COGNITIVE AND CLINICAL NEUROSCIENCE

FACULTY OF PSYCHOLOGY AND NEUROSCIENCE

MAASTRICHT UNIVERSITY

CONTENTS

This report was finalised on 1 April 2020.

REPORT ON THE MASTER'S PROGRAMME COGNITIVE AND CLINICAL NEUROSCIENCE OF MAASTRICHT UNIVERSITY

This report takes the NVAO's Assessment Framework for the Higher Education Accreditation System of the Netherlands for limited programme assessments as a starting point (September 2018). Because this report considers a research master' programme, the NVAO's Specification of additional criteria for research master's programmes (May 2016) are considered additionally as supplementary to this framework.

ADMINISTRATIVE DATA REGARDING THE PROGRAMME

Master's programme Cognitive and Clinical Neuroscience

Name of the programme:	Cognitive and Clinical Neuroscience (research)
CROHO number:	60121
Level of the programme:	master's
Orientation of the programme:	academic
Number of credits:	120 EC
Specialisations or tracks:	Cognitive Neuroscience (CN)
	Drug Development & Neurohealth (DN)
	Fundamental Neuroscience (FN)
	Neuroeconomics (NE)
	Neuropsychology (NP)
	Psychopathology (PP)
Location(s):	Maastricht
Mode(s) of study:	full time
Language of instruction:	English
Submission deadline NVAO:	01/05/2020

The visit of the assessment panel Cognitive Neuroscience to the Faculty of Psychology and Neuroscience of Maastricht University took place on the 25th of October 2019.

ADMINISTRATIVE DATA REGARDING THE INSTITUTION

Name of the institution:	Maastricht University
Status of the institution:	publicly funded institution
Result institutional quality assurance assessment:	positive

COMPOSITION OF THE ASSESSMENT PANEL

The NVAO has approved the composition of the panel on the 14th of October 2019. The panel that assessed the master's programme Cognitive and Clinical Neuroscience at Maastricht University consisted of:

- Prof. dr. R.T. (Rudi) D'Hooge, professor Biological Psychology at KU Leuven (Belgium) [chair];
- Prof. dr. S. F. (Susan) te Pas, professor Cognitive Psychology at Utrecht University;
- Prof. dr. T. (Tobias) Kalenscher, professor Comparative Psychology at Heinrich Heine Universität Düsseldorf (Germany);
- Prof. dr. E.A. (Eddy) van der Zee, professor Molecular Neurobiology at University of Groningen;

- Prof. dr. N.J.A. (Nic) van der Wee, professor Biological Psychiatry at Leiden University Medical Centre;
- M. (Mesian) Tilmatine BSc., master's student Cognitive Neuroscience at Radboud University Nijmegen [student member].

The panel was supported by P. (Petra) van den Hoorn MSc, who acted as secretary and Mr. H. (Hester) Minnema, who acted as auxiliary secretary. Petra van den Hoorn was primarily responsible for the report, Hester Minnema supported her in her role.

WORKING METHOD OF THE ASSESSMENT PANEL

The site visit and assessment of the master's programme Cognitive and Clinical Neuroscience at the Faculty of Psychology and Neuroscience of Maastricht University was part of the cluster assessment Cognitive Neuroscience. Between October and November 2019 the panel assessed four programmes at four universities. The following universities participated in this cluster assessment: Maastricht University, Vrije Universiteit Amsterdam, Erasmus University Rotterdam and Radboud University Nijmegen.

On behalf of the participating universities, quality assurance agency QANU was responsible for logistical support, panel guidance and the production of the reports. P. (Petra) van den Hoorn MSc was project coordinator for QANU and acted as secretary in the cluster assessment. Mr. H. (Hester) Minnema supported her as secretary during the site visits at Maastricht University and Vrije Universiteit Amsterdam. Both are certified NVAO secretaries.

Panel members
The members of the assessment panel were selected based on their expertise, availability and independence. The panel consisted of the following members:
- Prof. dr. R.T. (Rudi) D'Hooge, professor Biological Psychology at KU Leuven (Belgium) [chair];
- Prof. dr. S. F. (Susan) te Pas, professor Cognitive Psychology at Utrecht University;
- Prof. dr. T. (Tobias) Kalenscher, professor Comparative Psychology at Heinrich Heine Universität Düsseldorf (Germany);
- Prof. dr. E.A. (Eddy) van der Zee, professor Molecular Neurobiology at University of Groningen;
- Prof. dr. N.J.A. (Nic) van der Wee, professor Biological Psychiatry at Leiden University Medical Centre;
- Prof. dr. C. (Christian) Steinhäuser, professor and director of the Institute of Cellular Neurosciences at the University of Bonn (Germany);
- Prof. dr. R.A.H. (Roger) Adan, professor Molecular Pharmacology at Utrecht University;
- Prof. dr. C.M.A. (Cyriel) Pennartz, Hoogleraar Cognitive and Systems Neuroscience at the University of Amsterdam;
- Prof. dr. R. (Rufin) Vogels, professor Cognitive and Visual Neuroscience at KU Leuven (Belgium);
- Prof. dr. F.A.J. (Frans) Verstraten, professor and McCaughey Chair in Psychology at the University of Sydney (Australia);
- M. (Mesian) Tilmatine BSc., master's student Cognitive Neuroscience at Radboud University Nijmegen [student member];
- E. (Ekin) Tünçok BSc., master's student Cognitive and Clinical Neuroscience at Maastricht University [student-member].

Preparation
On 2 September 2019, the panel chair Prof. dr. R.T. (Rudi) D'Hooge was briefed by QANU on his role, the assessment framework, the working method, and the planning of site visits and reports. A preparatory panel meeting was organised on 14 October 2019. During this meeting, the panel

members received instruction on the use of the assessment framework(s). The panel also discussed their working method and the planning of the site visits and reports.

The project coordinator composed a schedule for the site visit in consultation with the Faculty. Prior to the site visit, the Faculty selected representative partners for the various interviews. See Appendix 4 for the final schedule.

Before the site visit to Maastricht University, QANU received the self-evaluation report of the programme and sent these to the panel. A thesis selection was made by the panel's chair and the project coordinator. The selection existed of 15 theses and their assessment forms for the programme, based on a provided list of graduates between 31-10-2017 and 31-8-2018. The programme offers six specialisations (please refer to the section Administrative data regarding the programme in this report for the names of the specialisations). For all specialisations the panel selected at least two theses. Because the Fundamental Neuroscience, Neuropsychology and Psychopathology specialisations have more alumni, three theses were selected here. The project coordinator and panel chair assured that the distribution of grades in the selection matched the distribution of grades of all available theses. Additionally, a diversity of topics and examiners were included in the selection.

After studying the self-evaluation report, theses and assessment forms, and additional documents (see also Appendix 5), the panel members formulated their preliminary findings. The secretary collected all initial questions and remarks and distributed these amongst all panel members.

Site visit
The site visit to Maastricht University took place on Friday the 25th of October 2019. Before and during the site visit, the panel studied the additional documents provided by the programme. An overview of these materials can be found in Appendix 5.

At the start of the site visit, the panel discussed its initial findings on the self-evaluation report and the theses, as well as the division of tasks during the site visit. During the visit, the panel conducted interviews with representatives of the programme: students and staff members, the programme's management, alumni and representatives of the Board of Examiners. It also offered students and staff members an opportunity for confidential discussion during a consultation hour. No requests for private consultation were received.

The panel used the final part of the site visit to discuss its findings in an internal meeting. Afterwards, the panel chair publicly presented the panel's preliminary findings and general observations.

Consistency and calibration
In order to assure the consistency of assessment within the cluster, various measures were taken:
- The panel composition ensured regular attendance of (key) panel members, including the chair;
- The project coordinator was present during all site visits.

Report
After the site visit, the secretaries wrote a draft report based on the panel's findings and submitted it to a colleague for peer assessment. Subsequently, the report was sent to the panel. After processing the panel members' feedback, the project coordinator sent the draft report to the Faculty in order to have it checked for factual irregularities. The ensuing comments were discussed with the panel's chair and changes were implemented when deemed necessary. The report was then finalised and sent to the Faculty and University Board.

Definition of judgements standards
In accordance with the NVAO's Assessment framework for limited programme assessments, the panel used the following definitions for the assessment of the standards:

Generic quality
The quality that, from an international perspective, may reasonably be expected from a higher education Associate Degree, Bachelor's or Master's programme.

Meets the standard
The programme meets the generic quality standard.

Partially meets the standard
The programme meets the generic quality standard to a significant extent, but improvements are required in order to fully meet the standard.

Does not meet the standard
The programme does not meet the generic quality standard.

The panel used the following definitions for the assessment of the programme as a whole:

Positive
The programme meets all the standards.

Conditionally positive
The programme meets standard 1 and partially meets a maximum of two standards, with the imposition of conditions being recommended by the panel.

Negative
In the following situations:
- The programme fails to meet one or more standards;
- The programme partially meets standard 1;
- The programme partially meets one or two standards, without the imposition of conditions being recommended by the panel;
- The programme partially meets three or more standards.

SUMMARY JUDGEMENT

Intended learning outcomes
The panel believes that the chosen profile of the research master's programme Cognitive and Clinical Neuroscience is very clear, relevant to the contemporary and rapidly changing field, and recognisable in the different specialisations and courses. It prepares the students for research careers, for other professions in the field outside academia, is interdisciplinary, and caters to the needs of society. The panel has established that the intended learning outcomes are in line with the Dublin descriptors and with the requirements of relevant professional organisations, are clearly formulated and nicely worked out per specialisation. They meet the standards that one can expect from a RMa programme.

Teaching-learning environment
The curriculum and the teaching-learning environment of the research master's programme are designed and implemented in such a way that the students are enabled to achieve the intended learning outcomes. The panel applauds the planned changes that will be implemented in 2020-2021, to differentiate the programme more from the UM one-year master's programmes.

The programme is intensive but inspiring and feasible, and the students clearly receive plenty of support and guidance from senior researchers and professors. The research environment was graded by the latest research reviews as good to excellent, and gives the students a unique opportunity to learn from prominent researchers. The panel is impressed by the quality of the teachers and praises the staff members' commitment to the students. The selection procedure and requirements are sound and suitable for the high level of a research master. The programme is interdisciplinary and international, and the teaching methods are varied and conducive for active participation by the students.

