

Besluit

Besluit strekkende tot het verlenen van accreditatie aan de opleiding hbo-bachelor Advanced Sensor Applications van de Hanzehogeschool Groningen

Gegevens

datum	Naam instelling	: Hanzehogeschool Groningen
6 september 2013	Naam opleiding	: hbo-bachelor
onderwerp		Advanced Sensor Applications (240 ECTS)
Definitief besluit	Datum aanvraag	: 18 februari 2013
accreditatie hbo-bachelor	Variante opleiding	: voltijd
Advanced Sensor Applications	Afstudeerrichtingen	: Entrepreneurship
van de Hanzehogeschool		Research & Development
Groningen	Locatie opleiding	: Assen
(001584)	Datum goedkeuren	
uw kenmerk	panel	: 30 oktober 2012
O&O 135008	Datum locatiebezoeken	: 3 en 4 december 2012
ons kenmerk	Datum visitatierapport	: januari 2013
NVAO/20132857/ND	Instellingstoets kwaliteitszorg	: Ja, positief besluit van 26 april 2013

bijlagen

3

Beoordelingskader

Beoordelingskader voor de beperkte opleidingsbeoordeling van de NVAO (Stcr. 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 goed heeft bevonden.

Advies van het visitatiepanel

Samenvatting bevindingen en overwegingen van het panel.

The Bachelor Advanced Sensor Applications is a programme of the Hanze University of Applied Sciences. It is located in Assen. This four-year programme prepares students for positions in the professional field where sensor technology is applied. Sensor technology is an enabling technology with applications in almost any area, but particularly in such areas as: health care services, sports, infrastructure, energy, agriculture, scientific research, consumer products and production companies. The main professional task of the Sensor Application Expert is to develop a sensor application based on the context, use and

Inlichtingen

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Pagina 2 van 8 business. Graduates have a broad range of employment possibilities in positions such as design engineer, process control engineer, technical project leader, consultant, R&D engineer and technical entrepreneur.

The panel has assessed the quality of the Bachelor programme and comes to the overall judgement that the programme is of good quality.

Standard 1

The ASA programme is based on four general engineering competences and five specific ASA competences that were discussed with representatives of the professional field. The panel is very pleased with the competencies and the competence breakdown in the Body of Knowledge and Skills (BoKS). They suit the ASA programme and are relevant for the professional field. Although the competencies cover a wide range of domains the panel agrees with ASA that by doing so students are introduced to the different fields where sensor technology is applied. It is of course important that depth and width are kept in balance. ASA keeps in close contact with representatives of the professional field through the Programme Advisory Committee and the many guest lecturers. They are closely involved in designing and executing the programme.

ASA is a unique bachelor programme with its focus on sensor technology. The first graduates have found employment in different companies as the panel learned during the visit. It is furthermore internationally oriented with English as the common language for students and lecturers from the Netherlands and from abroad.

Based on above mentioned considerations the panel comes to the judgement good.

Standard 2

The panel is convinced that the structure and the contents of the programme enable students to acquire the intended learning outcomes. The structuring of the contents in themes provide a good combination of theory and practice in the projects the students have to work on. The curriculum covers a broad range in the domain of sensor applications which offers students the opportunity to get acquainted with the field and also to specialise in a specific area. The panel takes note of the involvement of companies with the themes. The panel thinks this involvement could be expanded in order to achieve the ambitions of ASA, but also to ensure that students get more into contact with companies.

During the first year students get acquainted with basic sensor topics and basic research and entrepreneurial skills. The project themes in this year concern Health and Nature. In the second year the knowledge and skills are expanded to recording with sensors, control loops, the use of several parallel systems with data transmitted wirelessly and translating data into useful information. The themes in this second year are Sensing, Systems & Control, Sensor Networks and Meaningful Data. In the third year the focus is on research and entrepreneurial skills. In the fourth year students can specialise in either Research & Development or Entrepreneurship.

Pagina 3 van 8 The panel is very pleased with the structure of the programme and the focus on students. Students can contact lecturers easily and according to the students they form a kind of family. The mentor monitors the progress of students. The lecturers are experts in their field. They are really involved with the students as the panel noticed during the visit.

The panel has found a coherent educational learning environment which is enhanced by the small scale of ASA, the building with good labs and the fact that lecturers and students all know each other. At ASA there is an international atmosphere in which students and lecturers stimulate each other. In this environment it is indeed possible to have an honours programme for all students although the panel has some doubts about making it compulsory for all students. The panel believes that the current set-up and organisation sets the scene for a larger number of students, but to really accommodate them will be a challenge as some of the advantages of the small scale will be lost. Based on above mentioned considerations the audit team comes to the judgement good.

Standard 3

ASA has an assessment policy that works well. Depending on the contents and didactical approach in a theme different types of assessment are used. The panel is pleased to see a good balance between group assignments and individual work. The graduation project is always an individual project.

