

## Besluit

### Besluit strekkende tot het verlenen van accreditatie aan de opleiding wo-master Medical Informatics van de Universiteit van Amsterdam

	<b>Gegevens</b>	
datum	Naam instelling	: Universiteit van Amsterdam
31 maart 2017	Naam opleiding	: wo-master Medical Informatics (120 EC)
onderwerp	Datum aanvraag	: 12 oktober 2016
Besluit	Graad opleiding	: Master of Science
accreditatie wo-ma	Variante opleiding	: voltijd
Medical Informatics	Locatie opleiding	: Amsterdam
Universiteit van Amsterdam	Datum goedkeuren panel	: 17 mei 2016
(005126)	Datum locatiebezoek	: 3 juni 2016
uw kenmerk	Datum visitatierapport	: 14 september 2016
2016cu1703	Instellingstoets kwaliteitszorg	: ja, positief besluit van 26 juni 2013
ons kenmerk		
NVAO/20170602/ND		
bijlagen	<b>Beoordelingskader</b>	
2	Beoordelingskader voor de beperkte opleidingsbeoordeling van de NVAO (Stcrt. 2014, nr 36791).	

#### 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.

#### *Standard 1: Intended learning outcomes*

The subject-specific framework of reference, drafted by the management of this programme, defines the Medical Informatics domain adequately. In the panel's view, the programme objectives, training students to become senior specialists or researchers and to be able to contribute to the development of scientific and advanced knowledge in this domain and at the same time focusing on the clinical and medical informatics and public health informatics subdomains, are appropriate as well. The intended learning outcomes meet the programme objectives, are well aligned with the International Medical Informatics Association (IMIA) standard for this domain and match the Master's requirements. In addition, these learning outcomes prepare graduates to work as researchers in academia or research institutes or as senior specialists in the healthcare sector. Programme management follows quite closely international trends and developments in this domain and is, therefore, well-placed to

Pagina 2 van 6 incorporate these in the programme. These considerations have led the assessment panel to assess standard 1, Intended learning outcomes, to be satisfactory.

*Standard 2: Teaching-learning environment*

The curriculum of the programme fully matches the intended learning outcomes and, therefore, meets the international IMIA standard. Methods, techniques and theories and scientific research are appropriately represented in the curriculum and health sciences' subjects and computer sciences' topics are addressed in a balanced way, contributing to the coherence of the curriculum. The panel suggests adding an elective on the subject of health economics, without however, increasing the number of electives. The curriculum is regularly updated in a responsible way, preventing to attach too much weight to hypes in this field. As a suggestion, the panel would advise to promote the international exchange of students. The academic skills training part of the curriculum and the integration of this training in the modules are welcomed by the panel. This training was introduced in 2010 and was recently updated. The panel would advise to take it one step further and to separate the academic skills training and professional skills training and to introduce portfolios to monitor students' progress.

The educational principles of the programme are well-designed and have been conscientiously implemented, with a strong emphasis on student-centered learning and, also, on students learning to cooperate on multidisciplinary subjects in group assignments and internships. The panel suggests considering to be even more active in bringing together students with different backgrounds to promote the exchange of views among them. The panel supports the plans of programme management to reinforce the e-learning part of the curriculum. As the programme may be interesting for working students, the panel suggests introducing a part time curriculum. The workload in the curriculum is appropriate. The number of contact hours and the student-to-staff ratio are very generous. The panel suggests keeping the student-to-staff ratio at this level, when the programme grows, as is intended. Study guidance in the programme is well-organized and well-managed. The admission requirements and procedures of the programme are very adequate, which especially applies to the well-designed pre-Master's programme. In the panel's view, these admission procedures lead to only qualified and motivated students being allowed to enter the programme.

The lecturers in the programme are renowned experts in their fields, the vast majority of them having PhD's and a very substantial number of them possessing BKO-certificates. The panel found the lecturers very motivated to participate in the programme and observed a strong consensus among programme management and lecturers about the programme profile, contents and educational principles.

The panel regards the quality assurance of the programme to be effective. The panel noted that programme management addressed the recommendations made in the previous assessment in 2010. Among others, majors and minors are offered to students from a number of Bachelor's programmes to introduce them to the programme or to give them direct access to the programme, tailor-made pre-Master's programmes have been designed to allow students from a number of Bachelor's programmes to enroll in this Master's programme and five professors have been newly appointed. In addition, the curriculum has been adapted to include new developments like e-health and big data.

Pagina 3 van 6 The considerations above have led the assessment panel to assess standard 2, Teaching-learning environment, to be good.

