VRIJE UNIVERSITEIT AMSTERDAM

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Betreft: aanvraag accreditatie M Cognitive Neuropsychology (research)

Geacht bestuur,

Met deze brief vragen wij formeel accreditatie aan voor de onderzoeksmaster Cognitive Neuropsychology (isatcode 60510) van de Vrije Universiteit Amsterdam. De factuur kunt u in pdf-formaat met de volgende gegevens zenden naar invoice@vu.nl:

Vrije Universiteit Amsterdam

Ref: 2500 FGB
ordernr: 2503011
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1081 HV AMSTERDAM

Deze brief met bijlage is tevens verstuurd via webaanvraag@nvao.net

Met vriendelijke groet,
namens het College van Bestuur,

prof. dr. V. Subramaniam,
rector magnificus

CC: Faculteit der Gedrags- en Bewegingswetenschappen

COGNITIVE NEUROPSYCHOLOGY (RESEARCH)

FACULTY OF BEHAVIOURAL AND MOVEMENT SCIENCES

VU UNIVERSITY AMSTERDAM

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CONTENTS

This report was finalized on 13 April 2017.

REPORT ON THE MASTER'S PROGRAMME COGNITIVE NEUROPSYCHOLOGY OF VU UNIVERSITY AMSTERDAM

This report takes the NVAO's Assessment Framework for Limited Programme Assessments as a starting point (19 December 2014).

ADMINISTRATIVE DATA REGARDING THE PROGRAMME

Master's programme Cognitive Neuropsychology

Name of the programme:	Cognitive Neuropsychology
CROHO number:	60510
Level of the programme:	Research Master
Orientation of the programme:	WO
Number of credits:	120 EC
Specializations or tracks:	N/A
Location:	Amsterdam
Mode of study:	full-time
Language of instruction:	English
Expiration of accreditation:	25-01-2018

The visit of the assessment panel Cognitive Neuropsychology to the Faculty of Behavioural and Movement Sciences of VU University Amsterdam took place on 14 and 15 February 2017.

ADMINISTRATIVE DATA REGARDING THE INSTITUTION

Name of the institution:	VU University Amsterdam
Status of the institution:	Publicly funded
Result institutional quality assurance assessment:	Positive

COMPOSITION OF THE ASSESSMENT PANEL

The NVAO approved the composition of the panel on 6 December 2016. The panel that assessed the master's programme Cognitive Neuropsychology consisted of:

- Professor E. (Edward) de Haan (chair), Professor of Neuropsychology, University of Amsterdam;
- Professor M. (Marc) Brysbaert, Professor of Experimental Psychology, Ghent University, Belgium;
- Professor H.C. (Chris) Dijkerman, Professor of Neuropsychology of Perception, Utrecht University;
- Professor C. (Caroline) van Heugten, Professor of Clinical Neuropsychology, Maastricht University;
- N. (Nynke) Niehof MSc. (student member), PhD student at Donders Intitute for Brain, Cognition and Behaviour, Nijmegen, and alumna master's degree programme Cognitive Neuroscience, Radboud University Nijmegen;
- Professor R.W.H.M. (Rudolf) Ponds, Professor of Medical Psychology, Maastricht University Medical Centre (MUMC+) and clinical neuropsychologist, MUMC+ and Adelante Zorggroep.

The panel was supported by Dr. A. (Annemarie) Venemans, who acted as secretary.

Appendix 1 contains the curricula vitae of the panel members.

WORKING METHOD OF THE ASSESSMENT PANEL

Preparation
In preparation of the site visit, the secretary first checked the quality and completeness of the critical reflection prepared by the programme. After establishing that the report met the demands, it was forwarded to the participating panel members. The panel members read the report and formulated questions and findings on its contents.

The panel also read fifteen theses. The theses were selected by the panel chair from a list of graduates who graduated in the last two completed academic years. The panel chair ensured that the selection was more or less proportional to the distribution of marks in the entire list of graduates. In addition, the sampling is composed such that different supervisors and thesis subjects were represented.

Site visit
A preliminary programme of the site visit was made by the panel secretary and finalised after consultation with the representatives of the programme at VU University. The time table for the site visit in Amsterdam is included as Appendix 5.

Prior to the site visit, the panel asked the programme to select representative interview partners. During the site visit, meetings were held with panels representing students and teaching staff, programme management, alumni, the Programme Advisory Committee/Educational Committee and the Board of Examiners.

During the site visit, the panel examined material it had requested; an overview of this material is given in Appendix 6. The panel provided students and lecturers with the opportunity – outside the set interviews – to speak informally to the panel during a consultation hour. No requests were received for this option.

The panel used the final part of the visit for an internal meeting to discuss its findings. The visit was concluded with a public oral presentation of the preliminary impressions and general observations by the chair of the panel.

Report
Based on the panel's findings, the secretary prepared a draft report. This report was then presented to the panel members. After implementing their comments and receiving approval, the draft report was sent to VU University with the request to report any factual inaccuracies. Subsequently, the final report was approved and sent to VU University.

Decision rules
In accordance with the NVAO's Assessment framework for limited programme assessments, the panel used the following definitions for the assessment of both the standards and the programme as a whole.

Generic quality
The quality that can reasonably be expected in an international perspective from a higher education master's programme.

Unsatisfactory
The programme does not meet the current generic quality standards and shows serious shortcomings in several areas.

Satisfactory
The programme meets the current generic quality standards and shows an acceptable level across its entire spectrum.

Good
The programme systematically surpasses the current generic quality standard.

Excellent
The programme systematically well surpasses the current generic quality standard and is regarded as an international example.

