nvao
nederlands - vlaamse accreditatieorganisatie

Besluit

Besluit strekkende tot het verlenen van accreditatie aan de opleiding wo-bachelor Scheikunde van de Radboud Universiteit Nijmegen

datum
19 augustus 2013
onderwerp
Besluit accreditatie wo-bachelor Scheikunde van de Radboud Universiteit Nijmegen (001127)
uw kenmerk
msolrs/12U.015868
ons kenmerk
NVAO/20132674/AH
bijlagen
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Gegevens

Naam instelling	:	Radboud Universiteit Nijmegen
Naam opleiding	:	wo-bachelor Scheikunde (180 EC)
Datum aanvraag	:	11 december 2012
Varian opleiding	:	voltijd
Locatie opleiding	:	Nijmegen
Datum goedkeuren panel	:	27 maart 2012
Datum locatiebezoeken	:	15 en 16 mei 2012
Datum visitatierapport	:	6 november 2012
Instellingstoets kwaliteitszorg	:	ja, positief besluit van 21 november 2011

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. Het visitatierapport geeft de bevindingen en overwegingen weer van het panel over de bacheloropleiding Scheikunde resp. de masteropleiding Chemistry, de bachelor- en masteropleiding Moleculaire Levenswetenschappen en de bacheloropleiding Science resp. de masteropleiding Natuurwetenschappen van de Radboud Universiteit Nijmegen. Het panel heeft deze opleidingen gezamenlijk beoordeeld.

Advies van het visitatiepanel

Samenvatting bevindingen en overwegingen van het panel (hierna ook: the committee).

Intended learning outcomes

Atomic and molecular structure and interaction are key concepts in the programmes in Chemistry, Molecular Life Sciences and Natural Sciences. These key concepts are taught in the common first three quarters of the first year.

The main goal of the bachelor's programme is to prepare students to continue their studies in a related master's programme at the same or a different university.

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The committee finds that the intended learning outcomes of the three different programmes are well described in terms of level and orientation. They comply with the domain specific framework and international requirements.

The committee values that the bachelor's programmes aim to provide the students with a broad education.

Teaching learning environment
The committee values highly that the educational institute MW offers a common molecular core to all three programmes, giving students the opportunity to switch between programmes. Moreover, the committee lauds that students with different backgrounds follow courses together and make assignments in mixed groups, thus promoting the multidisciplinarity of students.

However, the committee is of the opinion that the educational institute MW should continue to look for an ideal pairing of broadness of the programme on the one hand, and depth and links with ongoing research on the other hand.

The committee found that the weight attributed to courses is mostly well-balanced, although the committee learnt that there are some exceptions, which are mostly due to the recent standardization of courses to units of 3 or 6 EC. The committee therefore advises the educational institute MW to closely monitor whether the amount of EC attributed to courses throughout the programme is representative for the time invested by students. Also, the committee thinks that offering too many 3 EC-courses may lead to a fragmentation of the students' knowledge on certain topics. Against this background, the committee advises that unnecessary fragmentation and overlap of courses should be avoided.

The committee values that students have an important responsibility in composing their own programme, and obtained ample proof that students receive the necessary guidance in composing their programme. The committee advises the programmes to continue the quality assurance in this regard, especially for the non-required part of the programme.

Internships take up an important part of the curriculum and in general, students are pleased with the supervision they received. This is lauded by the committee. For some of the bachelor's and master's theses the committee read, it was found that the subjects of the projects were too complicated and not adequately delineated. Consequently, the committee suggests that the educational institute MW looks for a way to ensure the quality and feasibility of the suggested themes. The committee thinks the latter is crucial, especially for the bachelor's theses, as they should aim to give students an attractive and instructive first taste of scientific research, and to motivate students to continue into that direction.

The teaching format and methods are, according to the committee, adequate and the learning environment is of good quality.

The committee found the honours track well thought through. The committee also noted that the educational institute MW has started the process of improving the internationalization of the programmes.

The committee saw that the educational institute MW invests in its recruitment policy, which has led to an increased intake in the Chemistry and Molecular Life Sciences programmes in

the last few years. The committee believes that the information strategy regarding the minor programmes at bachelor level needs to be improved to benefit enrollment, as so far they have failed to attract many students.

The committee is convinced that the study progress at the bachelor as well as the master level can be improved upon. The committee appreciates that the educational institute MW has already taken a series of measures to improve success rates. Still, it is the opinion of the committee that the selective function of the first year can be enhanced by imposing more rules regarding the sequencing of courses.

Assessment and achieved learning outcomes
Overall, the committee concludes that the existing assessment system, the level of the bachelor and master theses and the performance of graduates in the master's programme and in professional life, demonstrate that the achieved level of the bachelor's and master's programmes is adequate.

The committee was pleased to find that, in response to the findings of the previous programme evaluation in 2006-2007, a standard evaluation form has been developed for the evaluation of the bachelor's and master's theses. Furthermore, the decision to require the second evaluator of each thesis to come from a different research group is lauded. The committee was also pleased that the overall grades given to the bachelor's and master's theses generally corresponded well with the assessment of the same reports by the committee members.