*Standard 3: Assessment*

The policies of the programme ensure the quality, validity and reliability of the tests and assessments. As the so-called four-eyes principle in drafting tests and the assessment reports are relatively new, the panel encourages programme management to proceed and implement these procedures. The Examination Board is set to monitor the quality and the procedures regarding tests and assessments, but the process of actual reviewing the tests and assessments is still in the early stages of implementation. Although the panel does not question this process taking shape in the coming months and years, the panel encourages the Board to implement this process. The formative and summative tests fulfil a clear function in the programme and contribute to the students' study progress and their acquisition of knowledge and skills. The test methods have been carefully selected and reflect the module learning goals. The variety of test methods allows students' knowledge and skills to be tested reliably. Students' individual performances are adequately assessed in case of group work. The supervision and scheduling of the final Scientific Research Projects are appropriate. The assessment is adequate, being performed an examination committee of three examiners and an impartial chair, using relevant assessment components and criteria. The considerations have led the assessment panel to assess standard 3, Assessment, to be satisfactory.

*Standard 4: Achieved learning outcomes*

The panel studied tests of various modules and concludes these to be well organized, high-level and in part challenging. The theses the panel studied, have been found to be adequate in terms of the scope and level and to be, generally, comprehensive and appropriate to good scientific products. None of these theses were rated to be unsatisfactory. A very substantial number of the theses of recent years have been published. The panel is impressed by the careers of the alumni, nearly all of them working in the field the programme prepared them for and a substantial number of them pursuing PhD-trajectories. The considerations have led the assessment panel to assess standard 4, Achieved learning outcomes, to be good.

The panel assesses the Master's programme Medical Informatics of University of Amsterdam to be good and recommends NVAO to grant re-accreditation to this programme.

**Aanbevelingen**

De NVAO onderschrijft de aanbevelingen van het panel.

Ingevolge het bepaalde in artikel 5a.10, derde lid, van de WHW heeft de NVAO het college van bestuur van de Universiteit van Amsterdam te Amsterdam in de gelegenheid gesteld zijn zienswijze op het voornemen tot besluit van 27 februari 2017 naar voren te brengen. Bij e-mail van 20 maart 2017 heeft de instelling ingestemd met het voornemen tot besluit.

De NVAO besluit accreditatie te verlenen aan de wo-master Medical Informatics (120 EC; variant: voltijd; locatie: Amsterdam) van de Universiteit van Amsterdam te Amsterdam. De NVAO beoordeelt de kwaliteit van de opleiding als goed.

Dit besluit treedt in werking op 31 maart 2017 en is van kracht tot en met 30 maart 2023.

Den Haag, 31 maart 2017

De NVAO  
Voor deze

  
Dr. A.H. Flierman  
(voorzitter)

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		Beoordeling door het panel
<b>1. Beoogde eindkwalificaties</b>	De beoogde eindkwalificaties van de opleiding zijn wat betreft inhoud, niveau en oriëntatie geconcretiseerd en voldoen aan internationale eisen.	<b>voldoende</b>
<b>2. Onderwijsleeromgeving</b>	Het programma, het personeel en de opleidingsspecifieke voorzieningen maken het voor de instromende studenten mogelijk de beoogde eindkwalificaties te realiseren.	<b>goed</b>
<b>3. Toetsing</b>	De opleiding beschikt over een adequaat systeem van toetsing.	<b>voldoende</b>
<b>4. Gerealiseerde eindkwalificaties</b>	De opleiding toont aan dat de beoogde eindkwalificaties worden gerealiseerd.	<b>goed</b>
<b>Eindoordeel</b>		<b>goed</b>

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

- Prof. J. Mantas PhD, (*voorzitter*), professor of Health Informatics and director of Laboratory of Health Informatics, University of Athens, Greece;
- Prof. E. Ammenwerth PhD, professor for Medical Informatics and head of Institute for Biomedical Informatics, University for Health Sciences, Medical Informatics and Technology, Hall, Austria;
- F. Koens PhD, educational policy advisor, VUmc School of Medical Sciences, VU University Medical Center, Amsterdam, the Netherlands;
- S.D. Post, general manager Salves, company specializing in EPD- and ERP- implementations' testing in healthcare, Helvoirt, the Netherlands;
- R. Wink MA, (*student-lid*) student Master programme Neerlandistiek, Leiden University, the Netherlands.

Het panel is ondersteund door W. Vercouteren MSc, RC, secretaris (gecertificeerd).