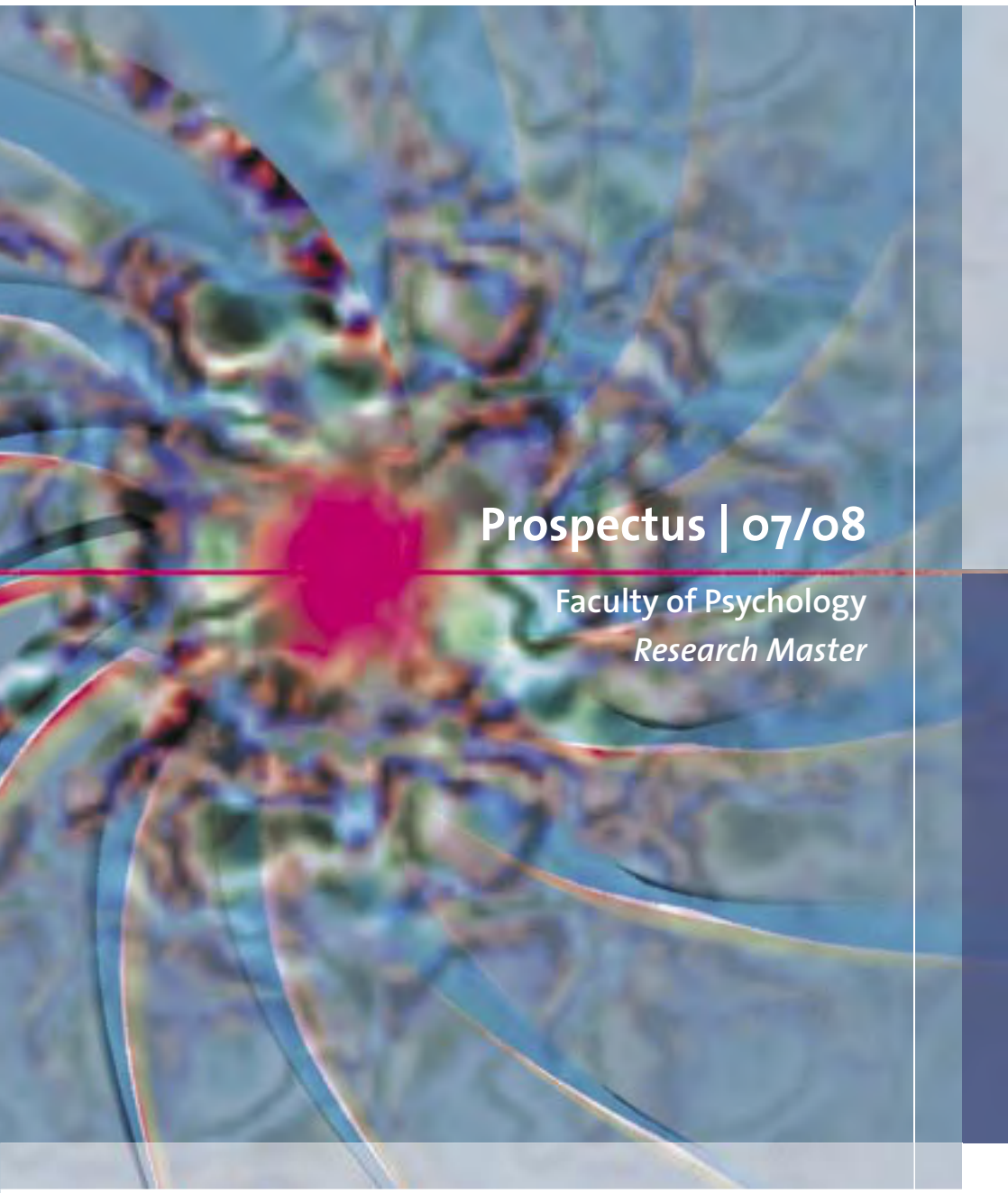
Universiteit Maastricht



Prospectus | 07/08

Faculty of Psychology

Research Master

Prospectus

Research Master in Cognitive Neuroscience, Neuropsychology and Psychopathology (MSc)

2007 • 2008

Universiteit Maastricht
P.O. Box 616 6200 MD Maastricht
The Netherlands

FACULTY OF PSYCHOLOGY (FdP) ***(Coordinating Faculty)***
FACULTY OF HEALTH, MEDICINE AND LIFE SCIENCES (FdHML)

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Timetable Research Master

Programme 2007-2008

	August						September					
week	**31**	**32**	**33**	**34**	**35**		**35**	**36**	**37**	**38**	**39**	
Mon		6	13	20	27			3	10	17	24	
Tue		7	14	21	28			4	11	18	25	
Wen	1	8	15	22	29			5	12	19	26	
Thu	2	9	16	23	30			6	13	20	27	
Fri	3	10	17	24	31			7	14	21	28	
Sat	4	11	18	25			1	8	15	22	29	
Sun	5	12	19	26			2	9	16	23	30	

	October						November					
week	**40**	**41**	**42**	**43**	**44**		**44**	**45**	**46**	**47**	**48**	
Mon	1	8	15	22	29			5	12	19	26	
Tue	2	9	16	23	30			6	13	20	27	
Wen	3	10	17	24	31			7	14	21	28	
Thu	4	11	18	25			1	8	15	22	29	
Fri	5	12	19	26			2	9	16	23	30	
Sat	6	13	20	27			3	10	17	24		
Sun	7	14	21	28			4	11	18	25		

	December						January					
week	**48**	**49**	**50**	**51**	**52**	**1**	**1**	**2**	**3**	**4**	**5**	
Mon		3	10	17	24	31		7	14	21	28	
Tue		4	11	18	25		1	8	15	22	29	
Wen		5	12	19	26		2	9	16	23	30	
Thu		6	13	20	27		3	10	17	24	31	
Fri		7	14	21	28		4	11	18	25		
Sat	1	8	15	22	29		5	12	19	26		
Sun	2	9	16	23	30		6	13	20	27		

	February					March						
week	**5**	**6**	**7**	**8**	**9**	**9**	**10**	**11**	**12**	**13**	**14**	
Mon		4	11	18	25		3	10	17	24	31	
Tue		5	12	19	26		4	11	18	25		
Wen		6	13	20	27		5	12	19	26		
Thu		7	14	21	28		6	13	20	27		
Fri	1	8	15	22	29		7	14	21	28		
Sat	2	9	16	23		1	8	15	22	29		
Sun	3	10	17	24		2	9	16	23	30		

	April					May					
week	**14**	**15**	**16**	**17**	**18**	**18**	**19**	**20**	**21**	**22**	
Mon		7	14	21	28		5	12	19	26	
Tue	1	8	15	22	29		6	13	20	27	
Wen	2	9	16	23	30		7	14	21	28	
Thu	3	10	17	24		1	8	15	22	29	
Fri	4	11	18	25		2	9	16	23	30	
Sat	5	12	19	26		3	10	17	24	31	
Sun	6	13	20	27		4	11	18	25		

	June						July					
week	**22**	**23**	**24**	**25**	**26**	**27**	**27**	**28**	**29**	**30**	**31**	
Mon		2	9	16	23	30		7	14	21	28	
Tue		3	10	17	24		1	8	15	22	29	
Wen		4	11	18	25		2	9	16	23	30	
Thu		5	12	19	26		3	10	17	24	31	
Fri		6	13	20	27		4	11	18	25		
Sat		7	14	21	28		5	12	19	26		
Sun	1	8	15	22	29		6	13	20	27		

Agenda

21-08 till 24-08: Inkom *(General Introduction week)*
03-09 till 07-09: Introduction week

24-12 till 04-01 Christmas Break, no lessons

04-02 till 08-02 Carnival, University closed
21-03 till 28-03 Easter Break, University closed

30-04 Queen's Birthday, University closed
01-5 till 02-05 Ascension, University closed
05-05 Liberation Day, University closed
12-05 White Monday, University closed

Table of Contents

Introductory Note

Central to our Faculty is the training of bachelor and master students in biological and cognitive psychology. Students will benefit from the comprehensiveness of our curriculum and will have ample opportunities to conduct research with faculty members who work on the cutting edge of their fields.

Our psychology curriculum consists of a three-year Bachelor programme and two separate Master's programmes. As far as the latter are concerned, the Regular Master's programme comprises several one-year tracks, while the Research Master consists of two-year tracks.

Tracks within the Regular Master focus on exciting themes that bear strong relevance to practical problems. In the field of applied cognitive psychology, these are: *Experimental Health Psychology, Psychology and Law, and Work & Organizational Psychology*. In the field of biological psychology, there are the following tracks: *Developmental Psychology, Cognitive Neuroscience, and Neuropsychology.*

The aim of the Research Master is to train students who want to pursue a career as a researcher. Within this master, three specializations are offered: *Cognitive Neuroscience, Neuropsychology and Psychopathology.*

This prospectus gives a detailed description of the various courses that form the building blocks of our Master's programmes. A brief summary of the main issues in each course is given, but also more practical information (e.g. books, course coordinators etc.). In addition, all the important dates are included, such as the beginning and the end of the academic year, holidays, courses, exams, and internships. Furthermore, the prospectus provides an overview of the organization of the faculty and the rules and regulations relating to exams. Finally, this prospectus may serve as a reference book for students and staff.

The faculty wishes all students a productive and academically inspiring year!

Maastricht, July, 2007
Prof. dr. Harald Merckelbach,
Dean of the Faculty of Psychology

For more information, go to: http://www.psychology.unimaas.nl/

Research Master at the Universiteit Maastricht

Research Master in Cognitive Neuroscience, Neuropsychology and Psychopathology

General

The two-year Research Master's (MSc) programme has specializations in *Cognitive Neuroscience, Neuropsychology, and Psychopathology*. This interfaculty programme (Faculty of Psychology; Faculty of Health, Medicine and Life Sciences) is designed for excellent students who want to continue their studies at a graduate school that prepares them for a career in the field of research. The programme is internationally oriented and all courses are given in English.

Students will become acquainted with the most important theories, models, techniques, and analytic methods in their respective specialization. At the same time, it is deemed of utmost importance to provide students with a stimulating scientific environment that will enable them to develop as independent thinkers with a broad curiosity in the various aspects of the multidisciplinary research domain. The curriculum enables students to gain knowledge of cutting-edge scientific models and theories, while at the same time acquiring experience in a variety of research methods. The programme stimulates scientific insight and a critical attitude through active participation in the form of discussions, presentations, and written papers. Scientific growth is further promoted by intensive contact and collaboration with senior researchers and PhD students from the affiliated research institutes.

The educational approach: Problem-Based Learning (PBL)

The choice for Maastricht as a place to study also means a choice for an educational approach quite different to what is offered elsewhere. In Maastricht, education is based on the Problem-Based Learning (PBL) method. This is generally distinguished by the following features:

1. Student -Centred
As opposed to other traditional educational approaches, Problem-Based Learning is not centered around the transfer of information from the lecturer to the student, but rather based on the learning process of the student. Not the lecturer, but the student is central.

2. Problems Form the Basis for Learning
Problems form the starting point for the learning process. Students discuss these problems in depth in small groups. These problems are formulated in such a way that students are led to pose all types of explanatory questions; e.g. how did the phenomenon presented come about? Based on this discussion, students formulate the subject matter to be studied.

3. Tutorial Groups
Instruction takes place in tutorial groups of approximately 10 members who meet once or twice weekly. Individual cases are studied during these meetings based on what has been taught in the courses. The tutorial groups are led by tutors who guide and monitor the learning process.

4. Self-motivation
The problem-based approach and group discussions stimulate students to acquire relevant knowledge, insight and skills relatively independently. This emphasis on self-motivation is a core feature of Problem-Based Learning (PBL).

Consequences for Learning Resources

This alternative educational method has numerous consequences for the way in which learning resources are applied by lecturers and students. Students are stimulated in problem-based learning to consult a variety of sources, in addition to the basic literature they have bought. These can be found in the Learning Resources Centre (more will be said about this in chapter 5). From the outset, it is important that students learn to deal with different and sometimes conflicting sources of information and learn to draw conclusions independently from these. An essential learning resource, mentioned below, is the course manual.

Course Manuals

Each course in problem-based education makes use of a course manual. This is put together by a team of lecturers and students, and comprises all essential information on the instruction for the course period; i.e. the person responsible for the course, what the course is about, what students need to know by the end of the course, skills taught during the course period, essential and recommended literature, and what lectures are given. The main part, however, consists of the problems or tasks. The course manual is always handed out to the students shortly before the course period starts. The data which are gathered from the evaluation of the tuition at the end of the course are used to improve the course manual for the following year.

Internationalisation

Internationalisation is one of the features of the study profile of Maastricht Universiteit. Developments in science take no notice of national borders; they are pre-eminently international in character. This certainly is the case for developments in Biological and Cognitive Psychology. It is therefore to be expected that a number of graduates will find employment on the international labor market. In order to prepare students for this, the Master's Programme will be conducted entirely in English and the opportunities for studying or doing an internship abroad will increase. Furthermore, renowned guest lecturers from abroad will be invited to see to certain parts of the programme.
The Faculty has started various exchange programmes during the past number of years, in which the exchange of students was the primary aim. A recent report of exchange programmes can be obtained from the Internationalization Office, Loes Mallee, Phone (043) 38 81920, 40 Universiteitssingel East, Room 5.749.

Organization of the Faculty of Psychology

The following gives a survey of the way in which the Faculty of Psychology is organized. The most important governing body is the Faculty Board. The Faculty is supported by a small staff which is located at 40 Universiteitssingel, where one will also find the logistical, organizational and administrative support systems for the education programme. The Educational Office is the first place to go for the many practical questions and issues.