SUMMARY JUDGEMENT

Intended learning outcomes
The two-year research master's programme in Cognitive Neuropsychology aims to educate students to become competent, knowledgeable, skilful, and critical researchers, who are able to apply their knowledge and rigorous methods of investigation in cognitive neuropsychological research environments, evidence-based clinical practice, and related areas. This aim is translated into twelve intended learning outcomes. The panel established that all intended learning outcomes are clearly of an academic masters level with a research orientation.

The panel is of the opinion that this programme, combining cognitive psychology and clinical neuropsychology, has evolved into a broader programme. Apart from classic cognitive neuro-psychology, it also includes experimental cognitive neuroscience and clinical neuropsychology. The panel suggests the programme to evaluate the learning outcomes and eventually update them according to this broader programme.

Teaching-learning environment
The programme is composed of five major parts. There are four mandatory knowledge courses and four mandatory skills development courses. Besides that, students participate in a mandatory practical part in which they choose either a research-oriented track or a clinical internship. The fourth part consists of three electives chosen from twelve courses on offer. The students end their programme with a master's thesis.

The panel concludes that the programme in Cognitive Neuropsychology is research-driven and offers students great opportunities to develop themselves as independent researchers. The course materials are relevant and up to date with scientific research. Moreover, research skills are interrelated with educational content in the entire curriculum. The panel established that students acquire fundamental scientific knowledge and skills such as critical evaluation of scientific literature, debating on scientific issues, and presenting research findings.

Each individual course involves a mix of teaching methods varying from lectures, workshops, exercises, practicals, dissection and individual papers to presentations and discussion meetings. The panel considers the programme's design and the way it is implemented in the curriculum well-structured and reflecting the broad field of cognitive neuropsychology. The panel suggests defining in more detail specific learning outcomes for students choosing the research oriented track and students choosing the clinical internship, in addition to the shared learning outcomes. This would be helpful in order to reflect differences in the programme content.

The panel was impressed by the enthusiasm, involvement and quality of the teaching staff. It appreciates that the staff is part of a high quality research culture while being simultaneously very committed to teaching. Moreover, the content of the curriculum is closely connected to the research that is executed by the sections involved. It is clear that also students are part of a high quality, driven and committed research environment. Students value the willingness of the staff to guide them and answer questions regarding individual study paths. The quality of the teaching is rated high. Currently, 23% of the teaching staff has obtained their UTQ, and another 31% is training for it. The panel advises all staff members to obtain their qualification as soon as possible.

The panel investigated the programme's feasibility and considers it to be adequate: there are no courses that hamper study progress and students know whom to contact if they experience difficulty. The panel is pleased by the thorough student selection done by the Admissions Board. The Educational Committee plays a proactive role in the quality assurance of the programme.

Assessment
The panel established that the programme has an adequate assessment system in place. A variety of assessment methods are used such as open-end exams, multiple-choice exams, papers,

presentations, and assignments. Students are well informed about the type of assessment and grading criteria before the start of each course.

After studying the current assessment procedure for the master's theses, the panel reviewed proposed changes by the programme to increase transparency and fairness. The panel considers that the two assessors of the thesis should send in independent assessment forms. It would also like to see a weighing system for components of the theses in which it is not possible, for instance, to compensate an unsatisfactory analysis with a good work attitude. The panel approved the draft version of the new assessment form that has been developed by the programme in the past months. It concludes that with these measures, the assessment system of theses is adequate.

The panel found that the Board of Examiners has established adequate procedures that safeguard the quality of testing. Of all students who graduated in the last two years, 35% graduated cum laude. The panel recommends re-evaluating the workload of the programme and the assessment criteria used, so that cum laude truly reflects an extra-ordinary contribution to science.

Achieved learning outcomes
The panel studied a selection of theses from the list of the most recent master's theses (from academic years 2014-2015 and 2015-2016) on the basis of a spread in marks. Overall, the panel was positive about the quality of the students' work. The theses testify to considerable skills in executing research and reporting on it. The committee observed that the awarded grades slightly overestimated its own evaluations.

Based on the performance of alumni, the panel concludes that the programme prepares students well for a research career. Due to the satisfactory overall level of the theses and the fact that alumni are well positioned to pursue an academic career, the panel is convinced that the learning outcomes are achieved.

The panel assessed the standards from the *Assessment framework for limited programme assessments* in the following way:

Master's programme Cognitive Neuropsychology

Standard 1: Intended learning outcomes	satisfactory
Standard 2: Teaching-learning environment	good
Standard 3: Assessment	satisfactory
Standard 4: Achieved learning outcomes	satisfactory
General conclusion	satisfactory

The chair and the secretary of the panel hereby declare that all panel members have studied this report and that they agree with the judgements laid down in the report. They confirm that the assessment has been conducted in accordance with the demands relating to independence.

Date: 13 April 2017

Professor E. (Edward) de Haan

Dr. A. (Annemarie) Venemans

DESCRIPTION OF THE STANDARDS FROM THE ASSESSMENT FRAMEWORK FOR LIMITED PROGRAMME ASSESSMENTS

The Research Master Cognitive Neuropsychology started in 2007 as a joint initiative of the Cognitive Psychology and Clinical Neuropsychology sections. The research programmes of these sections are embedded in the recently founded VU Research Institute of Brain and Behaviour Amsterdam (IBBA).

Standard 1: Intended learning outcomes
The intended learning outcomes of the programme have been concretised with regard to content, level and orientation; they meet international requirements.

Explanation:
As for level and orientation (bachelor's or master's; professional or academic), the intended learning outcomes fit into the Dutch qualifications framework. In addition, they tie in with the international perspective of the requirements currently set by the professional field and the discipline with regard to the contents of the programme. Insofar as is applicable, the intended learning outcomes are in accordance with relevant legislation and regulations.