In the Theme Guides the methods of assessment, the literature and the learning outcomes are described. The assessment procedures and criteria are transparent and available to all students. Students know what to expect so the panel learned in interviews.

The panel is satisfied that ASA has succeeded in composing a programme with which students can realise the intended learning outcomes. The seven students who graduated in 2012 all showed the Bachelor's level in their graduation projects. According to the panel the quality of some of the projects exceeds the Bachelor's level, especially as those projects were done for critical companies. The panel judges the marks given by the supervisors as appropriate and well-balanced.

The companies the students worked for were pleased with the results and with the quality of the reports. Some graduates were offered a position at the company where they did their final project.

Based on above mentioned considerations the audit team comes to the judgement good.

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In het rapport heeft het panel de volgende aanbevelingen opgenomen die de NVAO onderschrijft.

Standard 1:

- The panel should like to see that the Honours programme is not made compulsory. When all students have to show excellence it is no longer a distinctive element within the programme. It may, according to ASA, be a distinctive feature in comparison to other bachelor programmes.

Standard 2:

- The panel recommends the programme to expand the involvements of companies even more in order to achieve the ambitions of ASA, but also to ensure that students can have more interaction with companies.

Standard 3:

- The panel advises the programme to keep a close watch on the choice of the subjects (not too broad) for the final project as well as on the feasibility and the budget of the projects. The coaching of the students is an important factor especially with regard to the time available to realise the project.
- The panel ascertained that the culture of oral feedback works well. On the other hand when the number of students will increase the panel recommends the programme to put the feedback in writing as well. Not every student is at ease with asking for written feedback.

Ingevolge het bepaalde in artikel 5a.10, derde lid, van de WHW heeft de NVAO het college van bestuur van de Hanzehogeschool Groningen te Groningen in de gelegenheid gesteld zijn zienswijze op het voornemen tot besluit van 12 augustus 2013 naar voren te brengen. Bij brief van 28 augustus 2013 heeft de instelling gereageerd op het voornemen tot besluit. Dit heeft geleid tot aanvulling van bijlage 2 in het definitieve besluit.

Op grond van het voorgaande besluit de NVAO accreditatie te verlenen aan de hbo-bachelor Advanced Sensor Applications (240 ECTS; variant: voltijd; locatie: Assen) van de Hanzehogeschool Groningen te Groningen. De opleiding kent de volgende afstudeerrichtingen: Entrepreneurship, Research & Development. De NVAO beoordeelt de kwaliteit van de opleiding als goed.

Dit besluit treedt in werking op 12 juni 2014 en is van kracht tot en met 11 juni 2020.

Den Haag, 6 september 2013

De NVAO
Voor deze:

R.P. Zevenbergen
(bestuurder)

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

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

Tabel 1: Uitval uit het eerste jaar.

Cohort	2005	2006	2007	2008	2009	2010	2011
Uitval	-	-	-	36%	14%	43%	39%

Tabel 2: Uitval uit de bachelor.

Cohort	2005	2006	2007	2008	2009	2010
Uitval	-	-	-	0%	25%	6%

Tabel 3: Rendement.

Cohort	2005	2006	2007	2008
Rendement	-	-	-	78%

Tabel 4: Docentkwaliteit.

Graad	hbo	MA	PhD (incl. PDEng)
Percentage	20%	80%	20% (40%)

Tabel 5: Student-docentratio.

Ratio	1 : 17,3
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Tabel 6: Contacturen.¹

Studiejaar	1	2	3	4
Contacturen	16	16	11	Afhankelijk van gekozen minor

¹ Het gemiddeld aantal klokuren per week aan geprogrammeerde contacttijd, voor ieder jaar van de opleiding. Dit is exclusief de (project- en practicum-) begeleiding door docenten die plaatsvindt op aanvraag van studenten en verplichte Honours seminars.

- prof.dr.ir. G. van Straten (chairperson, representative profession/discipline), emeritus hoogleraar meet-, regel- en systeemtechniek en werkt sinds 2012 via zijn eigen bedrijf Van Straten Agrodynamics Support;
- dr.ir. B. Vanrumste (representative profession/discipline), docent digitale signaal- en beeldverwerking aan de Katholieke Hogeschool Kempen en Katholieke Hogeschool Limburg en universitair docent Electrical Engineering (ESAT-SCD) aan de Katholieke Universiteit Leuven;
- ir. A. Diepeveen MBA (representative profession/discipline), directeur Innovatiebureau Watertechnologie bij Netherlands Water Partnership in Den Haag, waar zij tevens directielid en sectorvertegenwoordiger is voor de deelsector Watertechnologie binnen diverse netwerken en programma's waaronder Topsector Water;
- A. de Vries BEng (student member) volgt de hbo-bacheloropleiding Elektrotechniek bij Saxion Hogescholen.

Het panel werd ondersteund door drs. P. Göbel, secretaris (gecertificeerd).