As a rule, the lecturers are employed within the Faculty of Psychology, but sometimes in other faculties, e.g. the Faculties of Health Sciences and Medicine.

The education programme is located at:
- 40 Universiteitssingel (Uns 40),
- 50 Universiteitssingel (Uns 50),
- 5 Universiteitssingel (Uns 5) and
- 1 Debyeplein (Deb 1).

Faculty Board of the Faculty of Psychology

Composition

Chairperson:	Harald Merckelbach (Dean), portfolio holder general affairs, extensions, personnel, emancipation affairs, internal and external relations, ICT, accommodation, Phone (043) 38 81945, 40 Universiteitssingel East, Room 5.735.
Members:	Rainer Goebel, Vice-dean for research, Phone (043) 38 84014, 40 Universiteitssingel East, Room 4.753.
	Arie van der Lugt, Vice-dean for education. Phone (043) 38 82347, 40 Universiteitssingel East, Room 2.732.
Student Members:	Jasper Habets (ID 155098);
	André de Zutter (ID 297607).
Secretary:	Ed Sprokkel (Director Faculty Office). Phone (043) 38 82174, 40 Universiteitssingel East, Room 5.735.
Director of Studies:	Nico Metaal, Phone (043) 38 84514, 40 Universiteitssingel East, Room 3.732a.
Director of Research:	Peter de Weerd, Phone (043) 38 84513, 40 Universiteitssingel East, Room 4.754.

Psychology Council

Composition

Administrative and support staff-member:	Ellen Blaauw, Phone (043) 38 84002, 40 Universiteitssingel East, Room 5.765
Staff-members:	Saskia van Bergen, Phone (043) 38 84536, 40 Universiteitssingel East, Room 3.771;
	Marieke Kools, Phone (043) 38 82475, 5 Universiteitssingel, Room 2.019;
	Anton de Vries, Phone (043) 38 84043, 40 Universiteitssingel East, Room 4.765;
	Elke Smeets, Phone (043) 38 84325, 40 Universiteitssingel East, Room 3.753;

Student members: Niels Ballemans (ID338664);
Thomas Meyer (ID 281123);
Sare Azizpor Faridan (ID 222909);
Carsten Bours (ID 346233);
Marjolein de Nooijer (ID 356859).
Professional Secretary: Ed Sprokkel, Phone (043) 38 82174, 40 Universiteitssingel East, Room 5.735.

The Faculty of Psychology

The Faculty of Psychology has four departments and a Faculty Office, including the Educational Office. The departments are Clinical Psychological Science, Cognitive Neuroscience, Neuropsychology and Psychopharmacology, and Work and Social Psychology. Roughly 180 people are employed in the Faculty of Psychology.

The Psychology Faculty Office

The Faculty Office supports the activities of the Faculty Board and the Faculty Council, but also the Computer Resource Centre, Research and Internationalisation.

Commissions Supporting the Educational Programme of the Research Master

Research Master Coordinator

Coordinator: Bernadette Jansma, Cognitive Neuroscience, Phone (043) 38 81934, 40 Universiteitssingel East, Room 4.742, E-mail: b.jansma@psychology.unimaas.nl
Tasks: The Coordinator is responsible for the organisation and coordination of the activities connected with the execution of the entire course and examination programme.

Track Coordinators

Cognitive Neuroscience Coordinator: Alex Sack, Cognitive Neuroscience, Phone (043) 38 84267, 40 Universiteitssingel East, Room 4.765, E-mail: a.sack@psychology.unimaas.nl

Neuropsychology Coordinator: Jan Ramaekers, Neuropsychology & Psychopharmacology, Phone (043) 38 81951, 40 Universiteitssingel East, Room 2.736, E-mail: j.ramaekers@psychology.unimaas.nl

Psychopathology Coordinator: Nancy Nicolson, Psychiatry and Neuropsychology, Phone (043) 36 88684, Vijverdal, Room SN2.068, E-mail: n.nicolson@sp.unimaas.nl

Research Master Office

Sabine Filla, Communication Officer, Phone (043) 38 81747, 40 Universiteitssingel East, Room 4.753, E-mail: sabine.filla@psychology.unimaas.nl

Board of Examiners

Chairperson: Hans Stauder, Cognitive Neuroscience, Phone (043) 38 81933, 40 Universiteitssingel East, Room 4.736; Tasks: Responsible for the execution of the education and examination regulations. This Committee also deals with requests for exemptions and related issues.

Board of Admission

Chairperson: Hans Stauder, Cognitive Neuroscience, Phone (043) 38 81933, 40 Universiteitssingel East, Room 4.736; Task: Reviewing the applications for the Research Master Programme.

Education Office

Head: Irma Kokx, Phone (043) 38 81883, 40 Universiteitssingel East, Room 5.777.
Tasks: Day-to-day coordination of the further development of the curriculum, with a view to bringing the different parts of the programme into alignment with one another, both organisationally and content-wise. This means that the Head of the Education Office is the person to whom students can direct their remarks about the programme and obtain information on educational matters. This includes all questions about registration for having completed a course or a practical training as well as the organisation of courses and practical training. In other words, all administrative matters concerning the Psychology Programme are lodged with the appropriate members of staff in the Education Office. Questions and observations about compensation regulations, exemptions and other matters are to be directed to the chairperson of the Board of Examiners.

Discount on Books

It is possible to purchase study books at a discount through the Faculty association, 'Luna-tik'. To qualify for this, you have to be a member (costs of membership is € 25, - for the full duration of your study). The telephone number for 'Luna-tik' is (043) 38 81957.
It is based at 40 Universiteitssingel East, Room 1.765. The postal address is:
Faculty Association Luna-tik, Faculty of Psychology, P.O. Box 616, 6200 MD Maastricht.

1

The Curriculum

The curriculum includes theoretical courses, colloquia, skill trainings, and workshops followed throughout Year 1 and the beginning of Year 2. These ensure that students acquire a broad intellectual foundation before choosing a research topic for the remainder of the programme. Core courses form the backbone of the chosen specialization. Trends-in-Cognitive Neuroscience/Neuropsychology /Psychopathology courses consist of lectures and feedback seminars. In order to broaden overall knowledge of this rapidly developing interdisciplinary field, students follow the two "Trends" courses outside their chosen specialization. Colloquia are designed to integrate topics that are of general interest to the domain of biopsychology and psychopathology. The colloquia are open to all students, thus fostering interdisciplinary interaction. During the colloquia, researchers from each of the three specializations give lectures and lead group discussions. Skill trainings provide students with the necessary practical knowledge for research in experimental and applied settings, whereas specialized workshops provide the necessary foundation for conducting the master's thesis research and advanced skills for a future scientific career.

The Research Master (MSc) programme is equivalent to 120 European credits.

Core courses

In the core courses students become acquainted with the most important theories, models, techniques, and analytic methods in the domains of Cognitive Neuroscience, Neuropsychology and Psychopathology. The courses are given in a problem-based learning (PBL) or seminar format. Under the guidance of an experienced faculty member, students meet in groups for in-depth discussion of current research issues pertinent to the central theme of the course, based on assigned readings of cutting-edge articles. Course credits (2 to 4 credits per course, depending on its length) and grades are assigned on the basis of assessments that may include participation, written papers and/or presentations or exams.
The Advanced Statistics course (4 credits) is shared by all 3 specializations. It consists of a mixture of lectures, hands-on training, and student-centered meetings, designed to acquaint the student with the most important advanced methods with widespread research applications. The final grade is based on a multiple-choice format exam.

Trends-in courses

The Trends-in courses consist of seven lectures, each followed by a feedback seminar one week later. During the interactive feedback seminars, the lecturer leads students in a discussion of the topics covered in the lecture as well as in the assigned literature. To facilitate this process, students prepare questions or discussion topics and submit them to the lecturer prior to the feedback seminar. Students are required to follow the two Trends-in courses outside their own specialization. These courses will familiarize students with key issues in the three specializations, as reported in high-ranking journals in the field. Course credits (2 credits for each of the two required Trends-in courses) are assigned (pass/fail) on the basis of attendance and the submitted discussion topics.

Colloquia

Weekly colloquia are presented by UM faculty and by visiting guest lecturers from abroad. The colloquia focus in depth on one of a wide range of topics, with issues transcending the courses and even the specializations. This will be attained through a lecture followed by active discussions with senior experts and fellow students. The discussion will be prepared and chaired by the colloquium coordinator or the lecturer. Each specialization will present up to 10 colloquia. A total of 5 course credits are assigned (pass/fail) at the end of the first year on the basis of 3 criteria: attendance, writing assignment of a research proposal within a chosen lecture topic, and a peer review of one of the fellow students' proposals. The format of the colloquia aim to foster interdisciplinary knowledge and interaction among students of different specializations and interests. In addition, the writing of proposals and peer reviewing are relevant scientific tasks. The assignments thus offer valuable practice in this context.

Skills Trainings

Skill trainings provide the necessary hands-on experience for research in experimental and applied settings. For Neuropsychology and Psychopathology tracks, training in basic clinical skills is also part of the programme. Each training extends over 4 or 8 weeks, depending on the topic. Some skill trainings will be given to students of multiple specializations. Course credits (1 to 2 credits per training) will be assigned on the basis of attendance and practical exercises.

Workshops

The M&T workshops provide both the necessary basis for conducting the master's thesis research and advanced skills for a future scientific career. The teaching format varies depending on the topic of the workshop. Methodological and technical workshops such as Signal Analysis will emphasize hands-on experience and practical aspects. Some workshops will be mandatory for all specializations, some will be shared by two tracks, and some will be track-specific. Course credits (1 to 2 credits per workshop) are assigned on the basis of attendance and either exams or practical exercises.

Research internship and Master's thesis

In year 2, from week 9 onwards, students spend most of their time on the preparation and execution of their research project and their master's thesis. Students from all three specializations conduct their own research project and thereafter report it in the form of a master's thesis. Course credits will be assigned on the basis of both the research conducted as well as the thesis. The final grade is based on the thesis. For students who do not complete a clinical internship and minor's thesis (see below), the master's research and thesis will be assigned 50 credits.

For practical information about organizing international research internships, contact Loes Mallee, Bureau Internationalisering (Internationalisation Office)
e-mail: l.mallee@psychology.unimaas.nl;
tel. 38 81920; 40 Universiteitssingel East, Room 5.749.

Clinical internship and Minor's thesis

Students specialising in *Psychopathology* are required to conduct a 13-week clinical internship in an approved setting. The clinical internship can be conducted in conjunction with the research internship or separately. Students are required to submit an additional research proposal and scientific report (the minor's thesis), based on client/patient-based investigations performed during the clinical internship. Students following the *Neuropsychology* specialization may also electively choose to do a clinical internship and minor's thesis as an elective. For all students who are either required or choose to do a clinical internship, the minor's internship and thesis will be assigned 20 credits and the master's internship and thesis 30 credits.

Mentor

Students in the Research Master will have regular interactions with a mentor, who guides the learning process and supervises the personal growth of the student. Close monitoring of student performance and progression will help ensure that students complete the master's programme on schedule.

The mentor also fulfills a supportive role. For instance, if students have either academic or non-academic problems, they should in principle be able to approach their mentor to discuss the issue and together look for a solution.

During the introductory week of the first year, each student is assigned to a senior researcher of a student's specialization as faculty mentor to evaluate progress and identify potential problems. Students will plan a schedule for meetings with their mentors. Meetings are to take place at least once a month and are generally short (about 30 minutes or less). The student needs to inform the mentor in advance about issues that are to be discussed during the meeting.

2

Specialisation Cognitive Neuroscience

The specialisation in Cognitive Neuroscience provides students with an extensive and in-depth theoretical background on all the hot topics of neuroimaging and brain research. The conceptual range includes core courses on perception and attention, as well as on somatosensory and motor processes. Additional topics include higher cognitive functions such as language comprehension and production, self-monitoring, and mental imagery. The Cognitive Neuroscience group is known for combining content and methodology to improve answers obtained and questions asked in current and future neuroscientific research. Students are provided with the unique opportunity to be trained in all essential research methods of Cognitive Neuroscience. Maastricht University has its own 3-Tesla MRI research scanner and hosts fully equipped EEG as well as TMS laboratories. Students thus gain a thorough understanding of the theoretical background of these most advanced techniques for imaging, recording and manipulating neuronal activation in the human brain. In addition, they acquire hands-on experience in how to operate and use these techniques in the context of empirical neuroscience.

Cognitive Neuroscience Coordinator:
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Phone (043) 38 84267,
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E-mail: a.sack@psychology.unimaas.nl

Colloquia Coordinator:
Joel Reithler, Cognitive Neuroscience,
Phone (043) 38 81896,
40 Universiteitssingel East, Room 4.761,
E-mail: j.reithler@psychology.unimaas.nl

2.1 Trends-in courses

402 CN Trends-in Neuropsychology – 2 Credits
Coordinator: Jan Ramaekers, Neuropsychology & Psychopharmacology,
Phone (043) 38 81951, 40 Universiteitssingel East, Room 2.736,
E-mail: j.ramaekers@psychology.unimaas.nl

Neuropsychology focuses on the relationship between brain and behaviour. The so-called brain-behaviour relationships are addressed in children, adolescents, and adult patient populations. In addition, in the context of psychopharmacology biological mechanisms are studied which pertain to neurotransmitters, hormones and drugs acting upon cognitive function and behaviour. An integrated series of lectures will be presented that includes most aspects of basic and applied neuroscience. The Trends-in-Neuropsychology lectures will provide students with a broad overview of the multidisciplinary research field of Neuropsychology. Presented topics will include the neuropsychology of neurological and psychiatric disorders, cognitive aging and development, motor action and executive control, and pharmacological models of cognitive dysfunction.