Findings
The programme aims to educate students to become competent, knowledgeable, skilful, and critical researchers, who are able to apply their knowledge and rigorous methods of investigation in cognitive neuropsychological research environments, evidence-based clinical practice, and related areas.

According to the subject-specific reference framework the domain of cognitive neuropsychology is concerned with the relationship between the brain and cognition and its effect on normal and abnormal human behaviour (see also appendix 2). The programme has compared itself to seven other research master's programmes in the field of neurosciences in the Netherlands. The programme at the VU University distinguishes itself by offering a programme with a strong focus on both cognitive psychology and clinical neuropsychology. It also allows students to focus both on research methods and clinical practice. According to the panel, a research master with the combination of cognitive psychology and clinical neuropsychology is unique in the Netherlands.

The objective of the programme has been translated into twelve intended learning outcomes, as listed in appendix 3. They are aligned with the subject-specific and professional requirements set by the field, and reflect a master's level with a scientific orientation. The panel verified the relationship between the intended learning outcomes and the Dublin descriptors. It observed that all Dublin descriptors are evident in the intended learning outcomes. Thus, these learning outcomes confirm the descriptions of Cognitive Neuropsychology as an academic, master's programme. In addition, the panel established that the programme provides graduates with a solid research foundation, qualifying them for an research-orientated academic career.

The panel is of the opinion that this programme, combining cognitive psychology and clinical neuropsychology, has evolved into a broader programme. Apart from classic cognitive neuropsychology, it also includes experimental cognitive neuroscience and clinical neuropsychology. The panel suggests to the programme management to evaluate the intended learning outcomes and update them to better represent the broader programme. Furthermore, it might be useful for future students to distinguish two tracks, i.e. clinical neuropsychology and cognitive neuroscience.

Considerations
The panel concluded that the intended learning outcomes are clearly of an academic nature and level, corresponding with general, internationally accepted descriptions of a master's programme with a research orientation. The panel suggests evaluating and rephrasing the intended learning outcomes to better reflect recent developments in the programme's content.

Conclusion
The panel assesses Standard 1 as 'satisfactory'.

Standard 2: Teaching-learning environment
The curriculum, staff and programme-specific services and facilities enable the incoming students to achieve the intended learning outcomes.

Explanation:
The contents and structure of the curriculum enable the students admitted to achieve the intended learning outcomes. The quality of the staff and of the programme-specific services and facilities is essential to that end. Curriculum, staff, services and facilities constitute a coherent teaching-learning environment for the students.

Findings

Programme
The two-year research master's programme in Cognitive Neuropsychology is composed of five major parts divided over the curriculum (see appendix 4). The first part consists of four mandatory knowledge courses (24 EC in total) primarily aimed at providing students with a solid theoretical foundation in the multidisciplinary area of cognitive neuropsychology: i.e. Medical neuroscience and neuroanatomy, Aging and dementia, Seminar cognitive neuroscience, and Neuropsychological dysfunctioning in psychiatric disorders. These courses take place in the first semester of the first year and the first semester of the second year.

The second part of 24 EC offers four mandatory skills development courses (*Programming for psychologists*, *Advanced data Analysis*, *Brain Imaging*, and *Thesis proposal*) tailored to provide students with a broad scope of research skills, such as essential programming skills, skills required to design psychological experiments, analyse data, measure and analyse brain activity (e.g. fMRI), and writing and presenting skills.

The third part consists of a mandatory practical part (24 EC) with a choice between *Practical skills for researchers* (18 EC) together with *Seminar attention* (6 EC) or a clinical internship of 24 EC. *Practical skills for researchers* aims to provide students with the necessary practical skills to design, perform, and present an individual research project in cognitive neuropsychology, clinical neuropsychology or cognitive neuroscience. *Seminar attention* aims to teach students how to interpret and analyse theories and findings on attention, how to set up experiments, how to present research, and how to write an essay. The *Clinical internship* provides students with the experience of working as a neuropsychologist in a clinical setting such as a hospital, a psychiatric institute, or a nursing home. The option of a clinical internship is available to Dutch-speaking students only. It primarily aims to train students in the skills required to perform neuropsychological assessment within a clinical setting. During this practical period, all students attend six lectures about writing and presenting, ethics, diagnostics, and design. They conclude this part by writing a report either about their research project or about their clinical internship. Approximately five students per year choose the clinical internship.

During the programme students take three elective courses chosen from twelve courses organized by different sections within the faculty (part four). Students may also choose to take a course that is not part of the programme, provided that it is a research master's course related to the field of cognitive neuropsychology, and does not overlap with the courses offered within the programme. In this case, the student's choice must be approved by the examination board Psychology. Students may use these electives to broaden their scope or deepen their specialization.

The last semester of the programme is dedicated to the *Master's thesis* (30 EC) in which students are actively engaged in conducting experimental research in cognitive neuropsychology or a related

field (part 5). It's possible to perform a research project abroad. Approximately 28% of all students graduating between 2013 and 2015 took this opportunity.

During the site visit, the panel studied a selection of material of several courses (see appendix 6) and rendered these relevant and up to date with current scientific research. The course materials are of high quality. The panel valued that each individual course has a mix of teaching methods varying from lectures, workshops, exercises, practical work, dissection and individual papers to presentations and discussion meetings.

The panel considers the programmes design and the way it is implemented into the curriculum well-structured and reflecting the broad field of cognitive neuropsychology. Moreover, the content of the curriculum is closely connected to the research that is executed by the sections involved. The programme benefits from a dedicated teaching staff, with a high reputation in research. In 2011, both Cognitive Psychology and Clinical Neuropsychology were assessed in the research review Psychology. Both sections received an excellent score on quality and productivity and received a very good score on relevance and viability (4 to 4.5 on a five-point scale). It is clear to the panel that students are part of a high quality, driven and committed research environment.