Research skills, including ethical topics, are taught throughout the entire programme, both in special skills courses and in courses that focus on knowledge in a particular field. Thus, during the two-year programme, the students are gradually and thoroughly prepared to undergo a full cycle of research, including a research internship, resulting in a final thesis of substantial size.

Regarding preparation for the labour market, the panel recommends paying more attention to job opportunities other than PhD positions. It also supports claims by students for more support in finding clinical internships and for more contact with the programme during internships.

Student assessment
According to the panel, the assessment policy and protocols in the programme are very well designed and sound. As a result, the assessment is well-regulated. The assessment methods are sufficiently varied and clearly reflect the level of the programme.

Thesis assessment in the programme is done according to clear criteria. There is enough transparency towards the students, formal or informal, but the panel thinks the recording on the forms can be improved. Notwithstanding these remarks, it ascertained that the grading system for the internship and final thesis is transparent, fair and qualitatively up to standards.

The panel is pleased with the role of the Board of Examiners and the Assessment Commission in monitoring and promoting the quality of assessment, and encourages them to expand their activities, e.g. by organising calibration sessions and by supervising the implementation of assessment plans per course and the improvement of the thesis assessment forms.

Achieved learning outcomes
The level of the final theses is more than adequate; most of them are of good to excellent quality. The theses showed that the students achieve the intended learning outcomes and thus the research master's level.

The performance of alumni of the research master is generally very good, with most of them ending up in PhD positions. Matching the programme's goal, around three-quarters of the graduates become researchers. The programme maintains good contacts with alumni, yet the panel is pleased with the fact that the programme management is aware of the need to step up its activities in this respect even further.

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

Master's programme Cognitive and Clinical Neuroscience

Standard 1: Intended learning outcomes	Meets the standard
Standard 2: Teaching-learning environment	Meets the standard
Standard 3: Student assessment	Meets the standard
Standard 4: Achieved learning outcomes	Meets the standard
General conclusion	Positive

The chair, Rudi D'Hooge, and the secretary, Petra van den Hoorn, 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: 1 April 2020.

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

Organisational context
The Research Master in Cognitive Science of Maastricht University is a cooperation of three faculties, Faculty of Health, Medicine and Life Sciences (FHML) and the School of Business and Economics (SBE), with the Faculty of Psychology and Neuroscience (FPN) providing the overall management. FPN offers one bachelor's programme, three master's programmes, and a research master.

Standard 1: Intended learning outcomes
The intended learning outcomes tie in with the level and orientation of the programme; they are geared to the expectations of the professional field, the discipline, and international requirements.

Findings

Profile
The two-year Research Master (RMa) aims at educating prospective researchers in the field of cognitive and clinical neuroscience. The primary focus of the programme is on brain function, cognition, and behaviour in mental health and disease within the multidisciplinary field of Cognitive and Clinical Neuroscience. The RMa aims at equipping the students with an interdisciplinary background in (clinical) psychology, (computational) neuroscience, economics, engineering, (molecular) biology, brain anatomy, and psychiatry.

The RMa consists of a broad range of specialisations in six different fields: Cognitive Neuroscience (CN), Drug Development & Neurohealth (DN), Fundamental Neuroscience (FN), Neuroeconomics (NE), Neuropsychology (NP), and Psychopathology (PP). The involvement of different faculties, the broad spectrum of specialisations, several shared classes, and the content of the six programmes make the programme truly interdisciplinary. The first specialisation started in 2005 (under the name Biopsychology & Psychopathology); the last one (Drug Development and Neurohealth) in 2016.

The specialisations are distributed over the micro (molecular), meso (processing in larger neuronal networks) and macro dimensions (dealing with brain function from a more holistic individual or societal view). At the micro level, FN and DN specialisations teach the intra- and intercellular levels in particular; the meso level is the object of the CN specialisation; and NP, PP and NE mostly deal with the macro level. NP focuses on the neuro-behavioural and cognitive consequences of various types of brain damage, disease, and the wide range of neuropsychological treatments including psychopharmacology. PP focuses on the biopsychological mechanisms underlying the development and maintenance of mental disorders, their treatment, and prevention. NE focuses on the interrelation between brain functions and individual and social decision-making, combining tools and methods from cognitive neuroscience, economics, and game theory. DN also offers a societal macro perspective by making the regulatory process of clinical trials the specialisation's backbone.

The panel is very positive about the programme's diversity in terms of disciplines, content and methods/technologies. It had some doubts about the necessity of six specialisations, but found them well-chosen and paralleling the different UM research teams. Also, students with a broader interest might find a mandatory choice somewhat restrictive, but the programme does inform its students properly about the tracks. During the interviews, students ably justified their choice of specialisation.

It finds the specialisations well-chosen and organically positioned within the existing MU research teams. They cover all the subdomains of cognitive neurosciences and are well attuned to the present national and international developments in the field, such as Artificial Intelligence, computation, data science, and big data. The panel thinks the programme has a clearly defined profile that is very relevant to the needs of society and to contemporary neuroscience. Its multidisciplinary approach

stimulates the students to look at research topics from different viewpoints and teaches them to communicate with scientists from different academic backgrounds.

The panel is particularly satisfied with the extent to which the programme wants to prepare students for a career both inside and outside the academic world. The RMa primarily aims to prepare students for an academic career, but also ensures that the acquired research skills and knowledge can be used in other professional areas as well, such as the pharmaceutical or biotech industry or mental health care. For more clinically interested students, the programme offers opportunities to become a licensed psychologist. In the context of the RMa, the psychodiagnostics registration (BAPD 'basisaantekening psychodiagnostiek') can be obtained by students with a specialisation in Neuropsychology (NP) and Psychopathology (PP) who complete a clinical internship during their regular studies and whose pre-education meet the requirements for registration. The combination of FPN's bachelor's and research master's programmes (including the clinical internship) meets the theoretical requirements set by 'vLOGO'[1] for post-academic training to become a licensed psychologist (therapist or diagnostician).

Intended Learning Outcomes (ILOs)
The panel studied the Intended Learning Outcomes (ILOs) of the programme. They consist of a set of 14 items, of which the first three (on knowledge and understanding and on applying knowledge and understanding) are further elaborated per specialisation. According to the panel, the ILOs are at a level that suits a research master: they offer a very solid preparation for a research career by paying ample attention to research skills, processing and analysing data, and research ethics. In addition, the ILOs are formulated in line with the Dublin Descriptors and reflect the multidisciplinary nature of the programme.

The ILOs are also in line with the standards set out by the European Federation of Psychologists' Associations (EFPA) and the criteria of the Dutch National Institute for Psychologists (NIP) regarding the minimum amount and content of theoretical knowledge, skills, and supervised practice in psychology at the master level. In terms of content, the RMa meets the national requirements specified in the domain-specific framework of reference that was set up by the Neurosciences accreditation cluster in March 2019.

The panel was pleased to read in the Self-evaluation Report (SER) that the programme management is planning to install an External Advisory Board to advise the programme about its relation to the labour market and its stakeholders in society. It greatly encourages this and thinks that an external Board of Advisors will help the programme to keep up continuously with rapid developments and societal issues.

Considerations
The panel believes that the chosen profile of the research master's programme Cognitive and Clinical Neuroscience (interdisciplinary, international and covering all subdomains of Neuroscience) is very clear, relevant to the contemporary and rapidly changing field, and recognisable in the different specialisations and courses. It prepares the students for research careers, for other professions in the field outside academia, is interdisciplinary, and caters to the needs of society. The panel has established that the intended learning outcomes are in line with the Dublin descriptors and with the requirements of relevant professional organisations, are clearly formulated and nicely worked out per specialisation. They meet the standards that one can expect from a RMa programme.

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[1] 'vLOGO' refers to the 'Vereniging Landelijk Overleg Geestelijke Gezondheidszorg Opleidingsinstellingen', a cooperation between the seven institutions offering post-academic training in the Netherlands for licensed (clinical) psychologists.

Conclusion
Master's programme Cognitive and Clinical Neuroscience: the panel assesses Standard 1 as 'meets the standard'.

Standard 2: Teaching-learning environment
The curriculum, the teaching-learning environment and the quality of the teaching staff enable the incoming students to achieve the intended learning outcomes.

Findings
The panel studied the content, structure, and teaching-learning environment of the programme by reading the SER, studying some course descriptions, and meeting with staff and students.

Structure of the programme
For each course, learning objectives are formulated that contribute to realizing one or more final attainment levels. The Assessment Plans of the courses clarify how the learning objectives for the various courses are related to the final attainment levels for each of the ILOs (see also under Standard 3).

The 2015 re-accreditation panel recommended that the Research Master should adjust both the content and the assessment of the courses that the programme shares with two of the six specialisations (Cognitive Neuroscience and Neuropsychology) of the one-year master's programme Psychology. The programme has responded to this recommendation by separating lectures for the two groups of students in two of the four overlapping courses (Sensory Motor Processing; Neuroimaging: Functional MRI). Both the course content and the assessment will no longer overlap from 2020-2021. The other two courses (Perception and Attention; Auditory and Higher Order Language Processing) will introduce an additional writing assignment for the RMa students. Although the planned changes come rather late, the present panel is convinced that they will make the courses for the RMa students distinct enough from those for students that follow the regular one-year master's programme.

The first year of the programme and the first eight weeks of the second year focus on theoretical and practical research training modules. The theoretical modules are domain-specific, intensive core courses covering important theories, models, and analytical approaches. Depending on the specialisation, the courses cover affective, cognitive, genetic, economic, environmental, and neurobiological processes underlying human cognition, behaviour, and emotion in health and disease. Each specialisation offers at least nine core courses. The other modules include both shared advanced statistics and academic writing courses, as well as specialisation-specific practical data acquisition methods and techniques concentrated in the second half of year one. To let them see how the theory covered in the core courses is put into practice, students also take skills training courses and workshops. These courses provide the necessary hands-on experience for research in experimental and applied/clinical settings. RMa colloquia offer 12 lectures on topics transcending the specialisations, spread over the second half of year one. They foster interdisciplinary knowledge and interaction among students and staff of different specialisations.

