

## Besluit

### Besluit strekkende tot het verlenen van accreditatie aan de opleiding wo-bachelor Bodem, Water, Atmosfeer van Wageningen University

#### Gegevens

	Naam instelling	:	Wageningen University
<b>datum</b>	Naam opleiding	:	wo-bachelor Bodem, Water, Atmosfeer (180 ECTS)
9 april 2013	Datum aanvraag	:	10 december 2012
<b>onderwerp</b>	Variant opleiding	:	voltijd
Besluit	Locatie opleiding	:	Wageningen
accreditatie wo-bachelor	Datum goedkeuren panel	:	2 juni 2012
Bodem, Water, Atmosfeer van	Datum locatiebezoeken	:	25 en 26 juni 2012
Wageningen University	Datum visitatierapport	:	december 2012
(001133)	Instellingstoets kwaliteitszorg	:	Ja, besluit van 2 juli 2012
<b>ons kenmerk</b>			
NVAO/20131076/LL			

#### bijlage **Beoordelingskader**

- 3 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 Bodem, Water, Atmosfeer en de masteropleiding Earth and Environmental van Wageningen University (WU). Het panel heeft beide opleidingen gezamenlijk beoordeeld.

#### Advies van het visitatiepanel

Samenvatting bevindingen en overwegingen van het panel.

In general, the committee concludes that the focus of the programme on the interactions between the Earth and the environment close to the surface is unique in the Netherlands. It applauds the excellent facilities and motivated lecturers who are capable of and willing to pay close attention to the students. The main points for attention are the slow study progress of students and high percentage of drop out in the bachelor's programme and the chair groups' freedom to select their own assessment methods and criteria.

Pagina 2 van 8 Standard 1: Intended learning outcomes

The programme of Earth Science at the WU has, as other academic programmes of Earth Sciences, the planet Earth as the object of study, its genesis and its quality of life. These sciences are strongly interdisciplinary, with interaction between various factors, such as humans, animals, relief, soil, water, lithology, atmosphere, hydrosphere and vegetation. Knowledge is gathered about its origin, current and former composition, and structure and the processes acting in and between the components of geosphere, hydrosphere, atmosphere and biosphere. Equally important is knowledge of how to manage and sustainably use Earth's resources and understand the influence of human activity on the terrestrial system. It takes into account society's rapidly growing demand for well-trained Earth Scientists prepared to tackle scientific and societal issues. The programme focus on the interactions between Earth and the environment close to the surface. The committee concludes that this focus is unique in the Netherlands.

The programme aims to pass on knowledge, skills and an academic attitude to enable students to recognize, analyse and answer questions in the interrelated fields of soil, water and atmosphere. The committee appreciates the focus of the programme on interactions between Earth and the environment close to the surface. It intends to offer primarily a solid base, with which graduates can successfully continue towards a master's degree. The committee characterizes this orientation as not broad oriented, this orientation is clear from the beginning and justified.

The committee concludes that the programme fits well in the domain specific framework of reference. It states that the framework is an understandable representation of Earth Sciences and offers enough anchor points for programmes to establish their own objectives. Derived from this framework of reference, the programmes have formulated intended learning outcomes. The intended learning outcomes are phrased along the line of the Dublin descriptors. The committee established that the intended learning outcomes are in line with this framework and reflect the level, profile and orientation of the programme.

Standard 2: Teaching-learning environment

The bachelor consists of 180 ECTS divided over three years. The first two years consist of compulsory courses that aim to give all students the same background. Most of the auxiliary courses are scheduled during the first year, including mathematics, physics, statistics and chemistry. Second-year courses are more advanced. Most deal with one or more themes (soil, water, atmosphere) in relation to one or more aspects (physical, chemical, biological, spatial). The year concludes with two courses with a strong field component. In the third year, students may choose three courses (18 ECTS) from a list of 14 optional courses that focus on specific themes or aspects. Moreover, they can choose electives or a minor in the first or second semester. The programme concludes with a thesis of 12 ECTS.

The committee has studied the various aspects of the teaching and learning environment. The content, level and orientation of the curriculum are in line with the intended learning outcomes. The curriculum represents the intention to generate a deep understanding of the interactions between Earth and the environment close to the surface very well and is designed in such a way that graduates are able to enter a master programme of Earth Sciences without remarkable problems. There is an appropriate balance between mandatory courses on the one hand and optional courses on the other, to develop more specific knowledge and skills of personal interest.

Pagina 3 van 8 The committee concludes that a high percentage of students do not graduate within three years. Although the committee is aware of the efforts of the management and lecturers to improve the success rate and efficiency, it suggests introducing a binding study recommendation (BSA) and a so-called "harde knip" between bachelor's and master's programme. WU is in the process of implementing the legally obligatory 'harde knip'. Furthermore the committee encourages a more proactive and structural guidance to enforce adequate progress.

The committee recommends that improve the programme-related quality assurance should be improved. Although the staff have good insight into the quality of the courses related to their own chair groups, there is a limited overview of the curriculum.