Still, the committee found that in a number of cases, the individually gradable items were not appropriately assessed. The committee advises the Examination Board to include the evaluation forms in its quality control system and ensures that a concise but adequate motivation is provided for the marks that have been given, including the marks for the subcriteria. Also, the committee recommends that the gradable items are modified so they correspond better to specific required sections in the reports.

Moreover, the committee observed that several bachelor's and master's reports lacked certain sections that one would expect in every report, irrespective of specific research area, like abstract, objectives, conclusion or a statement of future outlook. The committee advises to develop a set of explicit guidelines for the preparation of the bachelor and master thesis, with specific attention to the required sections and what aspects should be covered in each. Furthermore, the committee advises to update the evaluation form, so that these additional 'points of attention' are included in the evaluation and result in a uniformly used, transparent document.

The committee was impressed by the maturity and openness of the selected students and alumni during the interviews. Concerning the level attained by the graduates, the committee advises the educational institute MW to monitor whether the new programme, with its broad set-up, still leads to graduates that can level with their monodisciplinary peers.

Standard 1 (Intended learning outcomes): satisfactory
Standard 2 (Teaching-learning environment): good
Standard 3 (Assessment and achieved learning outcomes): satisfactory

General conclusion: satisfactory

Aanbevelingen

De NVAO onderschrijft de aanbevelingen van het panel, in het bijzonder die met betrekking tot het verbeteren van de samenhang in het eerste jaar, de kwaliteit en haalbaarheid van scriptieonderwerpen, het consequent hanteren en invullen van beoordelingsformulieren bij scripties, het periodiek evalueren daarvan door de Examencommissie en het gebruiken van een vast format voor scripties.

Besluit

Ingevolge het bepaalde in artikel 5a.10, derde lid, van de WHW heeft de NVAO het college van bestuur van de Radboud Universiteit Nijmegen te Nijmegen in de gelegenheid gesteld zijn zienswijze op het voornemen tot besluit van 17 juni 2013 naar voren te brengen. Bij e-mail van 8 augustus 2013 heeft de instelling van de gelegenheid gebruik gemaakt om te reageren. Dit heeft geleid tot enkele redactionele aanpassingen en aanvullingen op bijlage 2.

De NVAO besluit accreditatie te verlenen aan de wo-bachelor Scheikunde (180 EC; variant: voltijd; locatie: Nijmegen) van de Radboud Universiteit Nijmegen te Nijmegen. De NVAO beoordeelt de kwaliteit van de opleiding als voldoende.

Dit besluit treedt in werking op 1 januari 2014 en is van kracht tot en met 31 december 2019.

Den Haag, 19 augustus 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.

 Bijlage 1: Schematisch overzicht oordelen panel

Onderwerp	Standaard	Beoordeling door het panel *voltijd*
1. Beoogde eindkwalificaties	De beoogde eindkwalificaties van de opleiding zijn wat betreft inhoud, niveau en oriëntatie geconcretiseerd en voldoen aan internationale eisen	V
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	V
Eindoordeel		V

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.

 Bijlage 2: Feitelijke gegevens

Tabel 1: ***Uitval na 1, 2, en 3 jaar***

Cohort	2006	2007	2008	2009	2010	2011
Uitval na 1jr	13%	10%	11%	11%	9%	0%
Uitval na 2jr	18%	16%	11%	18%	15%	
Uitval na 3jr	18%	26%	11%	27%		

Tabel 2: ***Rendement (vwo-instroom)***

Cohort	2006	2007	2008	2009
Rendement na 3 jaar	19%	22%	30%	23%
Rendement na 4 jaar	34%	44%	60%	
Rendement na 5 jaar	63%	63%		
Rendement na $6^{(+)}$ jaar	81%			

Tabel 3: ***Rendement (totale instroom)***

Cohort	2006	2007	2008	2009
Rendement na 3 jaar	19%	18%	23%	20%
Rendement na 4 jaar	34%	47%	53%	
Rendement na 5 jaar	63%	62%		
Rendement na $6^{(+)}$ jaar	78%			

Tabel 4: ***Docentkwaliteit***

Graad	Ma	PhD	BKO
Percentage	>99%	>99%	60%

Tabel 5: ***Student-docentratio***

Ratio	20,7 : 1

Tabel 6: ***Contacturen op jaarbasis***

Studiejaar	1	2	3
Contacturen	26	21	variabel

 Bijlage 3: panelsamenstelling

- prof.dr. E. Schacht (chair), Honorary Professor, field of expertise: Polymer Science, Ghent University, Belgium;
- prof. dr. J. Heck (member), Full Professor Anorganic and Applied Chemistry, Universität Hamburg, Germany;
- prof.dr. P. Kenis (member), Full Professor and dean, Department of Chemical & Biomolecular Engineering, University of Illinois at Urbana-Champaign, USA;
- dr. G. Van Lommen (member), senior director Medicinal Chemistry, Galapagos;
- Nicky Oppers (student-member), bachelor student Chemical Engineering, Eindhoven University of Technology, the Netherlands.

The committee was supported by dr. J. De Groof, who acted as secretary. The cluster coordinator was dr. B. van Balen.