In year two, from week nine onwards, the students spend most of their time on their research internship and master's thesis. Before starting their internship, they write a research proposal (during the course with the same name) which explains their research plans. During the internship, they carry out their research plan and gather data for the purpose of writing their master's thesis. As is suitable for a research master, the programme strives to ensure that the students can eventually publish their thesis work (albeit somewhat modified). Students may choose the topic of their internship based on available projects within the faculty, or find a supervisor at an external institution in the Netherlands or abroad. The host institution must have the capacity to supervise the student properly and must perform high-quality research. The meetings with teachers and management and an overview of external institutions involved in supervising final research projects convinced the

panel that the internships take place in a solid and high-quality research context. The students have two supervisors for the research internship and master's thesis: at least one of them is a UM supervisor. The primary supervisor must hold a PhD degree; the secondary supervisor must hold a PhD or be a PhD candidate who is in an advanced phase of a PhD programme. Topics are chosen by matching the student's interest with the topics and possibilities of the supervisors. The UM supervisor checks the quality and circumstances at the external internship institute and labs and ensures that the quality matches the RMa expectations.

The CN, DN, FN, and NE specialisations devote a total of 50 ECTS to one research proposal, research internship, and the RMa thesis. Students of the NP and PP specialisations may also choose to condense their first research proposal, internship and master's thesis to 30 ECTS and combine this project with an additional clinical internship, a clinical activities report (CAR), and a corresponding minor's thesis for 20 ECTS. The clinical internship can be combined with the research internship or be done at a separate time and location. The minor's thesis is based on client-/patient-based investigations performed during the clinical internship. The panel believes that this allows students of all specialisations to spend a substantial part of the programme (50 EC or 30 + 20 EC) on proving that they have achieved all the intended learning outcomes of the programme.

From talking to the students and teachers and by reading the materials, the panel concluded that the research master's programme is intensive, but inspiring for the students, competitive and contemporary. As is fitting for a research master, the programme offers the students a strong research-based study environment (see also *Context of research* below) in which they experience a full research cycle hands-on and learn all aspects of research, including ethics. The programme has a strong international focus, and all specialisations are rich in content and well structured.

The panel also looked into the interaction and cross-over activities between the different specialisations. The student chapter of the SER states that the RMa could do more to promote programme coherence by allowing more movement across the six distinct programmes. The panel understands the students' wishes, but at the same time ascertained that the programme works hard to strike a proper balance between in-depth knowledge of the particular specialisations and cross-over experiences with other tracks - not an easy task to do in a two-year programme. Students interviewed by the panel do appreciate very much the 'Grant writing proposals' module, during which they learn to write grant proposals on a broad range of topics in mixed teams of different tracks. There is also a Colloquia series organised by students of all disciplines on topics of an interdisciplinary nature. Furthermore, 12 programme modules are shared by all specialisations, and 35 of 141 modules (mostly practical and skills trainings) are shared among at least two specialisations. The panel, therefore, thinks the programme strikes the right balance, yet it advises the programme to investigate whether the scheduling of electives could be improved to make it easier to choose electives in other subdomains.

The panel assessed that all specialisations have enough room for students to make their own choices and to deepen or broaden their research or research capacities without compromising the nominal study progress. Aside from the electives, a large part of the programme (50 EC) is reserved for the internship and master's thesis – or in some cases for two internships and two theses - during which the student can dedicate him/herself to a topic of his/her own choice. According to the panel, the programme consists of a proper combination of structure and freedom.

Job market orientation
The students are thoroughly prepared for a PhD position, which the panel certainly finds a strength of the programme. Moreover, it is convinced that the skills and knowledge taught in the programme can be applied in non-academic settings as well. However, it established that in most specialisations, the students do not receive much information about their job opportunities outside PhD trajectories. Only students who completed a clinical internship (NP or PP specialisation) receive adequate information about careers outside academia. Because of the limited number of PhD positions and for reasons of personal ambition, not all students end up in a PhD programme, and of those who do, not

all continue in academia upon receiving their doctorate. The panel, therefore, advises the programme to make students more aware of the fact that the knowledge and skills they acquire during this high-level master's programme can be extremely valuable in other professions as well, e.g. by bringing them more in touch with companies and other organisations. Specialisations could in this respect also learn from each other's experiences and team up with each other more than they do now.

Academic skills
The panel applauds the programme for the ample attention devoted within the curriculum to academic and scientific methodologies and the ethics of conducting research. The programme contains a large amount of relevant methodology in each of the tracks. At the start of the programme, much of this is taught together for all the specialisations; later, more specialist methods are taught within each of the tracks, both in special skills courses and in courses that focus on knowledge in a particular field. Students experience this learning line as demanding but extremely relevant.

During the second half of the first year, the programme devotes 3 ECTS to colloquia, in which researchers from all specialisations explain their topic and current research. This enables the students to familiarize themselves with different research methods fitting different types of research questions (on humanities, economics or biology, for instance). The panel established that, in all specialisations, the students are provided with ample courses in which building on their knowledge and learning the skills to apply that knowledge are intertwined (workshops and skills training or practical training, see Appendix 3). All students spend an additional 4 ECTS on a research grant writing workshop and course work before starting their research proposal. During this workshop, they learn why, how, and to which organisation to apply for research funding. At the end of the first-year workshop, they choose a topic (from the options provided by senior researchers) on which they will write a research proposal in the second-year Research Grant Writing Course. In the second year, the grant proposal is expanded into a research proposal for a single study that is written in small groups of students from several specialisations and supervised by a member of the academic staff. The grant proposals are then presented as poster or oral presentations during a half-day symposium, offering students practice in communicating their research. As mentioned earlier, the panel established that these courses play an important role in the interdisciplinary and cross-over contacts between the different specialisations. Additionally, the students practise their acquired interdisciplinary knowledge and skills as they embark on designing and writing their thesis.

After the foundations have been laid, RMa students are well prepared to start their final project: The Research Proposal – Internship – Master's thesis. This starts with designing and writing a research proposal as part of the Research Proposal Workshop and Research Proposal Course. The Research Proposal – Internship – Master's thesis process covers the whole research cycle: planning, conducting, analysing, and interpreting the results of an empirical study, resulting in a written master's thesis. The panel praises the programme for the very thorough academic preparation that the students receive, building up organically as it progresses, ultimately resulting in the final thesis. The students with whom the panel met felt well guided and supported in this process.

Selection and admission requirements
The general requirement for admission to the RMa programme is a university bachelor degree. There is no restriction on the bachelor field. Successful applicants must have good English language proficiency, appropriate motivation for the selected specialisation, demonstrable interest in research, and a basic knowledge of statistics (all specialisations), programming (CN specialisation), and/or mathematics (NE specialisation). During the application, prospective students need to elaborate on their research experience (completed research projects, research topic, data acquisition and analysis methods performed by the applicant, and clinical research experience). According to the panel, the selection and admission requirements are well chosen for a programme with such a strong emphasis on research.

During the site visit, the panel concluded that the programme is feasible. The students told the panel that the programme can be finished within the nominal time, and the success rates provided by the

programme show the same. In the period of 2013-2017, 78% of students graduated on time. With an extra year, the graduation rate increases to 91%. In many of these cases, the students wanted extra time to complete their master's thesis or decided to extend their internship period. Any delay is always discussed with the student's mentor (see below under *Study progression and guidance*).

The programme aims to create an interdisciplinary mix of students, and the panel concludes that it has succeeded. The majority of selected students have a background in (bio)psychology or cognitive science. The other backgrounds fall mostly in the following categories: (bio)medical, health and life sciences; engineering/technology/economics; and, in a few cases, marketing or liberal arts. The panel finds it positive that students can apply with any bachelor degree (in theory), and the wide range of their backgrounds is a plus for the programme. It creates an environment in which different perspectives can be brought into the classroom, students help each other with topics in which they are less well versed, and it brings differing expertise into the research assignments.
The fact that the graduation rate is high is a strong indication that the selection is done properly. The panel also established that the programme is successful in integrating the variety of academic backgrounds of its students. Two tracks (DN and FN) provide for a level playing field by offering introductory courses in biology and psychology. The NE specialisation also has an introductory course to create a common language between the various students.

Teaching methods
The educational and didactic methods used throughout Maastricht University (Problem-Based Learning and Research-Based Learning) prepare the students well in skills needed in their future jobs. PBL and RBL are based on the didactic philosophy of constructive, collaborative, contextual and self-directed learning and involve students working on problems in small groups with the assistance of a tutor. In the research master, the strict format of PBL is used in a somewhat looser form than in other programmes, which the panel thinks suitable for this type of master's programme and the type of students in it. The programme creates a learning environment in which the students feel safe to experiment and to develop themselves as future responsible and proactive researchers and professionals. It also creates a common language with which students learn to connect and work with people from other disciplines. The didactic methodology of the programme gives students hands-on experience with various skills, such as data acquisition, data analysis, making judgements, oral presentations and writing.

The panel praises the programme for the variety of teaching formats, both within and outside the PBL or RBL structure. Methods include (interactive) lectures, tutorials, practicals, skill training, giving presentations, and working in the computer lab. Tutorials always take place in small groups, and the students appreciate very much the inspiring discussions with the highly experienced professors. The panel is positive about the way in which the teaching methods match and support the content of the programme and the strong interaction with the faculty's researchers and noted that the students it interviewed were very positive about this.

Study progression and guidance
At the start of the programme, each student is assigned a mentor who guides him or her throughout the entire programme. This makes it easy for them to ask for advice if needed. A mentor is a faculty staff member who can guide the student when he/she experiences problems and can help to find an internship. The amount of contact between the student and mentor depends on the student and how much help he/she needs. According to the student chapter of the SER, for those students requiring this help, it has a large positive effect. The student chapter also states that some students would have preferred more mentor involvement, but during the site visit, the panel did not assess this as an overall feeling. On the contrary, it gained a very positive impression of the mentor system. Apart from the mentorship, the students feel well-informed and experience a trusting and student-centred environment and a tight community spirit.

