

Besluit

Besluit strekkende tot het verlenen van accreditatie aan de opleiding wo-bachelor Advanced Technology van de Universiteit Twente

	Gegevens	
datum	Naam instelling	: Universiteit Twente
28 november 2014	Naam opleiding	: wo-bachelor Advanced Technology (180 ECTS)
onderwerp	Datum aanvraag	: 3 februari 2014
Definitief besluit	Variant opleiding	: voltijd
accreditatie wo-bachelor	Locatie opleiding	: Enschede
Advanced Technology van de	Datum goedkeuren	
Universiteit Twente	panel	: 7 oktober 2013
(002717)	Datum locatiebezoeken	: 23 en 24 oktober 2013
uw kenmerk	Datum visitatierapport	: 6 januari 2014
	Instellingstoets kwaliteitszorg	: ja, positief besluit van 2 mei 2014
ons kenmerk		
NVAO/20144072/ND		
bijlagen		
3	Beoordelingskader	
	Beoordelingskader voor de beperkte opleidingsbeoordeling van de NVAO (Stcrt. 2010, nr 21523).	

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 (hierna ook: the committee).

Standard 1

The profile of the programme is rather unique, so that it overlaps essentially its framework of reference. In other words: as a consequence of this unique position, the domain-specific framework of reference is predominantly formulated along the lines of the programme itself. It matches international academic standards and is very clearly defined. The committee is enthusiastic about the profile of the programme and its implementation, although the communication of this profile should be improved. It believes that especially the management needs a clearer description of the profile. In the interview during the site visit, the management had some difficulties explaining the word 'advanced', and was hardly able to provide a clear, coherent profile of the programme. The committee appreciates the multidisciplinary breadth of the first two years of the programme and argues that this aspect

Pagina 2 van 8 should be included more explicitly in recruitment material, together with the emphasis on fulfilling a societal need for creative, future scientists. It studied the intended learning outcomes and is convinced that they target the right academic level, fit into the profile and domain-specific reference framework and are well defined.

Standard 2

The curriculum extends over three years. In the first and second year, students follow a great variety of courses that as a whole provide a broad yet solid scientific background. A remarkable component in the curriculum is the project work, which is organised in each semester of the first two years. In the third year there is room for specialisation. There are two areas of specialisation: science and engineering. The narrowing down of knowledge in the third year predominantly functions as a preparation for the student's preferred master's programme. In this year, students also work on their bachelor's assignment (bachelor thesis). Each year is worth 60 EC.

The committee is enthusiastic about the first and second year, which offer a very broad and coherent combination of courses. Although it understands the need for specialisation in the third year on the one hand, it regrets the narrowing down of subjects and perspectives on the other. Nevertheless, it believes that the curriculum consists of a good mix of courses and is convinced that students are able to see the connections between courses - possibly in a later period during their studies. Theory and practice are already nicely intertwined in the curriculum, but it is likely that this will be further enhanced by TOM (Twents Onderwijsmode : the new educational model which aims to provide attractive education for the student population in the coming years. According to the committee, TOM offers an opportunity to strengthen the connection of the curriculum with society and business. It is therefore in favour of the new model and looks forward to its related future developments.

The learning outcomes are adequately embedded in the curriculum, although the committee thinks that the design and multidisciplinary components need more attention. It recognises that design tools are present, but courses on methodology are missing.

Although the didactic vision is not always clear in the documentation, the projects, which are constructed parallel to the courses, are an interesting didactic choice and can be considered as the 'glue' of the curriculum. The committee considers the practicals a somewhat classical didactic method, but thinks they are very suitable teaching tools for the programme.

The committee feels the intake numbers are adequate, and it praises the increase in international students. Shortcomings are the absence of an English translation of the Programme and Assessment Rules and Regulations (OER) and the incomplete set of well worked out course descriptions. It strongly advises the management to get those documents in order as soon as possible. In addition, the committee believes that the programme should optimise its linkages with foreign universities and partners in industry.

The programme is feasible, students receive excellent support from the study advisors in their academic trajectory, and the workload currently amounts to 35 hours per week. Students chose a unique and broad programme and therefore can be expected to think more out of the box than monodisciplinary students. Although the dropout rate before 2010 used to be on the high side, the committee has faith in the improved communication towards freshmen.

Pagina 3 van 8 The committee believes that the programme houses excellent staff members, in sufficient number. However, it would like to see an increase in the synergic value of the staff members of the different faculties involved. It therefore recommends meetings of lecturers involved with a subset of related courses to strengthen the coherence of their courses, to develop cross-links and improve the general appreciation for the Advanced Technology programme. The Programme Committee could play a role in organising those meetings, as it is clearly a very proactive board of lecturers and highly motivated students. The committee is of the opinion that the Programme Committee functions very well.

Standard 3

With regard to the assessment system, the committee believes that the Board of Examiners currently functions adequately but should implement a clear, explicit assessment system to improve the transparency while also reflecting on and developing its duties. It particularly recommends the explicit implementation of the checklist with criteria for the bachelor thesis, which is published in the study guide.

The committee is impressed by the high level of the bachelor's theses and would like to praise the programme for the extremely solid, well conducted and supervised research processes. Although many theses nearly match a master's thesis level, the committee regrets the absence of a multidisciplinary approach. A discussion of the societal relevance or entrepreneurial context is clearly missing in the thesis procedure. The committee is astonished however, that although multidisciplinary is considered an essential prerequisite for the bachelor assignment, it does not seem to play any role in the acceptance of a thesis research project and the assessment of the thesis. Since the learning outcomes are all covered in the courses, they are nevertheless achieved.