Research skills are interrelated with educational content in the entire curriculum. The panel established that students acquire fundamental scientific knowledge and skills such as critical evaluation of scientific literature, debating on scientific issues, and presenting research findings. They also learn how to judge and appreciate scientific quality. The panel is of the opinion that the course *Thesis proposal*, in which students write up a research proposal and defend it in front of staff members and fellow students, reflects actual scientific practice, which excellently fits in a research master's programme. In addition, the panel praised the *Practical skills for researchers* in the second semester of the first year.

The panel established that students in Cognitive Neuropsychology encounter relevant and up-to-date literature and methods, develop their research skills, learn to use and question scientific theory and models and acquire an academic attitude within their master's courses. The panel's general conclusion is that the curriculum allows student to acquire the intended learning outcomes. The elective courses offer student good opportunities to pursue their own interest and to deepen or broaden their research capacity. The panel greatly values the variety of electives exclusively for research master students.

During the site visit, students and teachers expressed their appreciation of the coherence of the curriculum. For example, students valued the *Programming for psychologists* course in the beginning of the curriculum, which supplies a helpful basis for subsequent courses such as *Brain imaging* and *Neural models of cognitive processes*. The panel shares the programme's viewpoint that the structure and design of the curriculum ensure that the curriculum as a whole is coherent. However, it noted that adjustments in coherence between courses are based more on informal deliberations than on formal meetings. In its opinion, more formal coordination and alignment of courses could be useful to actually guarantee the overall coherence of the programme.

The intended learning outcomes of the programme are translated into specific learning objectives for each course. However, these learning objectives are not always outlined in the course manual. The panel recommends developing a standardized format of the course manual in which the objectives are integrated.

The panel observed that in the second semester of the first year students choose to focus on research skills or the clinical internship. The panel had expected specific learning outcomes for both tracks given the two elective packages. This would be helpful in order to reflect differences in the programme content. During the site visit, it became evident that some lectures in the mandatory practical part (*Writing*, *Research ethics* and *Presenting*) are also obligatory for students who choose

the clinical internship. The panel suggests awarding credits for these courses to emphasize their importance in this research master.

Staff
One of the appendices to the critical reflection contains a list of all academic staff members participating in the programme. All have obtained their PhD degree, in line with the requirements for academic education, and are engaged in excellent research in the topics they teach. The panel recognizes the staff's scientific quality, national and international academic reputation and teaching experience. Their main areas of research indicate that they have a lot of expertise to execute the full programme.

The panel is not only impressed with the scientific quality of the teaching staff, but also with their involvement in the programme. During the site visit the panel noticed a large enthusiasm of the staff. In addition, students were very positive about the availability and accessibility of the academic staff. Students value the willingness of the staff to guide them and answer questions regarding their individual study paths. The quality of their teaching is rated high. The panel highly appreciates the commitment and the availability of staff members. The average lecturer-student ratio is 14. According to the panel this is indeed sufficient to realize small-scale education.

All but one staff members of the programme have a teaching and research task. Some 23% are in possession of a Dutch University Teaching Qualification (UTQ) and 31% is in the process of obtaining one. In the panel's opinion, this percentage is rather low. Lecturers told the panel during the site visit that they are encouraged by the management to qualify for the UTQ.

Feasibility
To assess the feasibility of the programme, the panel examined the distribution of the study load over the curriculum, the number of contact hours, the group size in classes and the availability of study guidance.

According to the critical reflection, the programme is perceived as being relatively well balanced. An analysis of the students' study results showed that there are no specific courses in the curriculum that hamper study progress. Different backgrounds and nationalities could possibly lead to different levels at the beginning of the programme. However, according to students and staff, there seems to be no gap between Dutch students and students from abroad or between students with different educational backgrounds.

The critical reflection states that the number of contact hours per week is 8.4 in the first year and 5.1 in the second year. According to the students, the study load is not too demanding. It largely depends on the course and the effort they want to put into it. Based on the information collected during the site visit, the panel is not entirely confident that the workload is sufficiently challenging for all students. Since the management of the master's programme is ambitious and strives for excellence, the panel advises it to keep an eye on the workload.

Another way in which feasibility is ensured by the programme, is the system of tutoring and supervision. The programme introduced a tutor system in which the students are mentored by a few dedicated staff members. Within this tutor system, students are individually invited to meet with their tutor three to four times a year. These meetings are primarily meant to provide students with the opportunity to discuss progress, plans, and possible problems individually. Students can also approach their tutor in between meetings when they have questions about the programme, future prospects, personal problems, or other questions. The panel highly appreciates the support and guidance the tutors offer to their students. During the site visit, students explained to the panel that they are very pleased with this mentoring by the tutor. From its interviews with students and alumni, the panel concluded that these supervisors spend ample time and effort on the students.

Student intake
The admissions board selects students based on various criteria. Minimal requirements for admission are the following:

- An academic Bachelor's degree in Psychology, Cognitive Science, Artificial Intelligence, Biology, Medicine or a closely related subject area;
- An average Bachelor's grade of 7.5 or higher;
- Proficiency in English;
- An active interest in research as indicated by the type of courses attended at undergraduate levels.

The Admissions Board decides on the basis of the documents submitted whether the student has the particular talent to follow the Master's programme.