The guidance in finding internships and during internships seems adequate, in general, and the students feel supported by their programme mentors, who also use their own network to find proper

placements. The mentor checks in advance that the on-site supervision will be adequate for the required level of a research master programme. Students who want to do a clinical internship have more problems in finding a suitable one and feel that the programme could support them better in this. The panel supports this request and suggests that better and realistic communication right at the beginning might be helpful. Furthermore, some students regret that during internships outside the region, the bond with the programme is quite loose. The panel recommends that the programme investigate whether contact between students and the programme during the internship period can be intensified. The concern of students seems to be case-specific; the programme as a whole shows that there are best-practices with regard to the guidance during internships. The panel advises to better exchange these best-practices amongst the six specialisations.

Language and programme name
The choice to make the RMa an English-spoken programme is directly derived from the intended learning outcomes, which expect graduates to be able to communicate their research in English (ILO 8) and work in an international team (ILO 13). For the panel, the choice for English as the language of instruction is self-evident since all research in the field of neuroscience is performed in English, and the main aim of the programme is to prepare students for a research career. Only an English-spoken research master can keep up with the high international standards, attract top researchers from different countries, and accommodate the highly international student population.

Teaching staff
The panel met with very qualified and dedicated teaching staff. Each of them possesses a University Teaching Qualification (UTQ). Staff supervisors carefully monitor the quality of the staff's English proficiency. As of 2019-2020, university-wide, staff must have a CEFR C1 level of English to teach English-language courses.

Senior researchers and professors are participating actively in the courses and supervision of graduation trajectories. Since the last visitation report, the faculty has hired more teaching staff for the programme and, notwithstanding the high workload, the teachers do not seem overburdened. On the contrary, teaching in this research master is very rewarding and energizing for them. The panel praises the staff members' commitment to the students.

Context of research
The panel established that the research context in which the RMa is being taught is excellent, with state-of-the-art neuroscience technologies and a great academic and intellectual environment. This is also reflected by the outstanding research productivity, both in terms of third-party funding success and publishing output. Its senior researchers and professors are closely involved in the educational programme and the training of students. The research at FPN was assessed by the 2017 research review as 'very good' for the categories *research quality* and *relevance to society* and 'excellent' for the category *research viability*. Also, the School for Mental Health and Neuroscience (Faculty of Health, Medicine and Life Sciences) and the School of Business and Economics were graded by their latest research reviews in 2016 as very good to excellent for the three categories. Students are continuously involved in the research performed by their lecturers. For instance, during the aforementioned colloquia, staff members explain their own research, provide direct insight into current ideas and elaborate on future research plans. The students feel the staff members are open to their ideas and struggles and always happy to help or provide advice. The panel was pleased to establish that the staff and students have a feeling of community, where they meet regularly in an informal way.

Programme-specific services
The faculty disposes of many state-of-the-art lab facilities of high quality for the students, some of which the panel was able to visit during the site visit. These facilities include neuroimaging equipment (with magnets of 3T, 7T, and 9.4T), TMS, EEG, speech, virtual reality, psychopharmacological, and behavioural labs. The instrumentation department trains users of specific facilities (e.g., the virtual reality lab). Formal User Certification Training is in place for work with fMRI and brain stimulation

devices. Quality research labs are also available for RMa students at the FHML and SBE Faculties. RMa students are free to use all of the facilities which they consider useful for their research, but they always need to be supervised by a certified staff member. The panel is very satisfied with the opportunities students receive by being able to use these high-end facilities.

Considerations

The curriculum and the teaching-learning environment of the research master's programme are designed and implemented in such a way that the students are enabled to achieve the intended learning outcomes. The panel applauds the planned changes that will be implemented in 2020-2021, to differentiate the programme more from the UM one-year master's programmes.

The programme is intensive but inspiring and feasible, and the students clearly receive plenty of support and guidance from senior researchers and professors. The research environment was graded by the latest research reviews as good to excellent, and gives the students a unique opportunity to learn from prominent researchers. The panel is impressed by the quality of the teachers and praises the staff members' commitment to the students. The selection procedure and requirements are sound and suitable for the high level of a research master. The programme is interdisciplinary and international, and the teaching methods are varied and conducive for active participation by the students.

Research skills, including ethical topics, are taught throughout the entire programme, both in special skills courses and in courses that focus on knowledge in a particular field. Thus, during the two-year programme, the students are gradually and thoroughly prepared to undergo a full cycle of research, including a research internship, resulting in a final thesis of substantial size.

Regarding preparation for the labour market, the panel recommends paying more attention to job opportunities other than PhD positions. It also supports claims by students for more support in finding clinical internships and for more contact with the programme during internships.

Conclusion

Master's programme Cognitive and Clinical Neuroscience: the panel assesses Standard 2 as 'meets the standard'.

Standard 3: Student assessment
The programme has an adequate system of student assessment in place.

Findings

Assessment and assessment system
Assessment at the RMa follows a faculty-wide policy of using the theory of constructive alignment as the main foundation and working with both an assessment programme for the entire master's programme and separate assessment plans per course. The assessment programme contains textual information on different types of assessments, grading criteria and quality assurance, and schematic assessment formats for each specialisation that show which type of assessment is used in each of the courses. The course assessment plans, in which the relationship between the aims of the course and the chosen assessment methods are specified, were drafted only recently and are still a work in progress.

The panel observed that the assessment methods are sufficiently varied and suitable for the learning outcomes that they are meant to assess. Assessments can be formative or summative and clearly reflect the level of the programme. Open essay questions and written assignments and papers are prominent, and in-class participation is often part of the final grade. Other assessment formats, mainly for skills and practical trainings or workshops, include take-home exams, individual papers or essays, presentations, a portfolio, observation, or a combination of these methods. The panel studied the documents and found that they are well designed and extensive. Although the system of

assessment quality assurance is relatively new, the student assessment in the programme is well-regulated. For instance, staff members can only become a course coordinator/examiner after completing the UTQ. With regard to exams, all exams will have an answer key and, before an exam is finalised, two colleagues provide feedback on the wording and content of questions and assignments. The panel applauds these regulations and recommends that the programme continue its efforts in making assessment plans for each course.

Internship and thesis assessment
The panel established that the final project (Research Proposal – Internship – Master's thesis) covers the whole research cycle: planning, conducting, analysing, and interpreting the results of an empirical study, resulting in a written Master's thesis. It read a representative sample of 15 theses and assessed that, in general, it can agree on the final grades given by the examiners. As of 2015-2016, the internship and thesis are graded separately: the internship only by the student's primary supervisor (first assessor, at UM or at the external institution); the thesis by the primary supervisor and a second assessor (at UM). All faculty staff members who supervise a master's thesis have obtained the level of or completed the UTQ programme. In addition, the primary supervisor must hold a PhD degree. The second assessor is permitted to be in the advanced phase of a PhD programme, but the panel established that, at least in the past two academic years, all second assessors had a PhD degree. The panel recommends formalising the standard practice and advises requiring both supervisors to have a PhD degree.

For the clinical internship, the supervisor at the clinical placement site must hold a degree in Clinical and/or Forensic Psychology. A UM faculty member serves as the second assessor for the clinical internship and is the examiner for the Clinical Activities Report. The assessment criteria are available to both assessors and students to allow for optimal transparency. The final grade of the thesis is the average of the grades given by the first supervisor and the second assessor. When the discrepancy between the two assessors is more than two points, they discuss the thesis and try to reduce the difference to two points or less. If the difference remains larger than two points, the Board of Examiners appoints a third assessor.

Following recommendations made by the 2015 visitation panel, the programme introduced new standard assessment forms for the research internship and the final version of the thesis. Extensive feedback is provided on a first draft of the thesis as well. After the thesis has been graded, the assessment form is sent to the student as final feedback. The panel praises the programme for the progress it has made in recent years to streamline the thesis forms, yet it believes there is still room for improvement. The pluses and minuses reported on the form are sometimes difficult to relate to the final score, and the amount of additional qualitative feedback on the reasons behind them depends too much on the individual assessor. The programme might investigate the possibility to include a more elaborate final assessment procedure (e.g., a thesis defence). Aside from this, the panel concludes that the assessment process of the internship and thesis is transparent and done according to clear and well-defined criteria at a level suitable for a research master.

Board of examiners
The faculty-wide Board of Examiners (BoE) adequately handles all of its legally mandated tasks. The panel discussed the programme's assessment with the co-chairs of BoE. It concluded that the BoE has made substantial progress in the field of quality assurance of assessments over the past years. It recently underwent a professionalisation track initiated by the UM Management Team.

Every year, the BoE initiates a process of re-examination of approximately 10% of all theses, and it informs staff on how to best assess theses, which the panel applauds. The panel advises the Board to organise calibration sessions in order to equalise standards and expectations for all staff with a role in the master's thesis supervision and strengthen the assessment's transparency further. In addition, it recommends that the BoE supervise the programme in the process of implementing assessment plans for each course and in further improving the assessment forms for the thesis.

The Assessment Committee (AC) operates independently from the BoE. It provides advice and develops procedures regarding the quality of exams. The AC discusses critical reflections on the exams. It also advises the BoE in cases of disagreement between the examiner and student(s) with regard to the quality of the exam. The AC can give solicited and unsolicited advice to the BoE on matters related to the quality of an exam (or part of one). Whenever the BoE questions the quality of an exam, it will ask the AC to provide written advice.

Together with the Faculty Board, the BoE is responsible for handling (alleged) cases of plagiarism. The sanctions that may be imposed if a student plagiarises their work is outlined in the Rules and Regulations that are appendices to the EER.

The panel is positive about the steps that the BoE and the AC have made in recent times and advises them to continue in this direction and expand their activities.

Considerations
According to the panel, the assessment policy and protocols in the programme are very well designed and sound. As a result, the assessment is well-regulated. The assessment methods are sufficiently varied and clearly reflect the level of the programme.

Thesis assessment in the programme is done according to clear criteria by two assessors who fill out the assessment form independently. There is enough transparency towards the students, formal or informal, but the panel thinks the recording on the forms can be improved. Notwithstanding these remarks, it ascertained that the grading system for the internship and final thesis is transparent, fair and qualitatively up to standards.