403 CN Trends-in Psychopathology – 2 Credits
Coordinator: Arnoud Arntz, Clinical Psychological Science, Phone (043) 38 81606,
Universiteitssingel 50, Room 1.308, E-mail: arnoud.arntz@mp.unimaas.nl

Psychopathology investigates mental health problems from a psychological perspective, also addressing biological and sociological issues. This course begins by considering the question of what distinguishes abnormal from normal behaviour, then focuses the discussion on current trends and unresolved issues in this field, with sessions organised according to the major disorder clusters. The final lecture and discussion will go beyond mental illness to consider what constitutes mental health and happiness.

2.2 Core courses

411 CN Neural Correlates of Selection in Language Processing – 4 Credits
Coordinator: Bernadette M. Jansma, Cognitive Neuroscience, Phone 38 81934,
40 Universiteitssingel East, Room 4.742, E-mail: b.jansma@psychology.unimaas.nl

Every minute we make a choice for an appropriate interpretation of sounds and words, as well as a decision to use the right words at the right moment. This choice is one of our special skills that we continuously apply, mostly automatic. Whereas there are some ideas about how this choice, i.e. the selection of relevant information, takes place

in visual processing not much is known about the neural correlates of selection during listening, reading, and speaking.
In the last few years, cognitive neuroscience research on auditory and speech perception revealed insights in how our brain prepares for speaking and how it listens to and understands others. This course aims to develop basic and advanced knowledge about the human auditory and speech system. In addition, students will learn how to apply selection mechanisms known from the visual system to language processing. Next to bottom-up processes we will also address top-down processes, i.e. how the human mind can manipulate auditory perception or how it generates speech from intentions and thoughts. We will also address the link between perception and production in terms of speech monitoring, as well as cross modal integration between vision and audition, as integration seems to be crucial in enhancing processing efficiency.

The objective of this course is to provide:
- knowledge of the basic neural principles of auditory and speech processing
- knowledge of cognitive models of auditory and speech segregation, perception, and higher order language processing
- critical thinking with regard to recent and ongoing research in the domain of auditory/speech processing including event-related potential (ERP) and fMRI studies
- knowledge on how to draw analogies from visual domain to auditory/language research.

Literature
Various journal articles and book chapters – to be announced.

Parallel skills training/workshop
Event-related potential (ERP)
Coordinator: Ellen Jongen (e.jongen@psychology.unimaas.nl).
In the ERP skills training, students will acquire hands on experience with the design, analysis, measurement and interpretation of results in ERPs of cognitive functions (see description 'Skills training: ERP').

Instructional Approach
Lectures and tutorial group meetings, practical sessions in the parallel-running skills training "ERP".

Assessment Form
Written exam with open questions

412 CN Perception and Attention – 4 Credits

Coordinator: Peter De Weerd, Cognitive Neuroscience, Phone (043) 38 845 13,
40 Universiteitssingel East, Room 4.754, E-mail: p.deweerd@psychology.unimaas.nl

The objective of the course is to present current neuro-cognitive theories and experimental methods in the field of visual attention. Background information on the visual system's organisation will also be covered.

Vision is a complex cognitive process, which provides us with a richer stream of information than any other sense. Primate visual cortex is composed of at least 30 highly interconnected functionally specialized regions. The regions where visual information first enters the cortex are called early visual areas. Neurons in these areas have relatively simple properties, and their relatively small receptive fields are arranged to form retinotopic maps of the environment on the cortex. Higher level visual processing occurs in a ventral and dorsal stream, each of which is composed of regions specialized for representation of more complex visual content (including motion, faces and places). This network of functionally specialized perceptual regions can adapt to the task the organism is faced with. This is the case, for example, when looking for someone in a crowd, attending to one face at a time. There are different kinds of attention, but attention can be generally described as involving some type of selection of information. When the attentional selection of information is accompanied by a behaviour (such as an eye-movement towards an interesting stimulus), attention is called 'overt'. However, there are also internal, covert forms of attention that do not require motor activity. Attention can be voluntary (controlled, top-down) or involuntary (automatic, bottom-up). Furthermore, attention can be directed to locations in space or to objects, or to features within objects.

In this course, neural mechanisms underlying these various types of attention will be studied. We will focus on recent neuroscientific research in visual perception and attention involving different empirical methods including psychophysics, neurophysiology, functional brain imaging, and evoked potentials, with an emphasis on neurophysiology.

Literature
Various journal articles and book chapters – to be announced.

Practical Training
There are separate fMRI and EEG practica organised within the research master (see separate descriptions of those practica)

Instructional Approach
There will be group discussions and lectures

Form of Assessment
Written exam with open questions

413 CN Neuroimaging – 4 Credits

Coordinator: Elia Formisano, Cognitive Neuroscience, Phone (043) 38 84040,
40 Universiteitssingel East, Room 4.738, E-mail: e.formisano@psychology.unimaas.nl

The investigation of human brain functions using a range of imaging methods represents the most influential development in Cognitive Neuroscience in the last years. You will learn essential facts about all major brain mapping techniques, including scalp-recorded Electroencephalography (EEG) and Magnetoencephalography (MEG), transcranial magnetic stimulation (TMS), Positron Emission Tomography (PET) and functional Magnetic Resonance Imaging (fMRI). Each of these methods provides a picture of the brain at a different spatial and temporal scale and has unique strengths and weaknesses.

In this course we will focus on fMRI. FMRI presents clear advantages over the other methods particularly in terms of increased spatial resolution. Since its invention in 1992, fMRI has led to major advances in understanding the neural mechanisms that underlie higher levels of human mental activity and has established a strong link between cognitive psychology and neuroscientific research. Whereas in the other courses of the Cognitive Neuroimaging program you are confronted with several applications of fMRI in specific cognitive domains (visual perception and attention, sensorimotor integration, auditory perception), during Brain imaging methods you will gain a deeper knowledge of fundamental and methodological aspects of fMRI.

The tasks will address questions such as: How can the fMRI signal be related to neural activity? How are functional images obtained with an MRI scanner? What do I need for doing a good fMRI measurement? How are "activation maps" created? Some of the tasks are directly linked to the practical part of the course and are intended to provide the necessary theoretical framework for the design, analysis, measurement and interpretation of results in fMRI investigations. Practical sessions on data acquisition and/or analysis of fMRI data of cognitive functions such as auditory and visual processing as well as mental imagery will be integrated in the group meetings.

Literature
Various journal articles and book chapters – to be announced

Parallel skills training/workshop
Functional Magnetic Resonance imaging ("fMRI")
Coordinator(s): Elia Formisano (e.formisano@psychology.unimaas.nl), Alard Roebroeck (a.roebroeck@psychology.unimaas.nl).
In the fMRI skills training, students will acquire hands on experience with the design, analysis, measurement and interpretation of results in fMRI of cognitive functions (see description 'Skills training: fMRI').

Instructional Approach
Practicals, lectures, and tutorial group meetings will be integrated

Form of Assessment
Written exam with open questions

414 CN The Cognitive Neuroscience of Sensory and Motor Systems – 4 Credits

Coordinator: Alard Roebroeck, Cognitive Neuroscience, Phone (043) 38 84039,
40 Universiteitssingel East, Room 4.749, E-mail: a.roebroeck@psychology.unimaas.nl

Most of the things we do every day (riding a bicycle, typing a summary, drinking a cup of coffee) require the continuous interaction of brain systems that serve sensory perception and systems that control our muscles. In other words, most of the things we do require sensorimotor integration. In this course we will study a couple of important aspects of sensorimotor integration in the brain, particularly in the context of visual perception. Since sensory perception (visual as well as auditory) is covered extensively in other courses, we will focus mainly on the motor system and the transformation and processing of sensory information to serve motor control. We start with basic processes such as: types of motor control (since visual perception takes a little time, how should you use past information to control future actions?), the representations used by primary and secondary motor areas (what is the parameter that is under ultimate control: muscle contractions, joint angles, or whole movements?) and coordinate transformations (how do you get from visual information, coded relative to the point you are looking at, to motor commands that are coded relative to your body or the object you are grasping?). Later, we will focus on higher level issues such as motor learning, predicting the actions of others, and reacting to errors in performance. All topics will be discussed in the context of cognitive neuroscience research to learn how these topics can be investigated both with classical behavioural experiments as also with modern techniques such as functional Magnetic Resonance Imaging.

Literature
Various journal articles and book chapters – to be announced

Parallel skills training/workshop
Functional Magnetic Resonance Imaging ("fMRI")
Coordinator(s): Elia Formisano (e.formisano@psychology.unimaas.nl), Alard Roebroeck (a.roebroeck@psychology.unimaas.nl).
In the fMRI skills training, students will acquire hands on experience with the design, analysis, measurement and interpretation of results in fMRI of cognitive functions (see description 'Skills training: fMRI').

Instructional Approach
Lectures and tutorial group meetings, practical sessions in the parallel-running skills training "fMRI"

Form of Assessment
Written exam with open questions

415 CN Advanced fMRI – 3 Credits

Coordinator: Rainer Goebel, Cognitive Neuroscience, Phone (043) 38 84014,
40 Universiteitssingel East, Room 4.753, E-mail: r.goebel@psychology.unimaas.nl

Building on the course "Neuroimaging", this course will examine advanced topics of fMRI methodology and applications. In the first week, models of the BOLD response and its relation to neural activity will be discussed. In the second week, real-time fMRI and neurofeedback studies will be addressed. In neurofeedback studies, subjects see their own brain activity from selected brain regions during an ongoing measurement. The visualized brain activity allows subjects to learn to control (modulate) the fMRI signal level in the selected regions-of-interest. Implications of neurofeedback for basic research questions as well as potential clinical applications will be discussed. In the third week, details of deconvolution analysis for rapid event-related paradigms will be presented. Procedures to optimize stimulus presentation and limitations of rapid designs (nonlinearities) will be discussed. In the fourth week, advanced methods to establish correspondence between brains of different subjects are examined. The importance of brain normalization for random-effects statistical analysis, creation of probabilistic atlases and meta-analyses will be discussed.

The objective of this course is to provide:
- knowledge of recent models about the relationship between neural activity and the BOLD fMRI signal
- knowledge on how to read, analyze and visualize fMRI brain signals in real-time during an ongoing experiment
- possibilities and limitations of fMRI-based neurofeedback
- technical principles on how to simultaneously scan multiple subjects and implications for social fMRI studies
- detailed knowledge of deconvolution analysis for rapid event-related paradigms and approaches to generate optimal experimental designs
- knowledge of advanced methods of brain normalization and its importance for improved random-effects group analyses

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Practicals, lectures, and tutorial group meetings will be integrated

Form of Assessment
Presentation of an advanced fMRI method or application
Written exam with open questions

416 CN Magnetic Brain Stimulation (TMS) – 3 Credits

Coordinator: Alex Sack, Cognitive Neuroscience, Phone (043) 38 84267,
40 Universiteitssingel East, Room 4.765, E-mail: a.sack@psychology.unimaas.nl

Since the very beginning of experimental brain research it has always been a dream of neuroscientists to not only watch the brain at work, but actually change and modulate the neuronal activity in the brain without harming patient or subject.
With the aim of Transcranial Magnetic Stimulation (TMS) we are now actually able to non-invasively reach into the scull of a patient or healthy subject and to temporarily alter brain activity at a specific location and a specific moment in time. This possibility opens the door to a wide range of experimental and clinical applications.
In combination with methods of functional imaging, we can now not only passively measure the brain activity during the execution of a particular function, but moreover use TMS to increase or decrease the neuronal activity in the task-related brain area in order to reveal the behavioural changes in the actual task performance. This enables us to experimentally identify those brain areas that are functionally relevant to perform a particular function. In a clinical context, TMS has also been used to treat neurological and psychiatric diseases that are accompanied by a pathologically increased or decreased activity in a specific brain region. Since TMS offers the possibility to increase or decrease neuronal activity even beyond the stimulation itself, it might in the future become a powerful therapeutic tool to help treating diseases like depression or schizophrenia

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written exam with open questions

417 CN Tracking the time-course of cortical processing using MEG and EEG – 3 Credits

Coordinator: Milene Bonte, Cognitive Neuroscience, Phone (043) 38 84036,
40 Universiteitssingel East, Room 4.777, E-mail: m.bonte@psychology.unimaas.nl;

Cognitive neuroscientists nowadays have the choice to use a range of different imaging methods to investigate human brain functions. Each of these methods has its own strengths and limitations, which have to be taken into account when investigating a particular research question. Both magnetoencephalography (MEG) and electroencephalography (EEG) have been important in characterizing the time course of neural systems involved in different aspects of perceptual and cognitive processes including those related to auditory and visual perception, attention, language, memory

and development. MEG and EEG reflect complementary aspects of brain activity with an advantage of MEG over EEG in the localisation of underlying neural sources.

This course intends to provide detailed knowledge on MEG and EEG that have clear advantage over the other methods in terms of temporal resolution. We will combine practical experience in designing MEG/EEG experiments, MEG/EEG data acquisition, and data analysis with detailed literature discussions on theoretical and methodological issues in MEG/EEG research. Inspired by different types of experimental questions we will discuss a range of available methods for advanced EEG/MEG analysis, including analysis in the time and frequency domains, source localization, the combination of EEG/MEG and fMRI data, independent component analysis and dynamic imaging of coherent sources.