The number of applications has increased strongly over the last few years, from 43 in 2011 to 81 in 2015. In 2015, 56 students were admitted and 29 actually enrolled. The programme admits more students than their optimal student intake of maximal 35 students, because of the usual percentage of withdrawals. However, during the site visit, it appeared that the programme has difficulty in estimating the actual intake, leading to 42 students starting in 2016. The programme management mentioned that it will tighten up its procedure by for instance increasing the average Bachelor's grade.

The panel is pleased by the thorough student selection done by the Admissions Board. It notes that the experience gained in the selection process of new students is starting to bear fruit. It really applauds the broad range of nationalities and backgrounds of the selected students. To improve the selection process further, the panel suggests incorporating an interview or motivation letter into account. Approximately half of the students graduate within two years, rising to almost 80% of the students after three years. The dropout rate in the period 2007-2012 was 12%. According to the programme, the most important reason for study delay is that students fail to find a clinical internship or research project at the most appropriate moment.

Quality assurance system
The courses are evaluated both formally and informally. The formal evaluation of the individual courses consists of an evaluation of the lecturer's didactic quality, study material, contents, and exam, supplemented by tailor-made questions formulated by the teacher about specific facets of the course. The results of each evaluation are conveyed via the educational office to the Course Coordinator, the Programme Director, the Educational Committee (EC), and the Board of Examiners. If a particular course receives a poor score on one or more items, the Educational Committee is asked to provide suggestions for improvement to the Programme Director, who in turn communicates them to the Course Coordinator. The latter informs the students about the intended improvements. The informal evaluations take place during the individual tutor-student meetings and during the regular gatherings of the Programme Director, the coordinating team, and the year representatives.

During the site visit, the panel had a conversation with the EC of the three research master's programmes of the Faculty. The EC consists of representative staff members and students. The panel was pleased to note that the EC plays a proactive role in improvement of the programme. It learned that the EC provides advice upon request, as well as on a voluntary basis. The conversation made it clear that the EC is sufficiently involved in the master's programme and monitors the quality of education through course evaluations and evaluations of course material and assessment forms. The panel read the EC's annual report and suggests extending this report next year to reflect the activities of the EC better.

Considerations
The panel studied the various aspects of the programme's teaching and learning environment: the curriculum, the staff and the facilities. It concludes that Cognitive Neuropsychology is a research-

driven programme that offers students great opportunities to develop themselves as independent researchers.

The panel established that the curriculum is well-structured and well-balanced and prepares students optimally for a career in scientific research. It values the variety of teaching methods and number of electives in the second year. It is positive of the way scientific training is implemented in the curriculum.

The panel was impressed by the enthusiasm, involvement and quality of the teaching staff. It appreciates that the staff is part of a high quality research culture while being simultaneously very committed to teaching. The services provided for the students, including a mentor, and the accessibility of the staff to the students are adding to the general impression that this is a good programme. The panel emphasises that an UTQ for all teachers is desirable for training excellent students. Therefore, it advises all staff members to obtain their qualification as soon as possible.

The panel studied the workload and considers it to be adequate. It is satisfied with the feasibility of the programme: there are no courses that hamper study progress and students know whom to contact if they experience difficulties. The panel finds that the selection process works well, evidenced by low dropout rates. The panel values the extensive course evaluation process and the proactive attitude of the Educational Committee.

Conclusion
The panel assesses Standard 2 as 'good'.

Standard 3: Assessment
The programme has an adequate assessment system in place.

Explanation:
The tests and assessments are valid, reliable and transparent to the students. The programme's examining board safeguards the quality of the interim and final tests administered.

Findings

Assessment system
The programme uses a variety of assessment methods such as open-end exams, multiple-choice exams, papers, presentations, and assignments. The panel verified that students are well informed about the type of assessment and grading criteria before the start of each course.

As for the examinations themselves, the programme closely follows the *Teaching and Examination Regulations* of the Research master's degree programmes of the VU University. This document describes the objectives, responsibilities, organization and regulations of good assessment practice. To further ensure reliable, valid and transparent assessments, the faculty board and the Psychology examination board have taken several further measures, which are outlined in the '*Kwaliteitszorgplan Toetsing FPP (2012)*'.

In the panel's opinion, the programme provides a balanced set of assessments. The quality of the examinations matches the master's level. The diversity in tests ensures that students are assessed on all necessary research skills. For instance, students have to write up a thesis proposal, in the format of a grant proposal, and defend in front of a "committee", consisting of staff members. The panel is of the opinion that this course reflects actual scientific practice, and therefore excellently fits in a research master's programme. Students are asked to write a rebuttal to the feedback on this thesis proposal. The panel appreciates this method of assessment - encouraging students to reflect on their own learning process - and suggests extending this assessment with a revised version of the proposal along with the rebuttal.

Of all students who graduated in the last two years, 35% graduated cum laude. The panel feels that this number was not fully justified by the quality of the student output it saw. Although there is a stringent admission procedure, the programme should be more demanding compared with regular master's programmes, resulting in a cum laude percentage comparable with these programmes. During the site visit it became clear that the cum laude criteria had changed a couple of times in the last few years. The panel recommends re-evaluating the workload of the programme and the assessment criteria used, so that cum laude truly reflects an extra-ordinary contribution to science.

Assessment of theses
The grading of theses is based on the use of standardized assessment forms. Two people, either two staff members or one staff member and an external supervisor, always independently grade the thesis. Then the two supervisors determine the final grade in a consensus meeting, or the main internal supervisor ultimately determines the final grade in case of disagreement. The assessment form covers the abstract (0-0.5), introduction (0-2), method and results (0-2), conclusion and discussion (0-1.5), scientific writing (0-1) and work attitude (0-3).