The panel is pleased with the role of the Board of Examiners and the Assessment Commission in monitoring and promoting the quality of assessment, and encourages them to expand their activities, e.g. by organising calibration sessions and by supervising the implementation of assessment plans per course and the improvement of the thesis assessment forms.

Conclusion
Master's programme Cognitive and Clinical Neuroscience: the panel assesses Standard 3 as 'meets the standard'.

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

Findings

Final project and thesis quality
The panel believes that the size (50 EC or 30 plus 20 EC) of the final project (research proposal – internship – master's thesis) is large enough to include a full research cycle and to assess whether students have achieved all of the intended learning outcomes.

As mentioned earlier, the panel read a representative sample of 15 final theses. It was generally pleased with their high level. Most of them were of good to excellent quality. Their research topics fell well within the scope of the program and the ambitions of this research master; they were clearly structured and well-written and included relevant discussions. Their theoretical framework was strong and in-depth, and many theses were publishable. For the theses which were deemed unpublishable, the panel thought this was in most cases not due to poor research or writing skills of the student in question, but could be explained by the start-up phase of the research project the student joined: the research in question was simply too premature to be published yet. The themes of the theses were often topical and original. In a small number of them, the panel thought the discussions were somewhat superficial or the hypothesis and aim of the research could be formulated more clearly. In those cases, this was properly reflected in relatively lower grades. On the whole, the

panel thinks that the students show that they achieve the intended learning outcomes and thus the research master's level.

Alumni success
The performance of the research master's alumni is very positive. Over the past four years, at least 20% of the programme's alumni graduated with honours. Around three-quarters of the graduates become researchers, most in a PhD position. The rest work in a variety of sectors e.g. as data analysts or clinical assessors. Surveys showed that after five years, almost all of the students are employed, the majority of them within their field of study. The panel is very pleased with these results and thinks that they match the programme's goals to educate researchers in the field of Neurosciences.

FPN alumni contribute to the faculty's annual Psychological Perspectives and Alumni Perspectives events, at which alumni return to FPN to give interactive workshop presentations on their work to current students. The panel was pleased to learn that FPN has started several initiatives to gain more insight into the positions of alumni, foster the relationship with graduates, and search for opportunities to improve their employability. The Faculty appointed a 0.2 fte alumni coordinator in 2017 to develop employability-related initiatives at FPN. The panel is pleased with the fact that the programme management is aware of the need to step up its activities in this respect.

Considerations
The level of the final theses is more than adequate; most of them are of good to excellent quality. The theses showed that the students achieve the intended learning outcomes and thus the research master's level.

The performance of alumni of the research master is generally very good, with most of them ending up in PhD positions. Matching the programme's goal, around three-quarters of the graduates become researchers. The programme maintains good contacts with alumni, yet the panel is pleased with the fact that the programme management is aware of the need to step up its activities in this respect even further.

Conclusion
Master's programme Cognitive and Clinical Neuroscience: the panel assesses Standard 4 as 'meets the standard'.

GENERAL CONCLUSION

The panel assessed standards 1, 2, 3, and 4 as 'meets the standard'. Based on the NVAO decision rules regarding limited programme assessments, the panel therefore assesses the programme as 'positive'.

Conclusion
The panel assesses the *master's programme Cognitive and Clinical Neuroscience* as 'positive'.

APPENDICES

APPENDIX 1: DOMAIN-SPECIFIC FRAMEWORK OF REFERENCE

Domain specific reference frame for master's level educational programmes in the Neurosciences and intended learning outcomes

At the master's level, the field of Neurosciences in the Netherlands focuses on a multidisciplinary approach of research questions pertaining to the workings of the brain in health and disease. The field ranges from research at the interface between genetic, molecular and cellular processes to computational, system-level neuroscience with cognitive and behavioural analyses. The Neurosciences investigate all aspects of the brain, the nervous system and the senses: anatomy, physiology, biochemistry, genetics, cell biology, and molecular biology, and also investigate the interrelations between these aspects, as well as how these give rise to, e.g., perceptions, cognition, emotions and movement.

The Neurosciences address three main questions:

> 1. How does the brain work, and how does it give rise to, for instance, cognition, perception, emotions, learning, memory, consciousness and behaviour?
> 2. What goes wrong in brain diseases, and how does this affect, for instance, cognition, perception, emotions, learning, memory, consciousness and behaviour?
> 3. How can we influence the brain, and cure brain diseases or treat their symptoms?

In research to answer these questions, the brain is not viewed as an isolated organ; rather, the brain continuously interacts with the body and its environment, throughout an individual's lifespan. Concrete neuroscientific research projects are motivated by the three big questions in Neurosciences mentioned above, but they are aimed at answering smaller, more defined sub-questions. Neuroscience research ranges across all biological levels. At the molecular and cellular level, the Neurosciences investigate the processes within and between cells. At the organ level, the investigations focus on how brain cells organize in networks and circuits. At the level of the organism, the Neurosciences investigate brain function such as cognition, emotion and social interaction, including specific abilities such as movement, perception, language, or memory. Finally, at the population level, the field encompasses studies where epidemiological, qualitative approaches, as well as society-directed approaches may be used to investigate financial and political decision-making, and the societal consequences of brain disease. In addition, research in the Neurosciences provides technological innovations that can be used in a broad range of applications; from molecular and genetic approaches for drug/treatment development, to, e.g., artificial brain implants, or to new designs in robotics based on neural principles.

Due to its translational character, the strength of the Neurosciences lies in connecting parts of different sub-disciplines, such as biology, (bio)informatics, psychology, (bio)chemistry, medicine, mathematics, physics, and philosophy. Hence, the Neurosciences cover many elements from those disciplines and are characterised by a profound integration of these elements. In this way, Neuroscience research provides innovative methods and approaches to understanding the brain, behaviour and disease, based on developing insight into brain mechanisms. The Master of Sciences level of education in the Neurosciences aims to teach students about the aforementioned aspects, including the technological, methodological, societal and ethical developments in modern Neuroscience research. Note, however, that each Master programme has its own specific scope and foci, which are reflected by the content and name of the programme.

General intended learning outcomes of Neuroscience Master programs in the Netherlands

Graduates of the research master within the domain of Neurosciences have an academic attitude and are academically skilled researchers in the field of Neuroscience.

Knowledge and Understanding
Master's graduates:
1.   have an overview of the conceptual framework in the field of Neuroscience, including new theories, processes, instruments, and current research challenges;
2.   appreciate the integrative scope of the Neurosciences bridging disciplines such as biology, biomedical sciences, psychology, medicine, philosophy, mathematics, and physics.

Applying Knowledge and Understanding
Master's graduates have demonstrated the ability to:
3.   acquire, structure and integrate information in the field of the Neurosciences to generate novel hypotheses that further the field, both orally and in writing;
4.   conceive, design, implement and adapt neuroscientific experiments;

Making judgments
Master's graduates have demonstrated the ability to:
5.   critically analyse and interpret neuroscientific research, in relation to the design and execution of experiments or computational modelling, and the results obtained thereof;
6.   reflect on ethical aspects of neuroscience research, and include these in decision-making processes;

Learning focus
Master's graduates have the learning skills:
7.   to work in a team and to collaborate with researchers from other disciplines and/or countries;
8.   to pursue a career as independent neuroscience researcher either in- or out-side of academia;

Communication
Master's graduates have demonstrated the ability to:
9.   discuss neuroscience related topics with peers, the larger scholarly community and with non-researchers who are interested in the Neurosciences, both orally and in writing;
10.   efficiently communicate in interdisciplinary research teams.

APPENDIX 2: INTENDED LEARNING OUTCOMES

Master's programme Cognitive and Clinical Neuroscience

ILOs of the research master's programme. These ILOs are subdivided per Dublin descriptor.

ILOs of the research master's programme	
Level	**Content/orientation**
Dublin descriptors	**ILOs based on domain-specific reference framework and EFPA**
Knowledge and understanding	ILO 1: Knowledge of theories, processes, interventions, instruments, and assessment methods in the field.
Applying knowledge and understanding	ILO 2: Ability to apply theories, interventions, instruments, and assessment methods in the field.
	ILO 3: Ability to write an original and feasible research question and proposal.
	ILO 4: Ability to design and conduct sound scientific research in the field (incl. the selection and application of appropriate research methods and statistics).
Making judgments	ILO 5: Ability to critically judge research questions and experimental designs, taking into account the ethical responsibilities in research.
	ILO 6: Ability to critically analyse, assess, evaluate, interpret, and synthesise research methods, research data, theories and publications in the field.
	ILO 7: Ability to relate findings to the existing literature and formulate realistic judgements on the implications and importance of research output.
Communication	ILO 8: Ability to effectively communicate in English – in writing and orally (group discussions and presentations) -- on field-related topics.
	ILO 9: Ability to write scientific reports in the form of a practical report, research master's thesis and/or scientific publication according to the scientific standards.
	ILO 10: Ability to communicate scientific theories and empirical findings in an understandable way to both professionals (experts and non-experts) and to lay people (incl. clients).
Lifelong learning skills	ILO 11: Ability to reflect on one's own professional behaviour (incl. ethical standards) and development.
	ILO 12: Ability to work in a research setting and/or in an applied/clinical setting.
	ILO 13: Ability to work in an international team.
	ILO 14: Ability to read, understand, integrate and critically reflect on research papers, professional reports and new developments.

Additional specifications per specialisation for ILO 1-3.