The committee states that the programmes are provided by motivated lecturers who are capable and willing to pay close attention to the students. Students profit directly from their research expertise as it is reflected in the education programme. The committee invites the lecturers to exploit their strong international research contacts in a more effective way to enlarge the international profile of the programme. There are many ways to increase the international standing of the programme, including attracting more students from abroad and providing exchange opportunities for their own students.

The committee noticed that students and staff profit from excellent facilities at the new campus. The laboratories in particular are equipped with modern and high-quality apparatus.

The programmes include fieldwork and practical training. The committee learned that many Earth Science programmes have no legally based safety assurance system for fieldwork. The committee strongly recommends to re-evaluate the content of such a system in order to enhance fieldwork safety as well as legally protect faculty, staff and students. The committee suggests developing a national system in cooperation with the other academic Earth Sciences programmes in the Netherlands. Furthermore, the committee advises that first aid courses should be obligatory for both students and lecturers as well.

#### Standard 3: Assessment and achieved learning outcomes

The committee verified the assessment system and methods as well as the achievement of intended learning outcomes by students.

It concludes that the assessment system is sufficient but leaves room for improvement. It is convinced that these improvements will be made, considering the proactive attitude of the programme director and staff towards continuous improvement. The main concern of the committee is the chair groups' freedom to develop assessment methods and criteria as it might induce assessment procedures that differ per track or course. The committee learned that there are plans to fix the weighting for each chair group. From the programme's point of view, this was considered fair since it was stated that research characteristics among chair groups differ. For example, data collection is more time consuming in one chair group than in the other groups. As a result, this chair group will put more weight on 'general research competences' than the other groups. The committee strongly disagrees with this policy and states that it is the quality of the individual aspects that count, not so much the time spent on it. Therefore, the committee advises setting the weighting among all chair groups equally. The committee is positive about the rubrics, formulated in the new forms for evaluating theses and internships. They are comprehensive and allow a reliable grading. The grading

Pagina 4 van 8 of theses and internship should be further improved by introducing a fixed weighting of aspects on which grades are based.

The programme offers many re-sit opportunities. The committee strongly advises management to revise this policy because it induces delay during the study programme. Moreover, it does not prepare students to deal with compelling deadlines, which is an important skill and attitude required by both academic research or a professional career.

To assess the achievement of the learning outcomes, the committee has studied several theses. Based on the theses and the information gathered about progress and success rates, the committee established that students achieve the learning outcomes well. The committee is impressed by the quality of the bachelor's theses.

#### **Aanbevelingen**

De NVAO onderschrijft de aanbevelingen van het panel, waaronder:

- bevordering van de studievoortgang en terugdringen van de relatief hoge studie-uitval,
- benutting van de bestaande internationale contacten om het curriculum verder te internationaliseren,
- integrale evaluatie van het curriculum, in plaats van per vak.

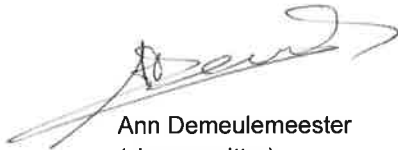
Ingevolge het bepaalde in artikel 5a.10, derde lid, van de WHW heeft de NVAO het college van bestuur van de Wageningen University te Wageningen in de gelegenheid gesteld zijn zienswijze op het voornemen tot besluit van 5 maart 2013 naar voren te brengen. Bij brief van 8 april 2013 heeft de instelling van die gelegenheid gebruik gemaakt om te reageren. Dit heeft geleid tot een aanvulling in bijlage twee.

De NVAO besluit accreditatie te verlenen aan de wo-bachelor Bodem, Water, Atmosfeer (180 ECTS; variant: voltijd; locatie: Wageningen) van Wageningen University te Wageningen. 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, 9 april 2013

Nederlands-Vlaamse Accreditatieorganisatie



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.

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

Docent-student ratio	1 : 5,64
Kwalificatie docenten	Hoogst genoten opleiding: 81,0 % PhD 11,3 % wo-ma
Contacturen	Propedeuse: 759 uur/jaar Tweede jaar: 801 uur/jaar Derde jaar: 777 uur/jaar
Rendement	<b>Rendement</b> Tussen 75% en 50% van de studenten heeft bachelorgraad behaald in vier jaar.

- Prof. M.A. Herber, (voorzitter) professor of Geo-Energy, Rijksuniversiteit Groningen;
- Prof. M. Landrø, (lid) professor of Applied Geophysics, NTNU Trondheim (Norwegian University of Science and Technology), Noorwegen;
- Prof. J.W. Hopmans, (lid) professor of Vadose Zone Hydrology, University of California (Davis), Verenigde Staten;
- Prof. Emeritus D.E. Walling, (lid) hydrologist/geomorphologist, University of Exeter, Verenigd Koninkrijk;
- Dr. M.A. Ossevoort, assistant professor of Science Education and Communication, Rijksuniversiteit Groningen;
- E. Rost, (student-lid) master's student of Earth Sciences, VU Amsterdam.

Het panel werd ondersteund door Dr. Willemijn van Gastel, secretaris (gecertificeerd).