After studying the procedures for the master's thesis, the panel concluded that the current procedure lacks some transparency. In its opinion it is highly desirable that the assessment forms of both assessors are available. During the site visit, it discussed this topic with both the management and the Board of Examiners. The latter explained that a new procedure is being developed. They presented the draft version of it to the panel as well as correspondence and records. Besides a separate assessment by the first and second assessor, the new procedure involves a new weighing system of the different components of the thesis. In this system it will not be possible anymore to, for instance, compensate an unsatisfactory end product with a positive work attitude. The panel concluded that with these new measures, the assessment system of theses is adequate.

The panel studied the assessment form and found that it allows assessors to address all necessary competences and go into all aspects of the thesis. It also concluded from the completed forms it studied, that those for students with a below average or average grade included extensive written feedback. The panel suggests encouraging supervisors also to give feedback to students with a high grade.

Board of Examiners
The Board of Examiners monitors the general quality of the examinations and takes into account student evaluations and signals from students and staff, and undertakes action if necessary. If any of these indices suggests a poor-quality examination, the Board of Examiners asks the responsible course coordinator/examiner to write a plan for improvement.

The panel reviewed the activities of the Board of Examiners in monitoring the quality of examinations. It confirmed that the Board of Examiners has established adequate procedures that safeguard the quality of testing. The panel has learnt that the Board of Examiners will start to regularly check samples of theses and exams from 2017 onwards. The panel applauds this move.

Considerations
The panel has examined whether the master's programme has an adequate assessment system in place. It has determined that various types of assessments are used that match the respective learning objectives of the different programme components. The diversity in tests ensures that students are assessed on all necessary research skills. According to the panel, the number of cum laude is high and recommends reconsidering the criteria.

The panel was positive about the draft version of the new assessment form that has been developed over the past months. It is confident that with this new form transparency and sufficient independency of both assessors are ascertained. In addition, a weighting system for components of

the theses has been introduced, in which it is not possible to compensate an unsatisfactory end product with a good work attitude anymore. The panel applauds these developments.

The panel observed that the Board of Examiners has established adequate procedures that safeguard the quality of testing. It concluded that the Board evaluates the assessment practice and initiates changes if necessary.

Conclusion
The panel assesses Standard 3 as 'satisfactory'.

Standard 4: Achieved learning outcomes
The programme demonstrates that the intended learning outcomes are achieved.

Explanation:
The level achieved is demonstrated by interim and final tests, final projects and the performance of graduates in actual practice or in post-graduate programmes.

Findings
The thesis is a good illustration of the level achieved in the research master's programme. A list of all theses of the last two academic years was included in the critical reflection. The panel studied this list and established that almost all students chose a cognitive psychology or a clinical neuropsychology theme rather than a combination of both. The percentage of theses in the field of clinical neuropsychology was relatively low (less than 25%).

The panel studied a selection of 15 master's theses and established that, in general, the theses were at the appropriate level. They testify to considerable skills in executing research and reporting on it. It observed that the awarded grades slightly overestimated its own evaluations.

The panel noted that in five of the selected theses, the results section of the thesis was scored as unsatisfactory on the assessment form. In the panel's opinion, research master's students need to be able to describe the methods and results in a clear and concise way. Therefore, the panel was pleased to hear that with the current grading system, it is not possible anymore to compensate a poor discussion of the results with a good working attitude.

The panel noted that the samples used in the theses were rather underpowered. During the site visit the staff explained that due to time limits, it is hard to obtain a sufficiently large research sample. It stated that even with a small study sample, students are able to execute all aspects of a research project. The panel agrees on this, but is of the opinion that students should be aware of this phenomenon and should explicitly discuss it in their thesis. In addition, a small sample means that, in general, the theses are not publishable.

The level achieved by graduates is also demonstrated by their performance upon graduation. Alumni of the master's programme reported that they were very satisfied with their education, and felt well prepared for a job as a researcher. They pointed out that they had benefited from the large variety of courses and good practical skills. According to the panel, the achieved learning outcomes are further evidenced by the number of graduates (66 %) that have a PhD position or another type of academic or research position. It considers Cognitive Neuropsychology students well-placed to success in their research career.

According to the critical reflection, the programme has a hard time keeping in touch with the alumni. The panel is of the opinion that monitoring the careers of alumni is important in view of curriculum alignment. It therefore recommends that the programme exerts more effort in keeping track of their alumni.

Considerations
The theses illustrate that the students have achieved the intended learning outcomes as formulated by the programme. The panel judges the master's theses as demonstrating the quality that might be expected of a research master's programme. They testify to considerable skills in executing research and reporting on it.

The panel is of the opinion that there is a good connection to further opportunities in the labour market. The majority of graduates obtain a research position in academia. Due to the satisfactory overall level of the theses and the fact that alumni continue easily to an academic career, the panel is convinced that the learning outcomes are achieved upon graduation.

Conclusion
The panel assesses Standard 4 as 'satisfactory'.

GENERAL CONCLUSION

The research master's programme in Cognitive Neuropsychology is a unique programme in the Netherlands. It covers the fields of both clinical neuropsychology and cognitive psychology. The panel concludes that the objectives and intended learning outcomes of the programme meet the standards required for an academic research master's programme.

The programme is organized in coherent and research-driven courses that offer students good opportunities for specialization. The staff of the master's programme is professional, supportive and very well informed. The programme benefits from a committed staff with a very good to excellent reputation in research. Students are part of a high quality research environment.

The panel is positive about the assessment system and the variety of assessment methods. It concludes that proper measures have been taken to improve the assessment form of the thesis. Both the quality of the theses and the performance of graduates show that the intended learning outcomes are achieved.

Conclusion
The panel assesses the *master's programme Cognitive Neuropsychology* as 'satisfactory'.