ILOs of the research master's programme			
Level	**Content/orientation**	**Additional specifications per specialisation**	
Dublin descriptors	**ILOs based on domain-specific reference framework and EFPA**	**Cognitive Neuroscience**	**Drug Development and Neurohealth**
Knowledge and understanding	ILO 1: Knowledge of theories, processes, interventions, instruments, and assessment methods in the field.	*Broad theoretical knowledge of structure-function relationships, with a focus on the neurophysiological and metabolic brain processes underlying perception, cognition, and behaviour	*Broad theoretical knowledge of the various discovery and clinical development stages in drug discovery, with a focus on mechanisms of action and efficacy of drugs that are aimed at neuropharmacological brain targets associated with affective-, neurodevelopmental-, neurodegenerative and neurovascular disorders
Applying knowledge and understanding	ILO 2: Ability to apply theories, interventions, instruments, and assessment methods in the field.	*Advanced knowledge regarding the neurocognition of auditory and visual perception, sensory-motor functions, attention, language, consciousness, learning and memory	*Advanced knowledge on how to apply new insights from all disciplines across neuroscience, (clinical) pharmacology and genetics/genomics for the proposal of new drug development programmes and the critical assessment of existing drug discovery programmes
	ILO 3: Ability to write an original and feasible research question and proposal.	*Integrative knowledge of cognitive psychology (models, theories and paradigms), biology, (brain) physics, (acquisition methods), informatics and engineering (analysis methods)	*Integrative knowledge of biological and behavioural hypotheses and mechanisms in health and disease, as well as knowledge of integrating neuroscience research from different disciplines for this purpose

ILOs of the research master's programme

Level	Content/orientation	Additional specifications per specialisation	
Dublin descriptors	**ILOs based on domain-specific reference framework and EFPA**	**Fundamental Neuroscience**	**Neuroeconomics**
Knowledge and understanding	ILO 1: Knowledge of theories, processes, interventions, instruments, and assessment methods in the field.	*Theoretical knowledge of the brain-behaviour relationship with a focus on the cellular level: cell signalling, plasticity, neurodegeneration, regeneration, inflammation, genetics and epigenetics	*Theoretical knowledge of brain structure and function with a focus on knowledge of modern theories of economic and social decision-making and their relationships to cognitive, biological and neuronal practices
Applying knowledge and understanding	ILO 2: Ability to apply theories, interventions, instruments, and assessment methods in the field.	*Advanced knowledge of physiological and pathophysiological mechanisms underlying psychological, psychiatric and neurological disorders	*Advanced knowledge of the neurocognitive roots of human decisions in individual and interactive decision situations and their relevance for economic and social decision environments
	ILO 3: Ability to write an original and feasible research question and proposal.	*Integrative knowledge of molecular biological (e.g. proteomics, genomics), neuroanatomical (e.g. immunocytochemistry), electrophysiological (e.g. EEG, ERP) and behavioural techniques (e.g. rodent and human tests) necessary for preclinical and clinical research	*Integrative knowledge of the interdisciplinary nature of Neuroeconomics, including neuroscientific methods, cognitive and psychological processes, formal models of decision-making and game theory, and experimental methods in economics

ILOs of the research master's programme

Level	Content/orientation	Additional specifications per specialisation	
Dublin descriptors	**ILOs based on domain-specific reference framework and EFPA**	**Neuropsychology**	**Psychopathology**
Knowledge and understanding	ILO 1: Knowledge of theories, processes, interventions, instruments, and assessment methods in the field.	*Theoretical knowledge of brain-behaviour relationships with a focus on brain structure and function, biological psychology and psychobiology, pharmacology and cognitive (neuro)science	*Theoretical knowledge of brain-behaviour relationships, biological, cognitive and affective processes, with a focus on the dysregulation of these processes: brain structure and function, cognitive and affective neuroscience, information processing, psychobiology, genetics
Applying knowledge and understanding	ILO 2: Ability to apply theories, interventions, instruments, and assessment methods in the field.	*Advanced knowledge of biology and neuropharmacology of behaviour	*Advanced knowledge of psychopathological conditions, current explanatory models, and evidence-based clinical intervention approaches
	ILO 3: Ability to write an original and feasible research question and proposal.	*Integrative knowledge of research models of cognition and cognitive disorders applied in the domains of psychiatry, clinical neurology, neuroscience and neuropsychology	*Integrative knowledge of cognitive psychology, neuropsychology, psychiatry, clinical neuroscience, epidemiology, and social science

APPENDIX 3: OVERVIEW OF THE CURRICULUM

Master's programme Cognitive and Clinical Neuroscience

Overview RM in Cognitive Neuroscience (CN)

Period	Research Master in Cognitive Neuroscience (CN) Year 1 (2018-2019)
Period 0	Introduction week: **PSY4950** Introduction in Problem-Based Learning (training for non-UM students*) (- credits)
Throughout Year 1	**Electives:** **PSY4156** Elective: Course OR **PSY4157** Elective: Review OR **PSY4158** Elective: Research (3 credits each)
Period 1 03-09-2018 - 26-10-2018	**Core Courses:** **PSY4251** Auditory and Higher Order Language Processing (4 credits) **PSY4252** Perception and Attention (4 credits) **PSY4106** Advanced Statistics I (3 credits) *Practical training:* **PSY4119** SPSS I and Lisrel
	Skills training: **PSY4221** EEG and ERP (2 credits)
Period 2 29-10-2018 - 21-12-2018	**Core courses:** **PSY4253** Neuroimaging: Functional MRI (4 credits) **PSY4254** Sensorimotor Processing (4 credits) **PSY4106** Advanced Statistics I *Practical training:* **PSY4119** SPSS I and Lisrel
	Skills training: **PSY4227** fMRI (2 credits)
Christmas break	
Period 3 07-01-2019 - 01-02-2019	**Core course:** **PSY4216** Noninvasive Brain Stimulation (NIBS) (4 credits)
	Skills training: **PSY4108** Neuroanatomy (1 credit)
	Workshop: **PSY4233** Methods of Deactivation (1 credit)
	PSY4100 Colloquia (total of 1 credit)
Period 4 04-02-2019 - 05-04-2019	**Core course:** **PSY4215** Advanced fMRI (4 credits) **PSY4255** Brain Connectivity and Connectomics (4 credits) **PSY4107** Advanced Statistics II (total of 3 credits) *Practical training:* **PSY4117** SPSS II
	Workshop: **PSY4231** Real-Time fMRI and Neurofeedback (1 credit)
	Skills training: **PSY4228** Diffusion Weighted Imaging and Fibre Tracking (1 credit)
	PSY4100 Colloquia

Period 5 08-04-2019 - 07-06-2019	**Core course:** **PSY4257** Translational Neuroscience: Towards Clinical Applications for Disorders of Consciousness (4 credits) **PSY4256** Timing Neural Processing with EEG and MEG (4 credits) **PSY4107** Advanced Statistics II *Practical training:* **PSY4117** SPSS II
	Workshop: **PSY4237** Basic Mathematical Methods (2 credits) **PSY4110** Scientific Writing (1 credit)
	Skills training: **PSY4224** Programming in Matlab Basic Course (2 credits)
	PSY4100 Colloquia
Period 6 10-06-2019 - 05-07-2019	**Core course:** **PSY4257** Translational Neuroscience: Towards Clinical Applications for Disorders of Consciousness
	Workshop: **PSY4112** Research Grant Writing Workshop (1 credit)
	PSY4100 Colloquia

Students from Erasmus Rotterdam receive an exemption for PBL training

Period	**Research Master in Cognitive Neuroscience (CN) Year 2 2019-2020**
Period 1	**Core course:** **PSY5112** Research Grant Writing Course (3 credits) **PSY5213** The Brain's Engram: Memorising Experiences and Experiencing Memory (4 credits)
	Workshop: **PSY5231** Signal Analysis (2 credits)
	Skills training: **PSY5223** Programming in Matlab Advanced Course (1 credit)
32 weeks	**PSY5107** Research Proposal, **PSY5120/PSY5121** Research Internship & **PSY5103** Master's Thesis (50 credits)

Overview RM in Neuroeconomics (NE)

Period	Research Master in Neuroeconomics (NE) Year 1 (2018-2019) Specialisation Coordinator:
Period 0	Introduction week: **PSY4950** Introduction in Problem-Based Learning (training for non-UM students*) (- credits)
Period 1 03-09-2018 - 26-10-2018	**Core Courses:** **EBC4182** Mathematical Research Tools (6.5 credits) **PSY4711** Psychology meets Neuroscience meets Economics (4 credits) **PSY4106** Advanced Statistics I (3 credits) *Practical training:* **PSY4119** SPSS I and Lisrel
	Skills training: **PSY4221** EEG and ERP (2 credits)
Period 2 29-10-2018 - 21-12-2018	**Core courses:** **EBC4061** Microeconomics I (6.5 credits) **PSY4106** Advanced Statistics I *Practical training:* **PSY4119** SPSS I and Lisrel
Christmas break	
Period 3 07-01-2019 - 01-02-2019	**Core course:** **PSY4216** Noninvasive Magnetic Brain Stimulation (NIBS) (4 credits)
	Skills training: **PSY4108** Neuroanatomy (1 credit)
	Workshop: **PSY4233** Methods of Deactivation (1 credit)
	PSY4100 Colloquia (total of 1 credit)
Period 4 04-02-2019 - 05-04-2019	**Core course:** **EBC4204** Microeconomics II (6.5 credits) **PSY4712** Social Neuroscience (4 credits) **PSY4713** Functional Brain Imaging in Neuroeconomics (4 credits) **PSY4107** Advanced Statistics II (total of 3 credits) *Practical training:* **PSY4117** SPSS II
	Workshop: **PSY4731** Neuroeconomics Meetings (total of 1,5 credits)
	PSY4100 Colloquia
Period 5 08-04-2019 - 07-06-2019	**Core course:** **PSY4256** Timing Neural Processing with EEG and MEG (4 credits) **PSY4107** Advanced Statistics II *Practical training:* **PSY4117** SPSS II **PSY4713** Functional Brain Imaging in Neuroeconomics
	Skills training: **PSY4224** Programming in Matlab Basic Course (2 credits)
	Workshop: **PSY4731** Neuroeconomics Meetings **PSY4110** Scientific Writing (1 credit)

	PSY4100 Colloquia
Period 6 10-06-2019 - 05-07-2019	**Core course:** **EBS4026** Experimental Economics Methods (4 credits)
	Workshop: **PSY4731** Neuroeconomics Meetings **PSY4112 Research Grant Writing Workshop (1 credit)**
	PSY4100 Colloquia

Students from Erasmus Rotterdam receive an exemption for PBL training.