Literature
Various journal articles and book chapters – to be announced

Parallel skills training/workshop
Multi-methodological approaches workshop
Coordinator(s): Milene Bonte (m.bonte@psychology.unimaas.nl), others to be announced
This workshop will provide an introduction to practical and theoretical issues related to the combination of EEG/MEG and fMRI in neuroscience research (see description 'Workshop: multi-methodological approaches').

Instructional Approach
Lectures, tutorial group meetings and practical sessions.

Form of Assessment
Written exam with open questions

418 CN The Auditory System – 3 Credits

Course coordinator: Francesco di Salle, Cognitive Neuroscience, Phone (043) 38 84038, 40 Universiteitssingel East, Room 4.759, E-mail: francesco.disalle@psychology.unimaas.nl

This advanced course will provide in-depth knowledge on the auditory system and will discuss latest developments in the field of auditory processing. The exact focus will thus be influenced by most current research, but possible topics include:

The issue of gradient noise in functional Magnetic Resonance Imaging (fMRI) experiments investigating the auditory cortex. Gradient noise is a major problem in the functional analysis of the auditory system. It is one of the reasons why relatively little is known about the auditory system compared to the visual system. However, progress in the effectiveness of active attenuation of gradient noise seems promising in reducing this problem.

- It is known for some time now that the auditory cortex is organized tonotopically. However, why the auditory cortex is organized in this way, and why there are multiple tonotopic maps in the auditory cortex, remains largely unknown.
- Besides tonotopy, a second organizational dimension of the auditory cortex can be expected. What is this dimension? Amplitude and bandwidth seem to be good candidates, but other possibilities such as pitch and latency can not be fully excluded yet either. New developments in the field of fMRI might be able to provide an answer to this question.
- How are music and rhythm processed in the brain? And why are they so important to humans? This question becomes even more interesting when considering the universal importance of music, and its link to, e.g., dance and speech.
- After the early visual areas, visual stimuli are processed in two different pathways. Features concerning 'what' are processed in the ventral stream, whereas features concerning 'where' are processed in the dorsal stream. Is this segregation also present in the auditory system? Evidence supporting and disproving this idea will be discussed.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
A presentation and a review article on one of the topics discussed in the course

419 CN Neural Correlates of Consciousness – 3 Credits

Coordinator: Rob de Vries, Cognitive Neuroscience, Phone (043) 38 81894,
40 Universiteitssingel East, Room 4.767, E-mail: r.devries@psychology.unimaas.nl

Consciousness research is a booming business nowadays. During the nineties of the twentieth century, consciousness experienced a revival in science. Theoretical and experimental psychologists and neuroscientists did empirical research revealing new aspects of the conscious mind. Split brain research, blindsight, the experimental discovery of the ' What and the where system' in visual perception were the first impulses to a new science of consciousness as were Kornhuber's and Libet's experiments on consciousness, free will and the readiness potential.

Many scientists who are involved in research into consciousness nowadays are optimistic about solving the mysteries of consciousness. Philosophers have a more detached attitude. They are less euphoric than most scientists about the progress of scientific research in this area. In his book The Conscious Mind: In search of a Fundamental Theory, the philosopher and mathematician David J. Chalmers distinguishes two types of problems: simple and difficult problems. The distinction

itself is trivial and yet illuminating. Simple problems are those questions that appear to deal with consciousness but are reformulated in such terms as: "How does the brain process external stimuli?" "How does the brain integrate incoming information into a whole?" "How does introspective and retrospective reporting of our inner psyche occur, and how reliable is it?" "What are the cognitive effects of hard and soft drugs on our cognitive functioning?" and "What factors influence the content of our dream reporting?" (Note that this does not mean that the simple problems are not sufficiently difficult to solve.) Difficult questions are, for example: "Why do the above mentioned information processing and information production involve conscious experiences?" "Do conscious experiences play a causal part in our actions and our mental life, and if so, what part do they play?" and "How can a physical system create such a 'thing' as conscious experience?"

This course reflects the above mentioned division. It is about the minimal problem every science of consciousness has to answer: What are the neuronal correlates of consciousness? And what does the finding of those neuronal correlates tell us about the solution of the difficult problem. The first question is a scientific one. The second is still a philosophical question. The course will assess the neurocognitive ins and outs of the binding problem. We will look into the proposed neuronal correlates of Bernard Baars global workspace theory of consciousness and into Victor Lamme's theory of feedforward and recurrent processes as neuronal correlate of consciousness. But we won't eschew to pose the 'difficult' questions in this course: the philosophical ones. We will discuss the significance of the whole enterprise. We will ask ourselves question as: do we know more now about our consciousness than before? Will the things we learnt help us to solve the difficult problem? If so, how? If not, is that a problem?

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Tutorial group meetings and lectures

Form of Assessment
Written exam with open questions and a paper.

420 CN Advanced Statistics – 4 Credits

Coordinator: Gerard van Breukelen, Methodology and Statistics, Phone (043) 38 84001, 40 Universiteitssingel East, Room 5.743, E-mail: gerard.vbreukelen@stat.unimaas.nl

Throughout the course, the General Linear Model will serve as a continuous thread. During the first five days, participants will be given an in-depth training in standard statistical methods such as factorial ANOVA for between- and within-subject designs, multivariate ANOVA, discriminant analysis, and multiple regression. Prescience of two-way factorial ANOVA and multiple regression at the bachelor level of, say Psychology

or Health Sciences at Maastricht University, will be presumed and these methods will be briefly reviewed. The following advanced topics will furthermore be covered in these five days: unbalanced factorial designs, covariates, contrast analysis in ANOVA, interaction, nonlinearity and dummy coding in regression, collinearity and residuals checks, data transformation, multivariate ANOVA and discriminant analysis. Five other course days give an introduction to two advanced methods of analysis that become increasingly important to psychology: mixed (multilevel) linear regression for nested designs and longitudinal studies, and structural equations modeling (SEM, sometimes called LISREL). Finally, the important topic of optimal design and sample size is introduced in a one-day training.

Literature
For each course day we will use the handout of the lecture plus a suitable book chapter or article. Details of these will be given in time on Blackboard.
Fox (1997) and Kleinbaum (1998) give a fair impression of the content and level of the first course half.

References
Fox, J. (1997). Applied regression analysis, linear models, and related methods. Thousand Oaks (CA): SAGE.
Kleinbaum, D.G., Kupper, L.L., Muller, K.E., & Nizam, A. (1998). Applied regression analysis and other multivariable methods. 3rd ed. Pacific Grove (CA): Brooks/Cole.

Instructional Approach
Each meeting starts with a lecture (2 hours), followed by self-tuition (2 hours) in the morning. Each afternoon some computer exercises will be done, followed by a plenary discussion session. Participants are supposed to prepare themselves for each session by reading the handout or literature. Staff will vary between, but not within weeks, so it will always be clear whom to address for technical questions. General issues can be discussed with the course coordinator.

Form of Assessment
Open-book multiple-choice exam will consist of questions resembling the exercises (general theory, some elementary computations, interpretation of computer output).

511 CN Neurocognition of Literacy and Numeracy – 3 Credits

Coordinator: Leo Blomert, Cognitive Neuroscience, Phone (043) 38 81949,
40 Universiteitssingel East, Room 4.748, E-mail: l.blomert@psychology.unimaas.nl

Learning to read and write is an indispensable skill in literate societies. It is therefore surprising that research into the brain mechanisms enabling literacy acquisition has hardly started. It is even more surprising if we consider that 4% of the population suffers from a specific problem in learning to read and write, despite a normal intelligence. This state of affairs may be contributed to the fact that learning to read

and write and the failure thereof have been perceived for a long time as an educational and not a neurocognitive problem. But the deeper reason may be that our brains are evolutionary not prepared for learning a written language. Our brains are probably for a large part hardwired for perceiving and producing speech. Since written language connects symbols (letters) to speech sounds, it is tentative to assume that written language skills develop by building on the already established spoken language system. Development of numeracy may be an even more indispensable skill in our technological society. Again surprisingly brain research in this area of neurocognition has only very recently started. Although learning arithmetic may look as artificial as learning to read it has in fact a different evolutionary background. Animals possess basic numeracy skills, so our brains may have available basic numeracy networks, but it is as yet unclear how they contribute to the development of arithmetic and math skills. The course will focus on brain studies of literacy development and failure, e.g., developmental dyslexia and on the development of numeracy skills and failure, i.e., developmental dyscalculia.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Lectures and tutorial group meetings will be integrated

Form of Assessment
Written exam with open questions

512 CN Modeling – 3 Credits

Coordinator: Eric Postma, Informatica/Institute for Knowledge and Agent Technology, 6 Tongersestraat, Room 1.002,Phone (043) 38 83493, E-mail: postma@cs.unimaas.nl

In present day cognitive neuroscience, psychological experiments generate large amounts of data on processes in the brain. Since the brain is a very complex dynamical system, the interpretation of these data is far from trivial. This course provides students with the basic modelling skills to induce or create models from psychological data acquired in behavioural experiments using EEG or fMRI.

The course starts with an overview of dynamical systems that can be interpreted as models of brain functioning. Examples of such models are: connectionist (or PDP) models, attractor networks, self-organizing feature maps, synfire networks, and liquid-state machines (a.k.a. echo-state networks). The latter models exhibit complex brain-like dynamics that can be read out using trainable classifiers (e.g., perceptrons).

The remainder of the course covers pre-processing, unsupervised, and supervised techniques for the analysis and the automatic classification of brain data. The main pre-processing techniques treated are Fourier transforms and multi-scale wavelet

transforms. The unsupervised techniques covered range from principal component analysis to Gaussian mixtures. The supervised learning techniques include neural networks and support vector machines.

Throughout the course, the relations between techniques and known brain mechanisms are explained. Wherever possible, the techniques are related to well-known principles in cognitive neuroscience to facilitate the understanding of the underlying principles. For instance, in the practical sessions, students learn to generate V1-like receptive-field responses from natural images, analyze oscillatory and synchronization properties of interconnected systems of integrate-and-fire neurons, generate topographical "similarity" mappings akin to cortical maps, and train classifiers to perform coordinate transforms similar to those obtained in parietal systems. In addition, students get acquainted with a wide variety of analysis and learning techniques by applying them to real EEG or fMRI data.

At the end of the course, students perform an individual analysis and/or classification study, preferably of relevance to ongoing research. The results are reported in a brief scientific paper.

Prerequisites
Some experience with basic mathematics is helpful. Completion of Matlab skills training.

Literature
Various journal articles – to be announced

Parallel skills training/workshop
Modelling skills
Coordinator(s): Eric Postma (postma@cs.unimaas.nl), others to be announced.
In the modelling skills training, students learn to induce models from data using unsupervised and supervised learning and analysis algorithms. All exercises are performed in Matlab.

Instructional Approach
Lectures and tutorial group meetings, practical sessions in the parallel-running skills training

Form of Assessment
Written exam with open questions and a written report on a practical assignment

2.3 Skills trainings

421 CN ERP – 2 Credits

Coordinator: Ellen Jongen, Cognitive Neuroscience, Phone (043) 38 84525, 40 Universiteitssingel East, Room 3.737, E-mail: e.jongen@psychology.unimaas.nl

The aim of this training is to give the students hands-on experience with the experimental design, acquisition and analysis of EEG/ERP experiments. First, students will be introduced into the possibilities and limitations of EEG and ERP research: how to set up a proper experimental paradigm, and how to interpret the resulting data. Furthermore, students receive a general introduction into basic signal analysis, and into some specific analyses of EEG and ERP (artefact management, spectral analysis, filtering, ERP averaging, etc.). After that, there will be a hands-on training in smaller groups in running an ERP experiment, including electrode application, minimizing artifacts, and hygiene and safety in the lab. A simple paradigm will be used that gives reliable results even for a single subject. Data processing will include various EEG analyses that are commonly used, e.g., analyses in the time and frequency domain. Each group will report (also to each other) and discuss their findings.

Literature
Handbook - to be announced
Various journal articles – to be announced

Practical
Practical sessions for EEG measurement and data analysis

Instructional Approach
Lecture(s) (ERP and basics of signal processing), tutorial groups (study the literature), a lab-session (measurement), and computer-sessions (analysis).

Form of Assessment
Short report (2-4 pages) in abbreviated article-form

422 CN FMRI – 2 Credits

Coordinators: Elia Formisano, Cognitive Neuroscience, Phone (043) 38 84040, 40 Universiteitssingel East, Room 4.738, E-mail: e.formisano@psychology.unimaas.nl; Alard Roebroeck, Cognitive Neuroscience, Phone (043) 38 84039, 40 Universiteitssingel East, Room 4.749, E-mail: a.roebroeck@psychology.unimaas.nl

The primary goal is to get hands-on experience with the experimental design, acquisition and analysis of functional Magnetic Resonance Imaging (fMRI) experiments. Students get a general experimental question/hypothesis, which should be suitably refined to be testable in an fMRI experiment. They will then design and

prepare the experiment. Their designs and experimental setups will be discussed. One/two designs will be actually implemented and scanned. Students engage in the statistical analysis of the scanned datasets. Help and prior preparation, especially in the implementation stage (stimulus programming) and data analysis stage (preparation of data in usable format for analysis in BrainVoyager QX), will be provided by tutors. The tutorial/practicum groups will be left free to test a different hypothesis, and conduct different types of analysis. Each group will report (also to each other) and discuss their findings.