APPENDICES

APPENDIX 1: CURRICULA VITAE OF THE MEMBERS OF THE ASSESSMENT PANEL

Professor E. (Edward) de Haan (chair) trained as a clinical neuropsychologist in Groningen, the Netherlands (1983). In the same year, he moved to Oxford to work with Freda Newcombe at the MRC Neuropsychology Unit in the Radcliffe Infirmary in Oxford. He finished his PhD on face recognition disorders in 1988. He now holds clinical consultant qualifications in the UK and the Netherlands. Currently, he is a full professor at the University of Amsterdam. From 1991 until 2008, he was Professor of Neuropsychology at Utrecht University and the Department of Neurology at the Academic Hospital in Utrecht. His research interests range from applied clinical neuropsychological issues to fundamental neuroscience, particularly visual, auditory and somatosensory perception, and consciousness. He has supervised some 40 PhD students. He is (co)author of over 250 scientific papers, 25 chapters and four books. He is a Fellow of the British Psychological Society, and recipient of the INS Paul Satz Award (2013) and the Medal of Honour of the Dutch Psychonomics Society (2007).

Professor M. (Marc) Brysbaert is Research Professor and Head of the Department of Experimental Psychology at Ghent University. Previously he was Professor of Psychology at Royal Holloway, University of London. He is specialized in language research (both behavioral and neuroscientific) and has published over 200 research articles and invited book chapters on this topic. Professor Brysbaert is Editor-in-Chief of the Quarterly Journal of Experimental Psychology and member of the editorial board of 10 other journals. He is author of four successful textbooks, both in English and in Dutch. He has been member of multiple teaching and research evaluation committees, is member of the Executive Committee of the European Society for Cognitive Psychology, and is member of the Governing Board of the Psychonomic Society. He teaches courses on psychology, cognitive psychology, and research methods.

Professor H.C. (Chris) Dijkerman studied Neuro- and rehabilitation psychology in Nijmegen (1990). For his PhD he worked in London and Oxford studying sensorimotor consequences of hemispherectomy. He subsequently moved to Frenchay Hospital in Bristol and investigated cognitive outcome after stroke rehabilitation (1994-1995). From 1995-2000 he worked as postdoctoral research fellow with David Milner at St. Andrews University on visual perception and action. From 2000 onward Chris Dijkerman has been employed at Utrecht University, where he was appointed as professor of Neuropsychology of Perception in 2012. His current research focuses on body representation, somatosensory processing and peripersonal space in healthy individuals as well as clinical populations. His research has been supported by NWO vidi (2003) and vici (2010) grants. For the last ten years he has been the coordinator of the MSc Neuropsychology in Utrecht. He is also associate editor for de Journal of Neuropsychology and is a member of the editorial advisory board for Neuropsychologia.

Professor C. (Caroline) van Heugten is a professor of Clinical neuropsychology at Maastricht University, the Netherlands. The focus of her research is on neuropsychological interventions for persons with acquired brain injury along the following three research lines: developing and evaluating instruments for measuring the outcome of neuropsychological interventions, clinical and cost-effectiveness of neuropsychological interventions and investigating factors influencing the outcome of neuropsychological interventions. She has published about 150 international peer-reviewed papers and successfully supervised 17 PhD students. Currently she is the director of the Limburg Brain Injury Center aimed at increasing the quality of life for patients with brain injury and their carers by gathering, sharing and implementing knowledge. Caroline van Heugten is known both nationally and internationally for her applied approach connecting research and clinical practice in the field of acquired brain injury.

N. (Nynke) Niehof MSc. is a PhD candidate at the Donders Institute for Brain, Cognition and Behaviour, Nijmegen. She studied Psychology (BSc) and is an alumna of the Cognitive Neuroscience

research master (2014) at Radboud University, Nijmegen. Her PhD project on spatial perception focuses on how sensory information in body coordinates is transformed into a more general spatial representation in world coordinates. She is a member of the Donders Institute's PhD council.

Professor R.W.H.M. (Rudolf) Ponds is a clinical neuropsychologist and head of the Department of Medical Psychology at the Maastricht University Medical Center. He is also working as senior psychologist at the rehabilitation center Adelante (department of brain damage). He is an experienced clinician, researcher and lecturer in the field of neuropsychology, psychiatry and medical psychology. The topic of his PhD thesis (1998) was determinants of memory complaints in elderly. His thesis was honored with the Catherina Pijls award (1999). He was initiator and chief editor of the Dutch Journal for Neuropsychology as well as (chief) editor of several Dutch handbooks on neuropsychology. He is former president of the section Neuropsychology of the Dutch Society of Neuropsychologist (NIP).

APPENDIX 2: SUBJECT-SPECIFIC FRAMEWORK OF REFERENCE

Subject-specific reference framework

The domain of cognitive neuropsychology is concerned with the relationship between brain and cognition and its effect on normal and abnormal human behaviour. Cognitive neuropsychology is based on insights from cognitive science, cognitive psychology, clinical neuropsychology, and neuroscience, and represents a broad and truly multidisciplinary science. The broad scope of the domain of cognitive neuropsychology does not only require broad knowledge and insights from the different research areas, but also demands the skills to apply different approaches including behavioural, neurophysiological, computational, and clinical methods.

APPENDIX 3: INTENDED LEARNING OUTCOMES

Master's programme Cognitive Neuropsychology

The intended specific learning outcomes of the Research Master's programme in Cognitive Neuropsychology in terms of the Dublin descriptors are as follows:

1. Dublin Descriptor Knowledge and insight

    1.1. The student knows the state of the art in theory and research in the field of cognitive neuropsychology.
    1.2. The student can recognize and describe neuropsychological dysfunction and disorder.
    1.3. The student knows the caveats and limitations of the theories, methods, and clinical implications involved in Cognitive Neuropsychology.