Period	Research Master in Neuroeconomics (NE) Year 2 (2019-2020)
Period 1	**Core course:** **PSY5112** Research Grant Writing Course (3 credits) **EBC4200** Behavioural Economics (6 credits)
	Skills training: **PSY5223** Programming in Matlab Advanced Course (1 credit)
32 weeks	**PSY5107** Research Proposal, **PSY5120/PSY5121** Research Internship & **PSY5103** Master's Thesis (50 credits)

Overview RM in Fundamental Neuroscience (FN)

Period	Research Master in Fundamental Neuroscience (FN) Year 1 (2018-2019)
Period 0	Introduction week: **PSY4950** Introduction in Problem-Based Learning (training for non-UM students*) (- credits)
Throughout Year 1	**Electives:** **PSY4156** Elective: Course OR **PSY4157** Elective: Review OR **PSY4158** Elective: Research (3 credits each)
Period 1 03-09-2018 - 26-10-2018	**Core courses: **** **PSY4311** ** Introduction to Molecular Biochemical Techniques (5 credits) *Practical training:* **PSY4341** Genes and Proteins OR **PSY4312** ** Introduction to Psychology (5 credits) *Practical training:* **PSY4353** Measuring Cognitive Functions **PSY4313** Neuroanatomy (4 credits) *Practical training:* **PSY4344** Mammalian Macro- and Microscopical Neuroanatomy **PSY4106** Advanced Statistics I (3 credits) *Practical training:* **PSY4119** SPSS I and Lisrel
	Workshop: **PSY4113** Scientific Writing (1 credit) **PSY4340** Introduction in Genetics (1 credits)
Period 2 29-10-2018 - 21-12-2018	**Core courses:** **PSY4314** Neurodegeneration (4 credits) *Practical training:* **PSY4351** Immunocytochemical Staining of Human Postmortem Tissue and Evaluation of the Staining using the Multihead Microscope **PSY4315** Biopsychological Neuroscience (4 credits) *Practical training:* **PSY4343** Neuropsychological Experiment **PSY4106** Advanced Statistics I *Practical training:* **PSY4119** SPSS I and Lisrel
	Workshop: **PSY4831** Valorisation (1 credit)
Christmas break	
Period 3 07-01-2019 - 01-02-2019	**Core courses:** **PSY4320** Neurological Neuroscience (5 credits) *Practical training:* **PSY4347** Genotyping your NMDA Receptor
	Workshop: **PSY4332** Surgery for Intractable Movement and Psychiatric Disorders (1 credit)
	PSY4100 Colloquia (total of 1 credit)
Period 4 04-02-2019 - 05-04-2019	**Core courses:** **PSY4317** Neuroimmunology and Inflammation (5 credits) *Practical training:* **PSY4349** Neuroinflammation **PSY4336** Neuroplasticy and Pain (5 credits) *Practical training:* **PSY4346** Cell Culture **PSY4107** Advanced Statistics II (total of 3 credits) *Practical training:* **PSY4117** SPSS II

	Workshop:
	PSY4832 Biomedical Brain Imaging (3 credits)
	PSY4100 Colloquia
Period 5 08-04-2019 - 07-06-2019	**Core courses:** **PSY4321** Psychiatric Neuroscience (5 credits) *Practical training*: **PSY4352** Western Blotting **PSY4322** Electrophysiology: From Single Cell Activity to 'Cognitive' Markers (4 credits) **PSY4107** Advanced Statistics II *Practical training*: **PSY4117** SPSS II
	PSY4100 Colloquia
Period 6 10-06-2019 - 05-07-2019	**Workshop:** **PSY4112** Research Grant Writing Workshop (1 credit) **PSY4371** Psychiatric Epidemiology (1 credit)
	PSY4100 Colloquia

Students from Erasmus Rotterdam receive an exemption for PBL training

**PSY4311: This introduction course is required for students with a psychological background. The parallel course PSY4312 is required for students with a biological background. Thus, students enroll in either PSY4311 or PSY4312. The course coordinators of both courses evaluate which of the two courses a student is required to take.*

Period	Research Master in Fundamental Neuroscience (FN) Year 2 (2019-2020)
Period 1	**Core course:** **PSY5112** Research Grant Writing Course (3 credits)
	Skills training: **PSY4221** EEG and ERP (2 credits)
	Workshop: **PSY5332** Behavioural Tests and Models (1 credit) **PSY5333** Advanced Genetics (1 credits) **PSY5314** Laboratory Animal Sciences (3 credits)
32 weeks	**PSY5107** Research Proposal, **PSY5120/PSY5121** Research Internship & **PSY5103** Master's Thesis (50 credits)

Overview RM in Neuropsychology (NP)

Period	Research Master in Neuropsychology (NP) Year 1 (2018-2019)
Period 0	Introduction week: PSY4950 Introduction in Problem-Based Learning (training for non-UM students*) (- credits)
Throughout Year 1	**Electives:** **PSY4156** Elective: Course OR **PSY4157** Elective: Review OR **PSY4158** Elective: Research (3 credits each)
Period 1 03-09-2018 - 26-10-2018	**Core courses:** **PSY4407** Brain Damage (4 credits) **PSY4408** Behavioural Disorders (4 credits) **PSY4106** Advanced Statistics I (total of 3 credits) *Practical training:* **PSY4119** SPSS I and Lisrel
	Skills training: **PSY4433** Neuropsychological Assessments (2 credits)
Period 2 29-10-2018 - 21-12-2018	**Core courses:** **PSY4409** Arousal and Attention (4 credits) **PSY4416** Ageing (4 credits) **PSY4106** Advanced Statistics I *Practical training:* **PSY4119** SPSS I and Lisrel
	Skills training: **PSY4434** Basic Cognitive Psychological Skills (3 credits)
Christmas break	
Period 3 07-01-2019 - 01-02-2019	**Core course:** **PSY4411** Biopsychology (4 credits)
	Skills training: **PSY4108** Neuroanatomy (1 credit)
	PSY4100 Colloquia (total of 1 credit)
Period 4 04-02-2019 - 05-04-2019	**Core course:** **PSY4417** Stress, the Brain and Depression (3 credits) **PSY4413** Executive Control (4 credits) **PSY4107** Advanced Statistics II (total of 3 credits) *Practical training:* **PSY4117** SPSS II
	PSY4100 Colloquia
Period 5 08-04-2019 - 07-06-2019	**Core course:** **PSY4414** Neuropsychiatric Disorders (3 credits) **PSY4107** Advanced Statistics II *Practical training:* **PSY4117** SPSS II
	Workshop: **PSY4435** Human Neuroimaging (3 credits) **PSY4110** Scientific Writing (1 credit)
	Skills training: **PSY4423** Neuropsychology in Practice: From Test Results to Report and Advice

	PSY4424 Neuropsychological Rehabilitation (total of 2 credit)
	PSY4100 Colloquia
Period 6 10-06-2019 - 05-07-2019	**Core course:** PSY4415 Neuropsychopharmacology (total of 3 credits)
	Workshop: PSY4335 Psychopharmacology (1 credit) PSY4112 Research Grant Writing Workshop (1 credit) PSY4371 Psychiatric Epidemiology (1 credit)
	Skills training: PSY4424 Neuropsychological Rehabilitation
	PSY4100 Colloquia

Students from Erasmus Rotterdam receive an exemption for PBL training

Period	Research Master in Neuropsychology (NP) Year 2 (2019-2020)
Period 1	**Core course:** PSY5112 Research Grant Writing Course (3 credits) PSY5411 Cognitive Development (3 credits) PSY5414 Brain, Learning and Memory (3 credits)
	Workshop: PSY5431 Neuropsychological Assessment in Children (1 credit)
32 weeks	PSY5107 Research Proposal, PSY5120/PSY5121 (research option) PSY5122/PSY5123 (clinical option) Research Internship & PSY5103 Master's Thesis (50 credits) OR PSY5109 Master's Thesis (30 credits)
	PSY5108 Research Proposal, PSY5104 Clinical Internship, PSY5111 Clinical Activities Report & PSY5105 Minor's Thesis (20 credits)

Overview RM in Psychopathology (PP)

Period	Research Master in Psychopathology (PP) Year 1 (2018-2019)
Period 0	Introduction week: **PSY4950** Introduction in Problem-Based Learning (training for non-UM students*) (- credits)
Throughout Year 1	**Electives:** **PSY4156** Elective: Course AND/OR **PSY4157** Elective: Review AND/OR **PSY4158** Elective: Research (5 credits in total)
Period 1 03-09-2018 - 26-10-2018	**Core course:** **PSY4511** Anxiety Disorders (4 credits) **PSY4512** Mood Disorders (total of 4 credits) **PSY4106** Advanced Statistics I (total of 3 credits) *Practical training:* **PSY4119** SPSS I and Lisrel **Workshop:** **PSY4113** Scientific Writing (1 credit) **Skills training:** **PSY4531** Research Practical Psychometrics (total of 2 credits) **PSY4532** Clinical Skills I: Interviewing Skills (2 credits) **PSY4534** Clinical Assessment Instruments (total of 2 credits)
Period 2 29-10-2018 - 21-12-2018	**Core course:** **PSY4512** Mood Disorders **PSY4513** Stress and Trauma (4 credits) **PSY4106** Advanced Statistics I *Practical training:* **PSY4119** SPSS I and Lisrel **Skills training:** **PSY4531** Research Practical Psychometrics **PSY4533** Clinical Skills II: Diagnostic Test Procedures (2 credits) **PSY4534** Clinical Assessment Instruments
Christmas break	
Period 3 07-01-2019 - 01-02-2019	**Core course:** **PSY4521** Bodily Distress Disorders (4 credits) **Skills training:** **PSY4108** Neuroanatomy (1 credit) **PSY4534** Clinical Assessment Instruments **PSY4100** Colloquia (Total of 1 credit)
Period 4 04-02-2019 - 05-04-2019	**Core course:** **PSY4514** Developmental Psychopathology (4 credits) **PSY4519** Eating Disorders (4 credits) **PSY4107** Advanced Statistics II (total of 3 credits) *Practical training:* **PSY4117** SPSS II **Skills training:** **PSY4534** Clinical Assessment Instruments