Literature
Functional MRI: An introduction to Methods. (2002) P. Jezzard and S.M. Smith (Eds). Oxford University Press
Additional papers (to be assigned)

Instructional Approach
Tutorial groups (design the studies), lab-sessions (scanning), and computer-sessions (analysis). Some additional work outside the sessions is expected

Form of Assessment
Short report (4-6 pages) in abbreviated article-form

423 CN Neuroanatomy – 1 Credit

Coordinator: Jos Prickaerts, Neuropsychology & Psychopharmacology,
Phone (043) 38 81026, 40 Universiteitssingel, Room 2.737,
E-mail: j.prickaerts@psychology.unimaas.nl

The aim of the training is to become acquainted with the neuroanatomical terminology and to gain insight into the spatial and functional organisation of the brain. It is essential to have a basic knowledge of the brain anatomy when working in the field of neuropsychology or neurobiology. Many specific brain areas can be linked to particular functions. Thus, knowledge of the brain anatomy and its main functions allows one to directly link specific neurological or psychiatric disorders to particular brain areas. After a short theoretical introduction the students will study whole brains and brain material of mammals at both macroscopical (visual inspection) and microscopical level. The emphasis will be on major brain systems including the basal ganglia and limbic system.

Instructional Approach
Almost exclusively practical: dissection of sheep brain, studying of microscopical slices of rat brain, working with plastic human brain models, CD-ROM programs and textbook.

Form of Assessment
Written exam consisting of at least six open questions

424 CN Matlab – 1 Credit

Coordinator: Alard Roebroeck, Cognitive Neuroscience, Phone (043) 38 84039,
40 Universiteitssingel East, Room 4.749, E-mail: a.roebroeck@psychology.unimaas.nl

Matlab is a powerful environment for numerical computation, data analysis and visualization. It is, in essence, a programming language that has built in primitives for common scientific tasks that require many operations in other languages, such as C or Pascal. Examples are tasks such as matrix algebra (used in statistical analysis of data), Fourier transforms (used in signal processing), or 2D or 3D plots for visualization of data or analysis-results. Many complete packages for the analysis of cognitive neuroimaging data (e.g., fMRI data or EEG/MEG data) are implemented in Matlab. Thus, usage of these packages requires at least a basic understanding of Matlab. Furthermore, if more advanced analysis or visualization is needed that is not offered by existing packages, developing such new functionality in Matlab is often the most convenient option. A brief recap of matrix algebra and decompositions serves as an introduction to how Matlab primarily represent and processes data: as matrices. Subsequently, we study in detail the usage of the environment: the prompt, the workspace, getting help, loading and saving data, writing and running m-files (Matlab programs). The most important basic operations, such as filtering data and fitting regression models, will be treated. Finally, the possibilities and usage of extension packages and toolboxes, such as the signal processing toolbox, SPM, and EEG-lab, are discussed.

Instructional Approach
Lectures, computer sessions combined in an interactive format

Form of Assessment
Programming exercises throughout the training

425 CN Presentation – 1 Credit

Coordinator: Heidi Koppenhagen, Cognitive Neuroscience, Phone (043) 38 84507,
40 Universiteitssingel East, Room 4.731, E-mail: h.koppenhagen@psychology.unimaas.nl

Presentation is a stimulus delivery and experimental control system for neuroimaging and behavioural research. Presentation does not require high programming skills and offers a very friendly way of designing a test paradigm. Whether you are planning to do behavioural research or physiological research measuring fMRI, EEG, MEG or single neuron recording, Presentation is able to present, control and register your stimuli in synchrony with your measuring device. During the training you will learn to program your own experiment in PCL-language using both visual and auditory stimuli that will be presented randomly. Additionally, the same experiment will be programmed differently to run a) an fMRI experiment and b) an EEG experiment. Having finished this training you will be able to test your own research ideas in reality.

Literature
Handouts with exercises

Instructional Approach
Computer sessions

Form of Assessment
Programming exercises throughout the training

426 CN & 427 CN Basic Scientific Programming in C and C++ I and II – 1 Credit (each)

Coordinator: Alard Roebroeck, Cognitive Neuroscience, Phone (043) 38 84039,
40 Universiteitssingel East, Room 4.749, E-mail: a.roebroeck@psychology.unimaas.nl

Basic programming skills are an important asset in a scientific environment, even if the development of programs for fMRI or EEG data-processing is not one of the objectives. Many of the programs that are used in scientific research (stimulus programs, data-conversion routines, statistical analysis packages) allow or require writing scripts, batch-code or other high-level programs that control their operation. In this skills-training the objective is to get acquainted with programming in high-level languages in general, and with the syntax of C/C++ in specific. The emphasis will be on constructs, idioms, and algorithms that can be used to solve frequently occurring tasks or problems. Upon completion of this training student will have a basic understanding of: i) syntactic constructs particularly in C++ (variables, control flow structures, functions, classes), ii) common idioms, algorithms and design patterns used to solve simple but common software engineering problems, and iii) made acquaintance with some interesting and relevant applications of programming (e.g., Graphical User Interface (GUI) programming, 3D visualization in OpenGL, creating plugins for Brain Voyager QX, a major fMRI data analysis package).

Literature
Essential C++. (1999) S. Lippman. Addison Wesley.
Other literature - to be announced

Instructional Approach
Lectures, computer sessions, and 'pen-and-paper' exercises combined in an interactive format

Form of Assessment
Programming exercises and 'pen-and-paper' problems throughout the training

521 CN Diffusion Weighted Imaging and Fiber Tracking – 1 Credit

Coordinator: Alard Roebroeck, Cognitive Neuroscience, Phone (043) 38 84039,
40 Universiteitssingel East, Room 4.749, E-mail: a.roebroeck@psychology.unimaas.nl

Diffusion weighted imaging and fiber tracking are a set of techniques that use the Magnetic Resonance (MR) scanner to probe fiber-bundles that connect different regions of the brain. Thus, instead of the cerebral grey matter, it is the white matter that is the object of study. The connections between brain-regions are the substrate of the interaction and communication between different brain systems. Thus, knowledge about the anatomy of these anatomical connections is of great importance to cognitive neuroscientists. The anatomy of fiber-tracts is imaged indirectly, by measuring the diffusion of water in the brain. Water diffuses more easily parallel to the direction of surrounding axon-bundles, than perpendicular to it. Thus, by measuring the direction of local diffusion of water, we can infer something about the trajectories of fiber-bundles. After completing this training, the student will have knowledge of i) how the MR scanner can be made sensitive to directed diffusion of water and how the resulting diffusion weighted images can be processed, ii) different models for local water diffusion within a voxel, along with useful quantities that can be derived from them, iii) fiber tracking or tractography: how to get from local models of water diffusion to measures of global connectivity between brain regions. Furthermore, the student will get hands-on experience in analyzing and visualizing actual diffusion weighted MR-data, and in using tractography algorithms and assessing the results.

Literature
Handouts
Various journal articles - to be announced

Instructional Approach
Lectures and computer sessions, combined in an interactive format

Form of Assessment
Analysis exercises throughout the training

522 CN Data Management – 1 Credit

Coordinator: Arjan Blokland, Neuropsychology & Psychopharmacology,
Phone (043) 388 1903, 40 Universiteitssingel East, Room 2.731,
E-mail: a.blokland@psychology.unimaas.nl

The aim of this skills training is to acquire basis skills in data management. After doing your scientific research, data have to be prepared for data analysis. Usually, the format of the data acquisition software does not match the requirements of sophisticated statistical software packages (e.g., SPSS or SAS). In this Skill training students will be familiarized with the software package Excel. This program has many features that can be very helpful to overcome time-consuming formatting of data bases. First, an

introduction of the basic features of Excel will be presented. Being familiar with these basic aspects is necessary to understand copying of values and formulas (relative or absolute). Also, Excel enables you to make various types of graphs which can be very helpful in making a quick outlook on your data. A fourth aspect that will be dealt with is pivot tables, which is a very helpful tool to organise your data in any manner you find most suitable for your further data handling. A final option that will be dealt with is the use of macro's. These are especially helpful when repetitious changes in layout or recalculatioons have to be made.

Instructional Approach
There will be group meetings in which direct demonstrations are given via PC/beamer. Students may provide the instructor data to be used as examples

Form of Assessment
Written Assignment

2.4 M&T workshops

431 CN Real Time fMRI and Neurofeedback – 1 Credit

Coordinator: Rainer Goebel, Cognitive Neuroscience, Phone (043) 38 84014,
40 Universiteitssingel East, Room 4.753, E-mail: r.goebel@psychology.unimaas.nl

Recent progress in computer hard- and software allows the real-time analysis of fMRI data providing the basis for "neurofeedback" experiments. In such experiments, subjects see their own brain activity from selected brain regions while they are measured in the scanner. Neurofeedback is thus a way to create a "Brain-Computer Interface" (BCI), which offers interesting basic and clinical applications. Neurofeedback is performed by reading, analyzing and visualizing the fMRI brain signals in real-time during an ongoing experiment. This real-time approach is in contrast to the standard analysis approach in which the huge amount of incoming fMRI signals are recorded first and analyzed hours or days after the experiment.

Neurofeedback applications are discussed, which have shown that with sufficient practice, subjects are indeed able to learn to modulate the brain signals in many brain areas to low and high levels as well as to intermediate signal level intensities. These results are very important for basic neuroscience research because they allow to study the degree to which the brain can modulate its own activity and to potentially unravel the function of hitherto unknown brain areas. Neurofeedback research also touches on deep philosophical issues, such as the neural correlates of free will. It might also be possible in the future to help people with pain or depression by regulating at will the activity in brain areas involved in pain perception or depression.

This workshop provides a thorough introduction in the principles of real-time fMRI as well as practical neurofeedback sessions using the 3T Allegra scanner. The practical sessions allow studying the role of the hemodynamic delay which makes it difficult to learn to modulate brain activity at the beginning of neurofeedback training because the brain signals measured with fMRI follow the mental activity with a delay of four to six seconds.

Prerequisite
Completion of the core course on fMRI

Literature
A reference list of some of the literature cited in the lecture will be made available (in print)

Instructional Approach
Two days: One day introductory lectures and one practical session

Form of Assessment
Mini-Review of 2 pages on a topic touched upon in the lectures

433 CN Methods of Deactivation – 1 Credit

Coordinators: Peter de Weerd, Cognitive Neuroscience, Phone (043) 38 84513, 40 Universiteitssingel East, Room 4.754, E-mail: p.deweerd@psychology.unimaas.nl; Alex Sack, Cognitive Neuroscience, Phone (043) 38 84267, 40 Universiteitssingel East, Room 4.765, E-mail: a.sack@psychology.unimaas.nl

The objective of the workshop is to present a number of lesion methods that are used in current neurocognitive research.

Current neurocognitive research in both animal models and humans places a heavy emphasis on the demonstration of physiological correlates of cognitive performance. The correlation between a functional measure of brain activity and behaviour, however, does not in any way imply a causal or direct relationship between both. To show the behavioural relevance of activity in a given brain region, the contribution of that brain region should be blocked and the effect of this block on cognitive behaviour should be assessed.

There are a variety of ways in which activity in a brain region can be prevented or influenced. Some studies use anatomical lesion methods (in animals), while others use reversible methods such as cooling, and pharmacological or genetic manipulations in animals, or transcranial magnetic stimulation (TMS) in human subjects.

The workshop will start with a lecture that gives an overview of different methodologies, which will include a discussion of the advantages and limitations of the

different techniques, and issues related to data interpretation. Two other lectures will provide examples of studies using anatomical lesions in monkeys, and TMS in humans.

Literature
A reference list of some of the literature cited in the lecture will be made available (in print)

Instructional Approach
Lectures followed by discussion

Form of Assessment
Mini-Review of 2 pages on a topic touched upon in the lectures

434 CN Multi-methodological Approaches – 1 Credit

Workshop coordinator(s): Milene Bonte, Cognitive Neuroscience, Phone (043) 38 84036, 40 Universiteitssingel East, Room 4.777, E-mail: m.bonte@psychology.unimaas.nl; N.N.

Perceptual and cognitive functions rely on the serial and/or parallel activation of multiple distributed brain areas. Hemodynamic measures (fMRI and PET) provide detailed information on the spatial location of these activated areas, whereas neurophysiological measures (EEG and MEG) can be used to follow the time-course of this activation with millisecond precision. Many research laboratories are currently working on combining the advantages of these different techniques. Although this is an obvious and crucial step in cognitive neuroscience, its additional value depends on a careful consideration of many theoretical and practical issues.

During the first part of this workshop we will use a standard auditory paradigm to measure MEG and fMRI data in separate sessions in the same subject. During the second part we will analyze both data sets and discuss theoretical and practical issues related to the combination of EEG/MEG and fMRI in neuroscience research.

Instructional Approach
Practical sessions.

Prerequisite
Completion of the core courses on fMRI and EEG/MEG

435 CN & 436 CN Signal Analysis I & II – 2 Credits (each)

Coordinator: Fabrizio Esposito, Cognitive Neuroscience,
E-mail: fabrizio.esposito@psychology.unimaas.nl

Traditional and advanced statistics provide essential knowledge and tools for the correct formulation of scientific inferences and to summarize a research work.

Nonetheless, modern techniques in neuroscience research have strongly enriched the amount of information that is possible to extract and analyze from experimental data, especially because of the improved spatial and temporal resolution of the acquisition methods. Most of the new information can be recovered by including in the statistical modeling the "signal" structure of the data, generally due to the physical dimensions of data, time and space. The two "Signal Analysis" courses introduce the practical implementation of the traditional and latest research approaches to time and space signal analysis in the context of neuroscience research.

