

Besluit **Besluit strekkende tot het verlenen van accreditatie aan de opleiding wo-master Nanoscience van de Rijksuniversiteit Groningen**

Gegevens

	Naam instelling	: Rijksuniversiteit Groningen
datum	Naam opleiding	: wo-master Nanoscience (120 ECTS)
22 april 2013	Datum aanvraag	: 20 december 2012
onderwerp	Variant opleiding	: voltijd
Besluit	Locatie opleiding	: Groningen
accreditatie wo-master	Datum goedkeuren panel	: 28 augustus 2012
Nanoscience van de	Datum locatiebezoeken	: 18, 19 en 20 september 2012
Rijksuniversiteit Groningen	Datum visitatierapport	: december 2012
(001410)	Instellingstoets kwaliteitszorg	: aangemeld en geaccepteerd voor het invoeringsregime van de instellingstoets kwaliteitszorg als bedoeld in artikel 18.32b en c van de WHW
ons kenmerk		
NVAO/20131253/LL		
bijlage		

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 excellent heeft bevonden.

Advies van het visitatiepanel

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

The committee is highly impressed by this unique programme. In contrast to regular master's programmes, it established that the ambition of this programme is definitely much higher. It is of the opinion that the programme is a very unique one with a strong focus on research training. Students, carefully preselected after a personal interview, are given the opportunity to participate in the Zernike Institute, a prominent and outstanding research institution. The participating staff and facilities are excellent. The size of the selected cohort of students is limited on purpose so they can receive a highly personalized tutoring. This small size of the group creates a strong team spirit and, together with the high commitment of students, is a primary reason for the high success rate.

The relatively high assessment scores awarded by the committee are explained by these unique circumstances, and that is why the committee wants to exemplify this programme as a 'best practice' for other master's programmes in Nanoscience (national and international).

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The programme has been set up by the Faculty of Mathematics and Natural Sciences of the University of Groningen together with the Zernike Institute. The Zernike Institute for Advanced Materials at the University of Groningen is an interdisciplinary research institute, which received the coveted status of national top research institute in 1999. This distinction has been reconfirmed several times since and was even deemed 'exemplary' in the last evaluation. In the 2011 Times Higher Education ranking of research institutes in materials science worldwide, the Zernike Institute was ranked fourth. The aim of the Zernike Institute is to benefit from its research strength, as well as to guarantee a steady influx of qualified PhD candidates.

The Faculty of Mathematics and Natural Sciences of the University of Groningen aims for a leading position in education and research by offering top programmes linked to top research groups in the faculty, like the Zernike Institute. For these programmes the brightest and most ambitious students from all over the world are being selected. Therefore, the Faculty of Mathematics and Natural Sciences of the University of Groningen decided to specifically call this programme a Top Master Programme in Nanoscience. It is a highly selective master's degree programme, which imposes additional criteria for admittance.

The programme is mainly based on the definition of Nanoscience from the Royal Society and the Royal Academy of Engineering, which both consist of the world's most eminent scientists, and therefore that definition is highly regarded. Together they defined the field of Nanoscience in their report Nanoscience and Nanotechnologies: opportunities and uncertainties. The committee confirms that this frame of reference, in combination with specific elements that are defined by the programme itself, gives a very good reflection of the domain of Nanoscience and is a perfectly acceptable foundation for this particular programme.

The qualifications formulated by the programme define knowledge, skills and attitude at the level that meets the requirements for starting a PhD project. Since the programme is aimed at a career path in research, the intended qualifications match very well with the demands of the international scientific community in the newly emerging field of Nanoscience. All teaching staff members are well qualified as researchers, and the research institute is a centre of excellence, as mentioned above and also according to the committee. All students participate in this research environment. It is the confrontation with this research practice that challenges students to achieve the intended qualifications. The committee is highly impressed by this and is convinced that this is a very unique selling point of the programme.

Standard 2: Teaching-learning environment

The combination of all the unique aspects of the programme, especially the actual combined application of all these aspects, creates an outstanding and highly challenging and motivating teaching and learning environment for students. The committee is convinced that this adds great value to the programme.

The personnel and facilities are excellent, the cohorts of students are very small, the entrance is highly selective, and the curriculum is outstanding. This master's programme in Nanoscience is a very high-level degree course with a strong emphasis on research training and a very demanding curriculum for a select group of students that is able to handle this challenge. That is why there is an extremely demanding intake based on excellent selection

Pagina 3 van 7 criteria. This selection is necessary because the programme has such a challenging curriculum.

Students are given the unique opportunity to participate in an outstanding research institute. They carry out part of their master's thesis projects in nationally and internationally leading research groups. In this way, the educational programme provides a challenging and motivating environment in which a select group of students is offered an excellent and unique opportunity for education in Nanoscience. The committee is convinced that, since the programme aims at a career path in research, the intended qualifications are strongly focused on the academic skills demanded by the international scientific community in Nanoscience. Therefore, it is convinced that the requirements for university degree courses are absolutely fulfilled and comparable with the best educational institutes on an international level.