The relationships with industry and the job market are not exploited well enough, according to the committee. However, since a clear fit with the job market is not really relevant for this programme as most students continue with a master's degree, the committee assigns more importance to the fit with further studies. This does not mean however, that the connection with industry should not be optimised. Those who continue on to a master's level achieve good results, and some even continue with a PhD.

Aanbevelingen

De NVAO onderschrijft de aanbevelingen van het panel en vraagt in het bijzonder aandacht voor die in verband met de transparantie van het toetsstelsel en de beoordeling van de bachelorthesis.

Ingevolge het bepaalde in artikel 5a.10, derde lid, van de WHW heeft de NVAO het college van bestuur van de Universiteit Twente te Enschede in de gelegenheid gesteld zijn zienswijze op het voornemen tot besluit van 27 oktober 2014 naar voren te brengen. Van deze gelegenheid is geen gebruik gemaakt.

De NVAO besluit accreditatie te verlenen aan de wo-bachelor Advanced Technology (180 ECTS; variant: voltijd; locatie: Enschede) van de Universiteit Twente te Enschede. De NVAO beoordeelt de kwaliteit van de opleiding als voldoende.

Dit besluit treedt in werking op 28 november 2014 en is van kracht tot en met 27 november 2020.

Den Haag, 28 november 2014

De NVAO
Voor deze:



Ann Demeulemeester
(vicevoorzitter)

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
1. Beoogde eindkwalificaties	De beoogde eindkwalificaties van de opleiding zijn wat betreft inhoud, niveau en oriëntatie geconcretiseerd en voldoen aan internationale eisen	Voldoende
2. Onderwijsleeromgeving	Het programma, het personeel en de opleidingsspecifieke voorzieningen maken het voor de instromende studenten mogelijk de beoogde eindkwalificaties te realiseren	Voldoende
3. Toetsing en gerealiseerde eindkwalificaties	De opleiding beschikt over een adequaat systeem van toetsing en toont aan dat de beoogde eindkwalificaties worden gerealiseerd	Voldoende
Eindoordeel		Voldoende

Bijlage 2: Feitelijke gegevens

Data on intake, transfers and graduates

Bachelor intake 2006 – 2012

	2006	2007	2008	2009	2010	2011	2012
Total intake per October 1	53	42	62	45	48	81	74
Female	2	3	6	4	7	17	10
	4%	7%	10%	9%	15%	21%	14%
German	2	3	3	3	2	20	8
Other countries	-	-	-	-	3	11	11
					6%	14%	15%
From other WO	-	3	2	8	2	1	1
From HBO	-	-	-	1	-	3	1
Criterion group	53%	42%	46%	43%	72%	67%	58%

Dropouts per cohort (with respect to the total intake)

Cumulative dropout	2006	2007	2008	2009	2010	2011	Mean 2006-2011	Mean 2004-2011
after 1 year	28%	10%	21%	31%	25%	36%	28%	29%
after 2 years	28%	17%	27%	38%	31%		31%	33%
after 3 years	30%	26%	31%	38%			34%	37%
until now	34%	31%	31%				33%	39%
with P-diploma	0%	0%	0%	0%	0%		0%	0%

Average P- and B-performance over the period 2006-2011

Performance	Regular students ¹ 2006-2011	Criterion group 2006-2011	Total intake 2006-2011
P diploma ≤ 1 year	29%	49%	27%
P diploma ≤ 2 years	38%	57%	36%
P-diploma ≤ 3 years	48%	66%	46%
P diploma final	66%	82%	66%
BSc diploma ≤ 3 years of re-registrants	3%	3%	4%
BSc diploma ≤ 4 years of re-registrants	28%	38%	26%
BSc diploma ≤ 5 years of re-registrants	50%	62%	47%
BSc diploma final of re-registrants	64%	81%	61%

Teacher-student ratio achieved

Student-staff ratio for the AT programme (B1-B3)

Year	Number of Teaching FTE's	Number of registered students	Number of graduates in 2012	Number of students per Teaching FTE	Number of graduates per Teaching FTE
May 2013	15.1	212	36	14.0	2.4

Average amount of face-to-face instruction per stage of the study programme

Number of average contact hours for the various years

Year	Lectures/Tutorials	Lab Work	Projects / Assignments	Self-study unscheduled	Other unscheduled
B1	400 (24%)	160 (10%)	160 (10%)	680 (40%)	280 (17%)
B2	550 (33%)	50 (3%)	270 (16%)	760 (45%)	50 (3%)
B3	400 (24%)			860 (51%)	420 (25%)

- Prof. dr. R. P. (Ronald) Griessen (chair), Emeritus Professor at VU University Amsterdam and lecturer at Amsterdam University College;
- Prof. dr. ir. F. (Fred) van Keulen, Professor at the Department of Precision and Microsystems Engineering at Delft University of Technology;
- Dr. ir. J. H. Qohan) Klootwijk, Senior Scientist and Project Leader at Philips Research and secretary of the daily committee of the Nederlandse Natuurkunde Vereniging;
- Dr. F. (Cis) van den Bogaert (education expert), Head of the Department of Education in the central administration (rectorate) of the University of Antwerp;
- L. (Lieke) van Son (student member), BSc, master student of Innovation Sciences, Eindhoven University of Technology.

Het panel werd ondersteund door Mrs. J.J. (Jasne) Krooneman, MSc, secretaris (gecertificeerd).