The first course (Signal Analysis I) is focused on time series analysis from one- and multi-dimensional data, with special emphasis to image time-series processing. The basics of discrete time and space signal acquisition and modeling are presented and discussed in their practical neuroscience applications. The course has the objective to provide the participants with operational understanding of the classical signal analysis techniques like pre-processing, analysis in the frequency, time and amplitude domains, Fourier series, Fourier Transform and FFT, spectral analysis, auto- and cross-correlation analysis, convolution and deconvolution analysis. Practical demonstrations from real world data will reinforce concepts introduced in the lectures, and concise mathematical tutorials will be provided to simplify further readings from the technical literature.

The second course (Signal Analysis II) will introduce the participants to emerging advanced signal analysis techniques, including multivariate component-based analysis and multiresolution wavelet-based time and space signal processing. Lab sessions will be organised to encourage participants to actively try out the discussed methods with appropriate software tools and sample data. The participants will also be welcome to discuss with the instructor different applications of the course methods and how to run the tools on their own data.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Lectures and tutorial group meetings with integrated practical sessions

Form of Assessment
Written exam with open questions

531 CN Protocol Writing – 2 Credits

Coordinator: Herman Schaalma, Work and Social Psychology, Phone (043) 38 84329, 5 Universiteitssingel, Room 3.001, E-mail: h.schaalma@psychology.unimaas.nl

During this course, students will be familiarized with the different phases of writing scientific protocols and research reports. In advance of their upcoming master's thesis, they will learn to define and crystallize a research question based on its feasibility and

scientific relevance; to prepare and structure their arguments and to plan the different parts of the paper; to think about suitable designs and research methods for data acquisition and analysis, and, finally, to learn how to walk through the writing process starting from draft to the final version. This all will be accomplished by competence-based learning in which they have to integrate factual knowledge (from the literature) into skill-based practice (by exercise).

Instructional Approach
A combination of introductory lectures, literature meetings and practical sessions

Form of Assessment
Written research proposal

2.5 Schedule Cognitive Neuroscience

	YEAR 1
1 week	Introduction Week
7 weeks	**Trends-in** Neuropsychology & **Trends-in** Psyhopathology (2 credits each) **Core Courses**: Perception and Attention (4 credits) & Neural Correlates of Selection in Language Processing (4 credits) **Skills Training**: ERP (2 credits) **Colloquia** (5 credits)
7 weeks	**Trends-in** Neuropsychology & **Trends-in** Psychopathology **Core Courses:** Neuroimaging (4 credits) & Sensory and Motor Systems (4 credits) **Skills Training:** fMRI (2 credits) **Colloquia**
Christmas break	
4 weeks	**Core Course:** Advanced fMRI (3 credits) & Advanced Statistics (4 credits) **Workshop:** Real-time fMRI and Neurofeedback (1 credit) **Skills Training:** Neuroanatomy (1 credit) **Colloquia**
4 weeks	**Core Course:** Magnetic Brain Stimulation (3 credits) & Advances Statistics **Workshop:** Methods of Deactivation (1 credit) **Skills Training:** Matlab (1 credit) **Colloquia**
4 weeks	**Core Course**: Tracking the time-course of cortical processing using MEG and EEG (3 credits) & Advanced Statistics **Workshop**: Multi-methodological Approaches (1 credit) **Skills Training**: Presentation (1 credit) **Colloquia**

4 weeks	**Core Course**: Monitoring of (Verbal) Action (3 credits) **Workshop**: Signal Analysis I (2 credits) **Skills Training**: C++ I (1 credit) **Colloquia**
4 weeks	**Core Course**: Neural Correlates of Consciousness (3 credits) **Workshop**: Signal Analysis II (2 credits) **Skills Training**: C++ II (1 credit) **Colloquia**
	YEAR 2
4 weeks	**Core Course**: Neurocognition of Literacy and Numeracy (3 credits) **Workshop**: Protocol Writing (2 credits) **Skills Training**: Diffusion Weighted Imaging and Fiber Tracking (1 credit)
4 weeks	**Core Course**: Modeling (3 credits) **Workshop**: Protocol Writing **Skills Training**: Data Management (1 credit)
32 weeks	**Research Internship** & Master's Thesis (50 credits)

402 CN & 403 CN - **Trends-in courses**: 10th September-10th December **2007**
404 CN - **Colloquia**: 14th September 2007- 13th June **2008**

Core Courses

411 CN - Neural Correlates of Selection in Language **2007**
Processing: 10th September- 26th October
412 CN - Perception & Attention: 10th September- 26th October
413 CN - Neuroimaging: 29th October- 14th December
414 CN - Sensory & Motor Systems: 29th October- 14th December
415 CN - Advanced fMRI: 7th January- 31st January **2008**
416 CN - Magnetic Brain Stimulation: 11th February- 6th March
417 CN - EEG & MEG: 10th March- 10th April
418 CN - The Auditory System: 14th April – 15th May
419 CN - Neural Correlates of Consciousness: 19th May- 19th June
420 CN - Advanced Statistics: 7th January – 10th April
511 CN - Neurocognition of Literacy and Numeracy: 3rd September- 27th September
512 CN - Modeling: 1st October – 25th October

Skills Trainings

421 CN - ERP: 13th September- 18th October **2007**
422 CN - fMRI: 2nd November- 7th December
423 CN - Neuroanatomy: 10th January- 1st February **2008**
424 CN - Matlab: 15th February – 7th March
425 CN - Presentation: 13th March- 10th April
426 CN - C++ I: 18th April- 16th May
427 CN - C++ II: 23rd May- 13th June

521 CN - Diffusion Weighted Imaging and Fiber Tracking: 7th September- 28th September
522 CN - Data Management: 5th October- 26th October

Workshops

431 CN - Real-time fMRI and Neurofeedback: 22nd January- 29th January **2008**
433 CN - Methods of Deactivation: 12th February- 4th March
434 CN - Multi-methodological Approaches: 11th March- 8th April
435 CN - Signal Analysis I: 22nd April- 7th May
436 CN - Signal Analysis II: 20th May-4th June
531 CN - Protocol Writing: 5th September- 24th October

3

Specialisation Neuropsychology

The specialisation in Neuropsychology focuses on the relationship between brain and behaviour. In this perspective, behaviour is a broadly defined term and includes cognitive functions (e.g., memory, language, perception, planning, and psychomotor functions) as well as affective functions. These so-called 'brain-behaviour' relationships are addressed on a continuum ranging from 'normal' to 'deviant' in children, adolescents and patient populations. Neurological (e.g., Parkinson disease) and psychiatric disorders (e.g., ADHD, schizophrenia, dementia) will be studied thoroughly. In addition, in the context of psychopharmacology, biological mechanisms are studied which pertain to neurotransmitters, hormones, and drugs that act upon cognitive function and behaviour. Central is the relation between manipulating brain neurochemistry by means of psychoactive substances and cognitive function, in animal and human models. An integrated programme will be presented that includes most aspects of basic and applied neuroscience. Students will have the opportunity to work in a multidisciplinary team consisting of psychologists, biologists and psychiatrists.

Neuropsychology Coordinator:
Jan Ramaekers, Neuropsychology & Psychopharmacology,
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E-mail: j.ramaekers@psychology.unimaas.nl

Colloquia Coordinator:
Eef Theunissen, Neuropsychology & Psychopharmacology,
Phone (043) 38 81940,
40 Universiteitssingel East, Room 2.735,
E-mail: e.theunissen@psychology.unimaas.nl

3.1 Trends-in courses

401 NP Trends-in Cognitive Neuroscience – 2 Credits

Coordinator: Alex Sack, Cognitive Neuroscience, Phone (043) 38 84267,
40 Universiteitssingel East, Room 4.765, E-mail: a.sack@psychology.unimaas.nl

Cognitive neuroimaging is an entirely new research field that originally emerged from a combination of traditional sciences such as philosophy, psychology, medicine, and biology that all investigate the principles of perception, behaviour and cognition from different perspectives. As technical developments of different methods and tools in the field of cognitive neuroimaging came forth, and as theoretical application of different mathematical and computer science-based models were used to explain neuronal functioning, additional disciplines, such as physics, mathematics, bioengineering, and computer science materialized as an important part of this research field. Subsequently, an effective research project in Cognitive Neuroscience requires an interdisciplinary cooperation.

This Trends-in course will provide students with a broad overview over the general research approaches, methods and techniques as well as applications in the field of Cognitive Neuroscience. Presented and discussed topics will range from neuronal bases of perception, attention and mental imagery, language and self-monitoring, as well as clinical investigations of dyslexia.

403 NP Trends-in Psychopathology – 2 Credits

Coordinator: Arnoud Arntz, Clinical Psychological Science, Tel. (043) 38 81606,
50 Universiteitssingel, Room 1.308, Email: arnoud.arntz@mp.unimaas.nl

Psychopathology investigates mental health problems from a psychological perspective, also addressing biological and sociological issues. This course begins by considering the question of what distinguishes abnormal from normal behaviour, then focuses the discussion on current trends and unresolved issues in this field, with sessions organised according to the major disorder clusters. The final lecture and discussion will go beyond mental illness to consider what constitutes mental health and happiness.

3.2 Core courses

441 NP Brain Damage – 4 Credits

Coordinator: Martin van Boxtel, Neuropsychology & Psychopharmacology,
50 Universiteitssingel, Room 1.105, Phone (043) 38 81028,
E-mail: martin.vanboxtel@np.unimaas.nl

This course aims to provide the student with knowledge of brain-behaviour relations by examining the disturbances in psychological functioning that occur in connection with brain injury. The goal in the end is that the students gain insight into the taxonomy of the most important neuropsychological syndromes. The functional disturbances that occur following focal damages in the different parts of the cerebral cortex, connective tissues, and in the limbic and other subcortical brain parts will be examined. The emphasis is on gaining insight into mechanisms. The course starts with a discussion of the general effects of brain injury and the different causes of brain injury. Thereafter, the general and specific dysfunctions with regard to psychological functioning are discussed in connection with injury at the level of the brain stem, diencephalon, and ascending fiber system. Dysfunctions after injury in the posterior neocortex are examined next in relation to perception, spatial orientation, and language. Dysfunctions after injury in the anterior neocortex are discussed in connection to changes in the planning and steering functions. Memory disturbances and affective functions are considered in relation to injuries to the limbic system. Upon completion of this course, the student will have an overview of the functional brain anatomy, brain physiology, and the specific relation between brain structure and psychological functioning. The student is also then familiar with the mechanisms that provide the basis for brain plasticity and regeneration and with the key principles underlying functional recovery after brain injury.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written exam with open questions

442 NP Behavioural Disorders – 4 Credits

Coordinator: Dymphie Scholtissen-In de Braek, Neuropsychology & Psychopharmacology, 12 Dr. Tanslaan, Room 4.G3.049, Tel. (043) 38 72445, E-mail: d.indebraek@np.unimaas.nl

This course is intended to impart knowledge about the cognitive dysfunctions that accompany severe neuropsychiatric and neurological disorders and to provide insight into the biological mechanisms and intervention possibilities for these disorders. The course is concerned with the changes in psychological functioning that occur in connection with a number of frequently occurring brain disorders. The intention is to gain insight into the characteristic manifestations of behavioural problems and cognitive functional disturbances along with the brain and behavioural mechanisms that lie at the foundation of these. The emphasis in this course is on the problems associated with such neuropsychiatric phenomena as schizophrenia, compulsive

symptoms, epilepsy, and mood disorders. The neuropsychiatric problems associated with a number of the neurological phenomena important for psychologists will also be considered. Attention will be paid to the psychological problems associated with cerebrovascular disturbances and light brain trauma. With respect to the mechanisms that lie at the basis of behavioural and cognitive disorders, both the relevant biological and psychological factors will be considered.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written exam with open questions

443 NP Arousal, Attention, and Psychopharmacology – 4 Credits

Coordinator: Annemiek Vermeeren, Neuropsychology & Psychopharmacology,
Phone (043) 38 81952, 40 Universiteitssingel East, Room 2.738,
E-mail: a.vermeeren@psychology.unimaas.nl

This course focuses on the role of arousal in cognitive and psychomotor performance. Arousal is an important concept in various fields of psychology that is closely linked to other concepts such as activation, alertness, attention, stress and motivation. In performance theories arousal is often thought of as the amount of energy or attentional capacity a person has available to work with. Research in this area is concerned with questions like: how much arousal or attentional capacity is needed to properly think or act? When and why may these energetic resources be insufficient, will errors be made and will accidents occur? What are the effects of drugs, sleep deprivation, circadian rhythm, noise and heat on performance? Are the effects dependent on task characteristics such as stimulus quality, cognitive load, response complexity and duration?

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written exam with open questions

444 NP Cognitive Aging – 4 Credits

Coordinator: Pascal van Gerven, Neuropsychology & Psychopharmacology,
Phone (043) 38 84512, 40 Universiteitssingel East, room 2.742,
E-mail: p.vangerven@psychology.unimaas.nl

This course will cover a broad range of topics in the field of cognitive aging. A thorough understanding of normal cognitive aging is considered essential before issues in abnormal aging can be considered. Essential questions are: What is cognitive aging? What neurobiological and cognitive mechanisms determine whether a person ages pathologically, normally, or successfully? How can this aging process be influenced? Students will critically reflect on essential theories, state-of-the-art research, established research methods, and clinical interventions to address these questions. Themes will be physical (somatic) aging, brain aging (biological perspective), cognitive aging (behavioral perspective), pathological aging (mild cognitive impairment, dementias, Alzheimer's disease, Parkinson's disease), interventional strategies (e.g. cognitive training), and methodological issues in aging research.

Literature
An e-reader will be provided. The course will not be accompanied by a textbook, but useful reference books will be recommended in the course manual.

