden krijgen het oordeel onvoldoende, voldoende, goed of excellent. Het eindoordeel over de opleiding als geheel wordt op dezelfde schaal gegeven.

- Prof.dr.ir. R.E.C.M. (Rob) van der Heijden, is since June 2016 Professor in Innovative Planning Methods within the Nijmegen School of Management, Radboud University Nijmegen [chair];
- Prof.dr. H.M.C. (Harrie) Eijkelhof, was until his retirement in 2014 Director of the Freudenthal Institute for Science and Mathematics Education at the Faculty of Science at Utrecht University;
- Prof.dr. E. (Erik) Demeulemeester, is since 2001 Full Professor at the Faculty of Economics and Business and Head of the Research Center for Operations Management at the University of Leuven;
- Prof.dr. J. (Jan) Kratzer, is Chair of Entrepreneurship and Innovation Management and Managing Director of the Center for Entrepreneurship at Berlin Institute of Technology, Germany;
- S. (Sofie) Vreeriks BSc, is in her second year of her master Industrial Engineering and Management at the University of Twente [student member].

Het panel werd ondersteund door dr. E. (Els) Schröder, secretaris (gecertificeerd).