The committee is of the opinion that there is an excellent relationship between the intended learning outcomes and the content of the program. It is highly impressed by the excellent coherence of the curriculum, which is very well constructed and consists of highly relevant content. Knowledge, skills and awareness of the social context needed for a research career in nanoscience are very well presented in the curriculum. The curriculum guarantees its students an in-depth research experience with a solid academic basis.

Teachers and supervisors associated with the programme represent the excellent research groups taking part in the Zernike Institute. They form excellent role models for the students. The high-quality staff have expertise in all the necessary areas and excellent research and teaching abilities.

Standard 3: Assessment and achieved learning outcomes

The committee established that the assessment system of the programme functions very well. The examination structure has clearly been tailored to the intended learning outcomes of the programme. The committee has verified that there is a very large variety of assessment methods and that the tests and assessments are valid, reliable and transparent. It is convinced that this assessment system contributes greatly to making this programme special. It certainly contributes to the high level achieved by the students.

The committee is really impressed by the very high quality of the master's theses it studied; it obtained a general impression of high standards for graduation. It concurred with most of the grades awarded to the theses by the supervisors, ranging from good to excellent. It is therefore convinced that the learning outcomes are being achieved at a high level. The graduates seem to have a broad range of possibilities to continue their research activities at an impressive level, judging by the examples seen by the committee.

Ingevolge het bepaalde in artikel 5a.10, derde lid, van de WHW heeft de NVAO het college van bestuur van de Rijksuniversiteit Groningen te Groningen in de gelegenheid gesteld zijn zienswijze op het voornemen tot besluit van 19 maart 2013 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 Nanoscience (120 ECTS; variant: voltijd; locatie: Groningen) van de Rijksuniversiteit Groningen te Groningen. De NVAO beoordeelt de kwaliteit van de opleiding als excellent.

Dit besluit treedt in werking op 1 januari 2014 en is van kracht tot en met 31 december 2016 (2019)¹.

Den Haag, 22 april 2013

Nederlands-Vlaamse Accreditatieorganisatie

no.



Lucien Bollaert
(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.

¹ Gelet op het bepaalde in artikel 18.32c, derde lid, van de Wet op het hoger onderwijs en wetenschappelijk onderzoek (WHW) bedraagt de geldigheidsduur van de accreditatietermijn van de opleiding maximaal drie jaar zolang de instelling nog niet beschikt over een positieve instellingstoets kwaliteitszorg. Zodra de instellingstoets is verkregen, wordt de accreditatietermijn verlengd naar zes jaar.

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	E
2. Onderwijsleeromgeving	Het programma, het personeel en de opleidings specifieke voorzieningen maken het voor de instromende studenten mogelijk de beoogde eindkwalificaties te realiseren	E
3. Toetsing en gerealiseerde eindkwalificaties	De opleiding beschikt over een adequaat systeem van toetsing en toont aan dat de beoogde eindkwalificaties worden gerealiseerd	E
Eindoordeel		E

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: Rendement.

Cohort	2009	2010	2011
Rendement	100%	100%	n.v.t.

Tabel 2: Docentkwaliteit.

Graad	Ma	PhD	BKO
Percentage	100%	100%	60%

Tabel 3: Student-docentratio.

Ratio	4,22
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Tabel 4: Contacturen.

Studiejaar	1	2
Contacturen	410	180

Eventuele toelichting

Bij tabel 1: Het Top Master Programme in Nanoscience is een tweejarige opleiding. Daardoor is het in september 2011 begonnen cohort nog met het tweede studiejaar bezig.
Tabel 2: Voor het BKO-percentage is het gemiddelde genomen, gewogen met de bijdragen in ECTS-punten van de deelnemende docenten.
Tabel 4: Afhankelijk van de specifieke keuzes die een student maakt, fluctueert het aantal contacturen. Ook de verdeling over de twee studie jaren kan (licht) fluctueren.

- Prof. dr. F.C. De Schryver, (voorzitter) emeritus professor at the Faculty of Sciences, Department of Chemistry, Catholic University of Louvain;
- Prof. dr. J. Hellemans, emeritus professor at the Faculty Sciences, Department of Physics and Astronomy, Catholic University of Louvain;
- Prof. dr. J.J. McGarvey, emeritus professor of Chemistry and visiting research professor at the School of Chemistry and Chemical Engineering, Queen's University of Belfast;
- Prof. dr. A.D. Wieck, professor of Applied Solid State Physics at the Ruhr University at Bochum;
- Prof. dr. A. Revcolevschi, emeritus professor of Solid State Chemistry at the University of Paris 11 (Orsay);
- P.M. Muilwijk, (student-lid) master student of Nanotechnology at the University of Twente.

Het panel werd ondersteund door M. (Muriel) Jansen, secretaris (gecertificeerd).