Instructional Approach
Tutorial meetings and lectures

Form of Assessment
Written exam with open questions

445 NP Biopsychology – 3 Credits

Coordinator: Jos Prickaerts, Neuropsychology & Psychopharmacology,
Phone (043) 38 81026, 40 Universiteitssingel, Room 2.737,
E-mail: j.prickaerts@psychology.unimaas.nl

This course provides an in depth description of biopsychological concepts which have been presented in the bachelor program in the first and third year. It will cover elements from functional neuroanatomy, neurophysiology and psychopharmacology, as applied to brain and behaviour research. Major emphasis will be on the macro- and microanatomy of the brain, neurochemical and neurobiological mechanisms related to neurotransmission, hormones and drug action. With respect to 'function', an elaboration will be given of processes underlying sexual behaviour, affective behaviour, motivated behaviour and cognitive processes.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written assignment

446 NP Brain, Learning, and Memory – 3 Credits

Coordinator: Arjan Blokland, Neuropsychology & Psychopharmacology,
Phone (043) 388 1903, 40 Universiteitssingel East, Room 2.731,
E-mail: a.blokland@psychology.unimaas.nl

There has been a rapid increase in our understanding of the basic mechanisms underlying the consolidation of new information, and its later retrieval. Both data from preclinical research in animal models and in preclinical human models and neuroimaging experiments will be used in this course, together with seminal experiments in patients. Recent theories and experimental data help describe to the student how a multidimensional view of learning and memory can help elucidate the relevant mechanisms both in terms of biology and cognition. Also, the influence of drugs and circumstances which lead to decreased efficiency of information processing are discussed in depth.

Literature
Various recent journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written assignment and presentation

447 NP Executive Functions and Control of Action – 3 Credits

Coordinator: Eric Vuurman, Neuropsychology & Psychopharmacology,
Phone (043) 38 81046, 40 Universiteitssingel East, Room 2.747,
E-mail: e.vuurman@psychology.unimaas.nl

The course presents multidisciplinary information from experimental psychology, neuropsychology, cognitive neuroscience and related disciplines. Various techniques and theoretical models are presented and evaluated, and the neuroscientific basis of the behavioural and cognitive functions is discussed. A key element in our current understanding of behavioural organisation is cognitive control. At present, a redefinition of related concepts (such as inhibition, working memory and executive functioning) is taking place, based on insights from cognitive neuroscience. Throughout the course, emphasis will be on mechanisms of attention, working memory, cognitive

shifting, preparation for action, sensorimotor integration, behavioural planning, and monitoring. Various experimental approaches are evaluated.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach

Small lectures and tutorial group meetings

Form of Assessment
Written assignment

448 NP Neuropsychiatric Disorders – 3 Credits

Coordinator: Bart Scholtissen, Neuropsychology & Psychopharmacology.
Phone (043) 38 84100, 12 Dr. Tanslaan, Room 4.E3.007,
E-mail: b.scholtissen@np.unimaas.nl

The course covers main findings and controversies related to neuropsychiatric disorders with emphasis on brain mechanisms, behavioural and cognitive dysfunction. Both measures used to evaluate biological variables, techniques relevant for assessment of behavioural and cognitive problems are presented. Disorders on the interface between neuropsychiatry and cognitive/behavioural neurology are discussed in aspects of diagnostics and classification. Theories related to dysfunctional brain structures and their relations are presented, with an emphasis on circuits in which prefrontal and temporal structures participate. Dysfunctions on the level of neurotransmitter are presented as well as neuroimaging methods (PET, SPECT, fMRI) used to evaluate changes in metabolism.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written assignment

449 NP Neuropsychopharmacology – 3 Credits

Coordinator: Jan Ramaekers, Neuropsychology & Psychopharmacology,
Phone (043) 38 81951, 40 Universiteitssingel East, Room 2.736,
E-mail: j.ramaekers@psychology.unimaas.nl

This course addresses the influence of drugs upon normal functioning and disease states. Neurobiological and neurochemical mechanisms are presented with the

aim to deepen the insight into the various mechanisms of drug action. Major drug classes are reviewed which are used frequently in the treatment of mental disorders and neurological disease, but also other classes of drugs which have side-effects on the central nervous system. Other topics in this course are pharmaco-epidemiology, pharmaco-fMRI, experimental designs used in treatment studies, drugs of abuse, and recreational drugs.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written assignment

450 NP Advanced Statistics – 4 Credits

Coordinator: Gerard van Breukelen, Methodology and Statistics,
Phone (043) 38 84001, 40 Universiteitssingel East, Room 5.743,
E-mail: gerard.vbreukelen@stat.unimaas.nl

Throughout the course, the General Linear Model will serve as a continuous thread. During the first five days, participants will be given an in-depth training in standard statistical methods such as factorial ANOVA for between- and within-subject designs, multivariate ANOVA, discriminant analysis, and multiple regression. Prescience of two-way factorial ANOVA and multiple regression at the bachelor level of, say Psychology or Health Sciences at Maastricht University, will be presumed and these methods will be briefly reviewed. The following advanced topics will furthermore be covered in these five days: unbalanced factorial designs, covariates, contrast analysis in ANOVA, interaction, nonlinearity and dummy coding in regression, collinearity and residuals checks, data transformation, multivariate ANOVA and discriminant analysis. Five other course days give an introduction to two advanced methods of analysis that become increasingly important to psychology: mixed (multilevel) linear regression for nested designs and longitudinal studies, and structural equations modeling (SEM, sometimes called LISREL). Finally, the important topic of optimal design and sample size is introduced in a one-day training.

Literature
For each course day we will use the handout of the lecture plus a suitable book chapter or article. Details of these will be given in time on Blackboard.
Fox (1997) and Kleinbaum (1998) give a fair impression of the content and level of the first course half.

References
Fox, J. (1997). Applied regression analysis, linear models, and related methods. Thousand Oaks (CA): SAGE.
Kleinbaum, D.G., Kupper, L.L., Muller, K.E., & Nizam, A. (1998). Applied regression analysis and other multivariable methods. 3rd ed. Pacific Grove (CA): Brooks/Cole.

Instructional Approach

Each meeting starts with a lecture (2 hours), followed by self-tuition (2 hours) in the morning. Each afternoon some computer exercises will be done, followed by a plenary discussion session. Participants are supposed to prepare themselves for each session by reading the handout or literature. Staff will vary between, but not within weeks, so it will always be clear whom to address for technical questions. General issues can be discussed with the course coordinator.

Form of Assessment
Open-book multiple-choice exam will consist of questions resembling the exercises (general theory, some elementary computations, interpretation of computer output).

541 NP Cognitive Development – 3 Credits

Coordinator: Petra Hurks, Neuropsychology & Psychopharmacology,
Phone (043) 38 84269, 40 Universiteitssingel East, Room 2.747,
E-mail: p.hurks@psychology.unimaas.nl

This course focuses on brain-behaviour relationships in children and adolescents. It addresses the range from 'normal', 'borderline pathology', via focused and selective problems, to children with neurodevelopmental or neuropsychiatric diseases. A thorough understanding of normal cognitive development is essential before issues in abnormal development may be considered. What neurobiological or psychosocial mechanisms can be identified that may lie at the basis of this difference between normal and abnormal development? Relevant theories, state-of-the-art research, and clinical approaches (e.g., treatment protocols) will be evaluated while addressing this question. In addition, students will be broadly acquainted with typical research methods that are custom in the area of cognitive development, such as cross-sectional and longitudinal designs, and the statistical strategies that are used to make inferences from such studies.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written assignment

542 NP Brain, Cognition, and Mental Health – 3 Credits

Coordinator: Jelle Jolles, Neuropsychology & Psychopharmacology,
Phone (043) 38 81041, 12 Dr. Tanslaan, Room 4.E3.002, E-mail: j.jolles@np.unimaas.nl

This course addresses the biological and psychosocial mechanisms which determine mental function and dysfunction. Cognitive problems can be the result of a (neuro)psychiatric or neurological condition, such as depression of acquired brain damage (e.g., Traumatic Brain Injury). On the other hand, impairment of efficient information processing can also be the cause of development of affective problems. This may be the case in varying states such as Attention Deficit Disorder, depression and Mild Cognitive Impairment. The course departs from a multidimensional viewpoint where the various factors which are of importance have to be integrated. Cognitive psychology, cognitive neuroscience, neurology/psychiatry and developmental psychology give important insights in this respect.

Literature
Various journal articles and book chapters – to be announced

Instructional Approach
Small lectures and tutorial group meetings

Form of Assessment
Written assignment

3.3 Skills trainings

451 NP Neuropsychological Assessments – 2 Credits

Coordinator: Jeanette Dijkstra, Neuropsychology & Psychopharmacology,
Phone (043) 38 74117, 12 Dr. Tanslaan, Room 4.G4.034, E-mail: j.dijkstra@np.unimaas.nl

The aim of this skills training is to acquire basic skills necessary for collecting neuropsychological data from subjects and patients. The courses Brain Damage and Behavioural Disorders run in parallel and offer one combined practical: Neuropsychological Assessment I. Elements of psychological research in relation to 1) intellect, 2) cognition, 3) mood, 4) personality and 5) behaviour will be discussed. It starts with an introductory lecture in which the principles and interpretation of neuropsychological diagnostics are discussed, which are illustrated with case studies. Tests used in the practical are demonstrated, including their interpretation and how to report the outcomes. Next, students are trained in neuropsychological history taking which they will perform on trained actors who simulate different kinds of neurological or neuropsychiatric pathology. Furthermore, students are trained in behavioural observation by watching the neuropsychological examination of different patients on video. Finally, using data from the patient history, test observation and examination

results, each student writes a comprehensive neuropsychological report, which is graded. In a final tutorial group meeting specific problems of the assessments and the individual reports are discussed.

Instructional Approach
Group meetings

Form of Assessment
Graded patient report

452 NP Basic Cognitive Psychological Skills – 2 Credits

Coordinator: Eric Vuurman, Neuropsychology & Psychopharmacology, Phone (043) 38 81046, 40 Universiteitssingel East, Room 2.747, E-mail: e.vuurman@psychology.unimaas.nl

This course focuses on the acquisition of basic skills needed in cognitive performance research. The course is centred around a psychological experiment studying the detrimental effects of arousal manipulation (environmental noise) on cognitive processing. Students will learn to use and adapt a computerized a computerized reaction-time experiment, collect data and perform data analysis. Besides hands-on experience using a computerized test battery, emphasis will be placed on the role of pencil and paper tests to describe cognitive performance. Students will be required to recruit a small number of subjects and administer the test battery according to a pre-defined protocol. An overview of techniques and tests will be given that are currently used to evaluate performance in a number of cognitive domains, such as language, perception, attention and executive functions.

Instructional Approach
Formal introduction in the first week, followed by 6 weeks in which the experiment is carried out and reported. This will be done by pairs of students. Each week a 1-hour meeting will be staged with entire group to provide feedback and discussion.

Form of Assessment
Research report on the experiment

453 NP Neuroanatomy – 1 Credit

Coordinator: Jos Prickaerts, Neuropsychology & Pharmacology, Phone (043) 38 81026, 40 Universiteitssingel, Room 2.737, E-mail: j.prickaerts@psychology.unimaas.nl

The aim of the training is to become acquainted with the neuroanatomical terminology and to gain insight into the spatial and functional organisation of the brain. It is essential to have a basic knowledge of the brain anatomy when working in the field of Neuropsychology or Neurobiology. Many specific brain areas can be linked

to particular functions. Thus, knowledge of the brain anatomy and its main functions allows one to directly link specific neurological or psychiatric disorders to particular brain areas. After a short theoretical introduction the students will study whole brains and brain material of mammals at both macroscopical (visual inspection) and microscopical level. The emphasis will be on major brain systems including the basal ganglia and limbic system.

Instructional Approach
Almost exclusively practical: dissection of sheep brain, studying of microscopical slices of rat brain, working with plastic human brain models, CD-ROM programs, and textbook.

Form of Assessment
Written exam with open questions

454 NP E-prime – 1 Credit

Coordinator: Anita van Oers, Neuropsychology & Psychopharmacology,
Phone (043) 38 81035, 40 Universiteitssingel East, Room 2.735,
E-mail: anita.vanoers@np.unimaas.nl

E-Prime is a comprehensive suite of applications offering audited millisecond-timing precision, enabling researchers to develop a wide variety of simple to complex experiments in a user-friendly environment that can be implemented with randomized or fixed presentation of text, pictures and sounds (individual or simultaneous). During the training you will learn to program your own experiment in using both visual and auditory stimuli that will be presented randomly.
Having finished this training you will be able to test your own research ideas in reality.

Literature
Handouts with literature and exercises

Instructional Approach
Group meetings in which we discuss the 'to-be-programmed-exercises' followed by computer sessions

Form of Assessment
Programming exercises throughout the training

455 NP Psychophysiological Skills – 1 Credit

Coordinator: Pascal van Gerven, Neuropsychology & Psychopharmacology,
Phone (043) 38 84512, 40 Universiteitssingel East, Room 2.742,
E-mail: p.vangerven@psychology.unimaas.nl;
Eric Vuurman, Neuropsychology & Psychopharmacology,

Phone (043) 38 81046, 40 Universiteitssingel East, Room 2.747,
E-mail: e.vuurman@psychology.unimaas.nl

The goal of this skills training is to acquire basic skills in major peripheral psychophysiological measures. The relation between cognitive and psychophysiological variables, such as memory load, mental effort, and attention, will be made clear. In addition, general methodological concepts and issues, such as tonic (baseline) activity, phasic activity, and the so-called "law of initial value", will be discussed.