	Workshop: **PSY4542** The Application of Cognitive Methods in Psychopathology Research (1 credit)
	PSY4100 Colloquia
Period 5 08-04-2019 - 07-06-2019	**Core course:** **PSY4516** Psychosis (4 credits) **PSY4107** Advanced Statistics II *Practical training:* **PSY4117** SPSS II
	Workshop: **PSY4435** Human Neuroimaging (3 credits)
	Skills training: **PSY4534** Clinical Assessment Instruments
	PSY4100 Colloquia
Period 6 10-06-2019 - 05-07-2019	**Core course:** **PSY4520** Mental Health and Happiness (total of 3 credits)
	Workshop: **PSY4335** Psychopharmacology (1 credit) **PSY4112** Research Grant Writing Workshop (1 credit) **PSY4371** Psychiatric Epidemiology (1 credit)
	Skills training: **PSY4534** Clinical Assessment Instruments
	PSY4100 Colloquia

Students from Erasmus Rotterdam receive an exemption for PBL training

Period	Research Master in Psychopathology (PP) Year 2 (2019-2020)
Period 1	**Core course:** **PSY5112** Research Grant Writing Course (3 credits) **PSY5511** Personality Disorders (4 credits)
	Skills training: **PSY5533** Clinical Skills III: Clinical Interviews for the DSM 5 (SCID-training) (1 credit) **PSY5523** Clinical Skills IV: Intervention Techniques (2 credit)
32 weeks	**PSY5107** Research Proposal, **PSY5120/PSY5121** (research option) **PSY5122/PSY5123** (clinical option) Research Internship & **PSY5103** Master's Thesis (50 credits) OR **PSY5109** Master's Thesis (30 credits)
	PSY5108 Research Proposal, **PSY5104** Clinical Internship, **PSY5111** Clinical Activities Report & **PSY5105** Minor's Thesis **(**20 credits)

Overview of RM in Drug Development and Neurohealth (DN)

Period	Research Master in Drug Development and Neurohealth (DN) Year 1 (2018-2019)
Period 0	Introduction week: PSY4950 Introduction in Problem-Based Learning (training for non-UM students*) (- credits)
Throughout Year 1	**Electives:** **PSY4156** Elective: Course OR **PSY4157** Elective: Review OR **PSY4158** Elective: Research (3 credits each) **PSY4159** Elective: Research DN (6 credits) **PSY4160** Elective: Review DN (6 credits)
Period 1 03-09-2018 - 26-10-2018	**Core Courses: ** ** **PSY4311**** Introduction to Molecular Biochemical Techniques (5 credits) *Practical training:* **PSY4341** Genes and Proteins OR **PSY4312 ** ** Introduction to Psychology (5 credits) *Practical training:* **PSY4353** Measuring Cognitive Functions **PSY4818** Medical Needs & Failures, Target Discovery (3 credits) **PSY4106** Advanced Statistics I (3 credits) *Practical training:* **PSY4119** SPSS I and Lisrel
	Workshop: **PSY4113** Scientific Writing (1 credit) **PSY4340** Introduction in Genetics (1 credits)
Period 2 29-10-2018 - 21-12-2018	**Core courses:** **PSY4812** Drug Discovery (5 credits) *Practical training:* **PSY4821** Robot-based High-Throughput Screening **PSY4814** Drug Metabolism and Safety (5 credits) **PSY4106** Advanced Statistics I *Practical training:* **PSY4119** SPSS I and Lisrel
	Workshop: **PSY4831** Valorisation (1 credit)
Christmas break	
Period 3 07-01-2019 - 01-02-2019	**Core course:** **PSY4819** Big Data in Drug Discovery & Development (3 credits) *Practical training:* **PSY4822** Computer Supported Training in Big Data in Drug Discovery & Development
	Skills training: **PSY4108** Neuroanatomy (1 credit)
	Workshop: **PSY4833** Drug Discovery & Development Project Management (1 credit)
	PSY4100 Colloquia (total of 1 credit)
Period 4 04-02-2019 - 05-04-2019	**Core course:** **PSY4820** Clinical Development (4 credits) **PSY4816** Pharmacoepidemiology, Drug Safety & Pharmaceutical Policy (4 credits)

	PSY4107 Advanced Statistics II (total of 3 credits) *Practical training*: **PSY4117** SPSS II
	Workshop: **PSY4832** Biomedical Brain Imaging (3 credits)
	PSY4100 Colloquia
Period 5 08-04-2019 - 07-06-2019	**Core course:** **PSY4321** Psychiatric Neuroscience (5 credits) *Practical training*: **PSY4352** Western Blotting **PSY4322** Electrophysiology: From Single Cell Activity to 'Cognitive' Markers (4 credits) **PSY4107** Advanced Statistics II *Practical training*: **PSY4117** SPSS II
	PSY4100 Colloquia
Period 6 10-06-2019 - 05-07-2019	**Core course:** **PSY4415** Neuropsychopharmacology (total of 3 credits)
	Workshop: **PSY4112** Research Grant Writing Workshop (1 credit)
	PSY4100 Colloquia

*Students from Erasmus Rotterdam receive an exemption for PBL training

**PSY4311: This introduction course is required for students with a psychological background. The parallel course PSY4312 is required for students with a biological background. Thus, students enroll in either PSY4311 or PSY4312. The course coordinators of both courses evaluate which of the two courses a student is required to take.

Period	Research Master in Drug Development and Neurohealth (DN) Year 2 (2019-2020)
Period 1	**Core course:** **PSY5112** Research Grant Writing Course (3 credits) **PSY5812** Applied Therapeutics (3 credits)
	Workshop: **PSY5332** Behavioural Tests and Models (1 credit)
Throughout Year 2	**Electives:** **PSY4156** Elective: Course OR **PSY4157** Elective: Review OR **PSY4158** Elective: Research (3 credits each) **PSY4159** Elective Research DN (6 credits) **PSY4160** Elective: Review DN (6 credits)
32 weeks	**PSY5107** Research Proposal, **PSY5120/PSY5121** Research Internship & **PSY5103** Master's Thesis (50 credits)

APPENDIX 4: PROGRAMME OF THE SITE VISIT

Friday 25 October 2019

09.00 - 09.15   Welcome

09.15 - 10.45   Initial panel meeting

09.30 - 10.00   Open consultation

10.45 - 11.30   **Meeting management**

11.30 - 12.15   **Meeting students and alumni**

12.15 - 13.00   Lunch + preparing interviews

13.00 - 13.45   **Meeting staff**

13.45 - 14.30   **Meeting examination board**

14.30 - 15.00   **Tour TMS and VR lab** (provided by students and their supervisors)

15.00 - 15.30   Internal panel meeting

15.30 - 16.15   **Concluding meeting with management**

16.15 - 17.45   Internal panel meeting

17.45 - 18.00   **Reporting provisional findings by the panel chair**

APPENDIX 5: THESES AND DOCUMENTS STUDIED BY THE PANEL

Prior to the site visit, the panel studied 15 theses of the master's programme Cognitive and Clinical Neuroscience. Information on the selected theses is available from QANU upon request. In addition, the panel read the self-evaluation report of the programme.

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):

1. Learning processes in PBL
2. Domain-specific framework of reference
   a. Domain-specific reference frame and intended learning outcomes for master's level educational programmes in the Neurosciences
   b. Domain-specific reference frame for master's level educational programmes in Psychology by the Dutch cluster of Psychology (Kamer Psychologie)
3. Research self-evaluation report 2017 and appendices
4. Overview of the staff involved in the research master's programme in 2017-2018
5. Supplementary documents Research Master Cognitive and Clinical Neuroscience
6. Follow-up of the 2015 NVAO recommendations
7. Schematic overview of the research master's programme 2018-2019 and 2019-2020
8. Assessment programme research master's programme 2017-2018
9. Intended learning outcomes (ILOs) of the research master's programme, their implementation in the curriculum and specifications per specialization
10. Information regarding student applications, admissions and registrations 2010-2018
11. Information regarding student re-registration, survival, and completion rates 2013-2017
12. CHOI report scores 2013-2017
13. Access and instructions to view the following RM CCN courses in the UM online learning environment EleUM:
    a. PSY4107 Advanced statistics II
    b. PSY4112 Research grant writing workshop
    c. PSY4235 Neuroimaging functional MRI
    d. PSY4252 Perception and attention
    e. PSY4819 Big data in drug discovery and development
    f. PSY4311 Introduction to molecular biochemical techniques
    g. PSY4317 Neuroimmunology and inflammation
    h. PSY4414 Neuropsychiatric disorders
    i. PSY4611 Psychology meet neuroscience meets economics
    j. PSY4712 Social neuroscience
    k. PSY4407 Brain damage
    l. PSY4417 Stress, the brain and depression
    m. PSY4519 Eating disorders
    n. PSY4513 Stress and trauma
14. Visitation programme
15. Hyperlinks to the Faculty of Psychology & Neuroscience (FPN) Faculty website AskPsy and the RM CCN webpage
16. Overview of admissions procedure and necessary documents
17. Introduction week 2019: schedule of incoming student activities
18. Overview of teaching hours per role
19. Faculty of Psychology and Neuroscience Teachers' Guide

20. Assessment
    a. Assessment plans for the selected courses listed above
    b. Assessment Policy FPN 2018-2019
    c. Guidelines and procedures for the appointment of examiners in the bachelor and master programmes at FPN
21. Board of Examiners
    a. Annual reports 2013-2014 through 2017-2018 (NL)
    b. Internal rules 2018-2019 (NL)
22. Examination and Education Regulation (EER)
23. Clinical and research internships
    a. Research proposal assessment form
    b. Assessment form and explanation of criteria for assessment of internship
    c. Assessment form and explanation of criteria for assessment of master thesis
24. Educational Programme Committee (EPC) meeting minutes 2017-2018 and 2018-2019
25. Alumni surveys
    a. FPN Alumni Survey2017
    b. Research Centre for Education and the Labour Market (ROA) Labour market outcomes for FPN graduates 2019
26. Hyperlinks to Maastricht University Well-being movement and Well-being week webpages 2018 and 2019
27. UM Strategic Programme 2017-2021 (EN and NL versions)
28. Hyperlink to Maastricht Student Journal of Psychology and Neuroscience
29. Writing skills: FPN Handbook writing skills 2018-2019
30. External institutions involved in supervising RMa final research projects in 2017-2018