2. Dublin Descriptor Application of knowledge and insight

    2.1. The student can design, execute and analyse experiments.
    2.2. The student can examine cognition in patients.

3. Dublin Descriptor Judgment formation

    3.1. The student is able to judge what adequate science is and what is misapplication and misuse of scientific findings.
    3.2. The student understands the ethics of running studies involving subject groups such as patients, elderly and children.
    3.3. The student shows self-criticism and awareness of the limitations of his or her own experimental findings.

4. Dublin Descriptor Communication

    4.1. The student can write a comprehensive research report in article (APA) style.
    4.2. The student can defend his study in front of fellow researchers.
    4.3. The student can communicate information, ideas, problems and solutions to non-specialist audiences.

5. Dublin Descriptor Learning skills

    5.1. The student can find his or her way in the relevant literature, and can develop research questions on the basis of this literature.

APPENDIX 4: OVERVIEW OF THE CURRICULUM

Master's programme Cognitive Neuropsychology

<table>
<tr><td>Year 1</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Period 1</td><td>Period 2</td><td>Period 3</td><td>Period 4</td><td>Period 5</td><td>Period 6</td></tr>
<tr><td colspan="2">Medical neuroscience and neuroanatomy (6 EC)
Scherder</td><td></td><td colspan="3" rowspan="2">Practical elective (24 EC)
- Practical skills for researchers (18 EC) and Seminar attention (6 EC)
Los, Milders, Theeuwes

or

- Clinical internship and 6 lectures (24 EC)
Van Eck</td></tr>
<tr><td>Programming for psychologists (6 EC)

Van der Burg</td><td>Elective (6 EC)</td><td></td></tr>
<tr><td>Advanced Data analysis (6 EC)
Gallucci</td><td colspan="2">Aging and dementia (6 EC)

Scherder</td><td>Brain imaging (6 EC)

Knapen</td><td></td><td></td></tr>
</table>

<table>
<tr><td>Year 2</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Period 1</td><td>Period 2</td><td>Period 3</td><td>Period 4</td><td>Period 5</td><td>Period 6</td></tr>
<tr><td>Seminar cognitive neuroscience (6 EC)
Belopolsky</td><td>Elective (6 EC)</td><td rowspan="2">Thesis proposal (6 EC)

Godijn</td><td colspan="3" rowspan="2">Master's thesis (30 EC)

Godijn</td></tr>
<tr><td>Neuropsychological dysfunctioning in psychiatric disorders (6 EC)
Van Ewijk</td><td>Elective (6 EC)</td></tr>
</table>

APPENDIX 5: PROGRAMME OF THE SITE VISIT

Tuesday, 14 February 2017			
12.00	14.30	Preparatory meeting	
14.30	15.15	Interview with the programme management	Dr. Mieke Donk, Programme Director Prof. dr. Erik Scherder, Department Head Clinical Neuropsychology Prof. dr. Jan Theeuwes, Department Head Cognitive Psychology Dr. Sander Los, Cognitive Psychology
15.15	15.30	Internal meeting panel	
15.30	16.15	Interview with students	Anna Henschel BSc. Miao Li BSc. Theresa Paul BSc. Alice Reinhartz BSc.
16.15	17.00	Interview with lecturers	Dr. Hanneke van Ewijk, Staff Clinical Neuropsychology Dr. Richard Godijn, Staff Cognitive Psychology Dr. Artem Belopolsky, Staff Cognitive Psychology Dr. Erik van den Burg, Staff Cognitive Psychology Dr. Tomas Knapen, Staff Cognitive Psychology Dr. Wouter Kruijne, Staff Cognitive Psychology
17.00	17.30	Internal meeting panel, studying documents	
17.30	18.00	Interview with alumni	Katya Olmos Solis MSc, PhD student, Vrije Universiteit Eduard Ort MSc, PhD student, Vrije Universiteit Francesco Walker MSc, PhD student, UTwente
19.00	21.30	Diner (Internal meeting panel)	

Wednesday, 15 February 2017			
09.00	10.00	Internal meeting panel	
10.00	10.45	Interview with Board of Examiners	Dr. Tjeert Olthof, chair Dr. Huib Looren de Jong Dr. Marit Sijbrandij Dr. Maarten Milders
10.45	11.15	Interview with Programme Committee	Prof. dr. Martijn Meeter, former chair Dr. Anouk van Loon
11.15	11.30	Internal meeting panel	
11.30	12.30	Open consultation hours, studying documents	
12.30	13.30	Lunch	
13.30	14.00	Interview with programme management (including dean)	Prof. dr. Peter Beek, Dean Dr. Mieke Donk, Programme Director Prof. dr. Jeroen Smeets
14.00	15.30	Internal meeting panel	
15.30	15.45	Presentation of preliminary findings	

APPENDIX 6: THESES AND DOCUMENTS STUDIED BY THE PANEL

Prior to the site visit, the panel studied the theses of the students with the following student numbers:
2519190
1930966
2536975
2520308
1989855
2516614
2530723
2519276
1505629
2532911
2074001
2537389
2523952
1911198
2542797

During the site visit, the panel studied, among other things, the following documents (partly as hard copies, partly via the institute's electronic learning environment):

- Annual report Educational Committee
- Annual report Board of Examiners
- Course material (course manual, assessments) of the following courses:
    - Advanced data analysis
    - Medical neuroscience and neuroanatomy
    - Neuropsychological dysfunctioning in psychiatric disorders
    - Seminar cognitive neuroscience
    - Neural models of cognitive processes
    - The psychology of emotion regulation: from basic principles to clinical applications