The training consists of four meetings. In the first meeting, an overview will be presented of the psychophysiological methods that are relevant to neuropsychology. The second through fourth meeting will be devoted to major domains in psychophysiology, such as heart rate (variability), blood pressure, galvanic skin responses, and pupillometry (i.e., pupil dilation). Throughout the four sessions, basic hands-on experience will be offered in the laboratory. During the practical sessions, an existing dataset will be provided to analyze and report on.

Instructional Approach
Lectures, demonstrations, and practical sessions

Form of Assessment
Short research report

456 NP Neuropsychological and Neuropsychiatric Instruments I: Scales and questionnaires – 1 Credit

Coordinator: Renate de Groot, Neuropsychology & Psychopharmacology,
Phone (043) 38 81038, 12 Dr. Tanslaan, Room 4.E3.007,
E-mail: RHM.degroot@np.unimaas.nl

The aim of this skills training is to get an overview of rating scales, survey methods and questionnaires used in clinical research and population research in the domain of neuropsychology/neuropsychiatry and to acquire basic skills in the use of some major instruments.

The training consists of four meetings. In the first meeting, an overview will be presented of the instruments which are relevant for neuropsychology/neuropsychiatric research in clinical settings and in the population. The second through fourth meeting will be devoted to three classes of instruments and their strengths and weaknesses. Examples will be provided on the various possibilities with respect to the choice of instruments with a focus upon the relevance for neuropsychology/- neuropsychiatry. Hands on experience will be provided with respect to measures used for rating, scoring, and reliability. The three domains are, respectively 1) instruments used for the assessment of psychopathology, notably depression, anxiety, mental fatigue and related conditions, 2) instruments used for the assessment of cognitive or behavioural

dysfunctions (e.g. Neuropsychiatric Inventory, Memory Assessment scales, MMSE, ADAS, Camdex), 3) instruments for the assessment of neuropsychological functions and dysfunctions and their determinants in large scale experimental studies and population research (e.g. SLC-90, Quality of Life Scales, MAAS survey scales).

Instructional Approach
Lectures, demonstrations, practicals and working group discussions

Form of Assessment
Report on the procedures, approach, dependent variables and problems presented through the practicals

457 NP Neuropsychological and Neuropsychiatric Instruments II: Cognitive tasks and neuropsychological tests – 1 Credit

Coordinator: Bart Scholtissen , Neuropsychology & Psychopharmacology,
Phone (043) 38 84100, 12 Dr. Tanslaan, Room 4.E3.007, E-mail: b.scholtissen@np.unimaas.nl

The aim of this training is to get an overview of cognitive tasks and neuropsychological tests which are used in experimental and clinical neuropsychological research and to acquire basic skills in the use of some major instruments

The course consists of four meetings. In the first meeting, an overview will be presented of the instruments which are relevant for experimental and clinical neuropsychological research. The second through fourth meeting will be devoted to three classes of instruments and their strengths and weaknesses. Examples will be provided on the various possibilities with respect to the choice of instruments. Hands on experience will be provided with respect to measures used for data-reduction, data-analysis, scoring and the use of norms. The three domains are, respectively 1) cognitive neuropsychological methods, notably basic and complex reaction time measurements which are based upon experimental/cognitive psychology (emphasis on measurement of attention and psychomotor functioning as well as basic information processing speed), 2) experimental neuropsychological methods used in clinical research for the assessment of memory functions and executive functioning, 3) neuropsychological methods used for experimental clinical research including intervention research (other cognitive domains, testbatteries in parallel versions). The skills course complements the skills 1 and 2 courses and the workshop on advanced neuropsychological testing and elaborates on the methods and their possibilities.

Instructional Approach
Lectures, demonstrations, practicals and working group discussions

Form of Assessment
Report on the procedures, approach, dependent variables and problems presented through the practicals

551 NP ERP (Elective) – 2 Credits

Coordinator: Ellen Jongen, Cognitive Neuroscience, Phone (043) 38 84525, 40 Universiteitssingel East, Room 3.737, E-mail: e.jongen@psychology.unimaas.nl;

The aim of this training is to give the students hands-on experience with the experimental design, acquisition and analysis of EEG/ERP experiments. First, students will be introduced into the possibilities and limitations of EEG and ERP research: how to set up a proper experimental paradigm, and how to interpret the resulting data. Furthermore, students receive a general introduction into basic signal analysis, and into some specific analyses of EEG and ERP (artefact management, spectral analysis, filtering, ERP averaging, etc.). After that, there will be a hands-on training in smaller groups in running an ERP experiment, including electrode application, minimizing artifacts, and hygiene and safety in the lab. A simple paradigm will be used that gives reliable results even for a single subject. Data processing will include various EEG analyses that are commonly used, e.g., analyses in the time and frequency domain. Each group will report (also to each other) and discuss their findings.

Literature
Handbook – to be announced
Various journal articles – to be announced

Practical
Practical sessions for EEG measurement and data analysis

Instructional Approach
Lecture(s) (ERP and basics of signal processing), tutorial groups (study the literature), a lab-session (measurement), and computer-sessions (analysis)

Form of Assessment
Short report (2-4 pages) in abbreviated article-form

552 NP Neuropsychological Treatment Intervention (Elective) – 1 Credit

Coordinator: Jelle Jolles, Neuropsychology & Psychopharmacology, Phone (043) 38 81041, 12 Dr. Tanslaan, Room 4.E3.002, E-mail: j.jolles@np.unimaas.nl; Renate de Groot, Neuropsychology & Psychopharmacology, Phone (043) 38 81038, 12 Dr. Tanslaan, Room 4.E3.007, E-mail: RHM.degroot@np.unimaas.nl

The aim of this training is to get an overview of designs used in clinical and experimental neuropsychological intervention studies and into the diverse possibilities with respect to both cognitive/behavioural interventions (e.g., training, courses) and biological interventions (e.g., nutritional and psychopharmacological interventions).

The course will address both the content of neuropsychological interventions as well as the procedures and designs that can be used for the execution of 'evidence-based

research'. Through the meetings, an elaboration will be given on the basic premises, and the basic 'pitfalls' in this type of research and the possibilities to circumvent these problems by proper choice of approach and design. Various designs are compared with their strengths and weaknesses (e.g., experimental studies, quasi-experimental designs, intention-to-treat, single case designs, challenge-studies, depletion studies). The various meetings are devoted to the following domains: 1) neuropsychological training and rehabilitation, 2) neuropsychological psycho-education, 3) 'cognitive' approaches and 'eclectic' courses, 4) nutritional and psychopharmacological interventions. Through the meetings, information will be provided with respect to Medical Ethical aspects and hands on experience in submitting a METC protocol including 'information for the patient'. In addition, examples will be provided.

Instructional Approach
Group meetings including lectures, demonstrations, practicals and working group discussions

Form of Assessment
Report on the procedures, approach, dependent variables and problems presented through the practicals and short exam containing four open questions

553 NP Data management (Elective) – 1 Credit

Coordinator: Arjan Blokland, Neuropsychology & Psychopharmacology,
Phone (043) 38 81903, 40 Universiteitssingel East, Room 2.731,
E-mail: a.blokland@psychology.unimaas.nl

The aim of this skills training is to acquire basis skills in data management. After doing your scientific research, data have to be prepared for data analysis. Usually, the format of the data acquisition software does not match the requirements of sophisticated statistical software packages (e.g., SPSS or SAS). In this Skill training students will be familiarized with the software package Excel. This program has many features that can be very helpful to overcome time-consuming formatting of data bases. First, an introduction of the basic features of Excel will be presented. Being familiar with these basic aspects is necessary to understand copying of values and formulas (relative or absolute). Also, Excel enables you to make various types of graphs which can be very helpful in making a quick outlook on your data. A fourth aspect that will be dealt with is pivot tables, which is a very helpful tool to organise your data in any manner you find most suitable for your further data handling. A final option that will be dealt with is the use of macro's. These are especially helpful when repetitious changes in layout or recalculatioons have to be made.

Instructional Approach
Group meetings in which direct demonstrations are given via PC/beamer. Students may provide the instructor data to be used as examples

Form of Assessment
Written assignment

3.4 M&T workshops

461 NP Research Theory and Designs – 1 Credit

Coordinator: Jelle Jolles, Neuropsychology & Psychopharmacology,
Phone (043) 38 81041, 12 Dr. Tanslaan, Room 4.E3.002, E-mail: j.jolles@np.unimaas.nl;
Bart Scholtissen , Neuropsychology & Psychopharmacology, Phone (043) 38 84100,
12 Dr. Tanslaan, Room 4.E3.007, E-mail: b.scholtissen@np.unimaas.nl

The aim is to provide the student a basic understanding of the theoretical and practical issues which are important for the execution of 'evidence-based' intervention research in the domain of brain & behaviour.

This workshop will elaborate on basic issues of research theory and methodology of scientific research with a focus upon the domain of brain & behaviour. There are four sessions. The first session is devoted to a comprehensive review of issues involving the empirical cycle, epistemology, explanatory power and appeal of theories, and deriving hypotheses from theories. The second through fourth session will provide an in-depth evaluation of theoretical and methodological issues in brain & behaviour research, notably cognitive and clinical neuropsychology/neuropsychiatry. The following issues will be addressed: 1) issues related to the similarities and differences in approaches, conceptualisations, and theoretical background in the various domains of neuropsychology (e.g., cognitive/experimental, clinical, medical, developmental neuropsychology, cognitive neuroscience, basic neuroscience and clinical neuroscience) 2) issues related to causality (e.g., causal or correlative inferences), 3) issues related to the multifactorial nature of cognitive/behavioural functioning (e.g., biological versus environmental determinants, 'nature versus nurture', risk factors and protective factors), 4) issues related to possibilities for execution of neuropsychological research (designs, short overview of statistical approaches).

Instructional Approach
Discussion groups, formal presentations, use of research reports and publications as 'discussion material'

Form of Assessment
Written assignment

463 NP Advanced Neuropsychological Testing – 1 Credit

Coordinators: Sven Stapert, Neuropsychology & Psychopharmacology,
Phone (043) 38 81912, 40 Universiteitssingel East, Room 2.731,
E-mail: s.stapert@psychology.unimaas.nl

In this workshop the aim is to train students in the use of neuropsychological tests and interpretation of data in relation to a conceptual model of brain-behaviour relationships. The constructs and assessment of higher cognitive functions will be discussed. Hands-on experience with cognitive testing is part of the workshop. Models of cognitive psychology, including models of memory, attention, language, information processing, and intelligence are reviewed. Special focus is put on test paradigms from the field of clinical neuropsychology used to probe domain-specific functions.

Instructional Approach
Practical in neuropsychological assessment.
Distinguishing neurological, psychiatric and test-taking conditions: presentations by clinical neuropsychologists, discussing clinical cases.

Form of Assessment
Interpretation of neuropsychological test-data in a short paper

464 NP Research Ethics – 1 Credit

Coordinators: Eef Theunissen, Neuropsychology & Psychopharmacology,
Phone (043) 38 81940, 40 Universiteitssingel East, Room 2.735,
E-mail: e.theunissen@psychology.unimaas.nl

Students will learn to think critically about ethical dilemmas that psychologists encounter when exercising their profession. This workshop will discuss legal and ethical conflicts that are involved in psychological research and clinical practice. Students will be introduced to the ethical and legal rules and boundaries in human research, and to the organisations and institutes supervising the application of these rules.

Psychologists always need to make sure that they carry out their work in an ethical and legally sound way. However, there is often a conflict of interests of the involved parties. In all circumstances, however, it is the psychologist's primary task to secure the patients/participants welfare and to keep risks at to a minimum. Therefore psychologists should know which ethical aspects are of importance and which laws and rules need to be applied and also which institutions supervise on the application of these rules. In addition, these aspects should be taken into consideration when writing and submitting a research proposal to an ethical commission.
The following topics will be discussed:
- Examples of ethical and legal failings
- Necessity of ethical and legal rules
- Different guidelines: declaration of Helsinki, guidelines for Good Clinical Practice, etc.

- Working with participants/patients: rights and duties, confidentiality, data processing and storage, etc.
- Applying ethical and legal rules in e.g., protocol, case report form, informed consent, etc.
- Ethical and legal reviews

Instructional Approach
Lectures and discussion groups

Form of Assessment
Oral exam

465 NP Epidemiology – 1 Credit

Coordinators: Marcus Huibers, Clinical Psychological Science, Phone (043) 38 81487, 40 Universiteitssingel East, Room 1.349, E-mail: m.huibers@DMKEP.unimaas.nl

Epidemiology often is referred to as "quantative medicine". In general, epidemiology deals with methodology issues in the field of health research, including mental health. Students in this workshop will be introduced to the principles of epidemiological research. Topics that are covered in the workshop include: frequency measures, association measures, sources of bias, validity issues, cohort studies, clinical trials, and systematic reviews. The theory of epidemiology will be studied and applied in interactive workshop sessions.

Instructional Form
Format of the workshop is a series of 2-hour sessions. Starting each session, the lecturer will give a 30-minute presentation of the topics covered in that session, followed by a 30-minute discussion of these topics. The second hour will be spent on group assignments under supervision of the lecturer.

Required reading will consist of several chapters from a clinical epidemiology textbook and additional research papers. In addition to the workshops sessions, students are expected to spend at least 5 hours a week on reading and homework assignments.

Form of Assessment
Group assignment:
During the entire workshop, students will work on a research proposal in groups of three or four (depending on the number of students). Students will prepare the proposal during the sessions; the remainder of the work is part of the homework assignments. At the end of the fourth session, each group will give a 10-minute presentation, after which the written proposal is handed in. The lecturer will evaluate the research proposals.

466 NP Imaging – 2 Credits

Coordinator: Elia Formisano, Cognitive Neuroscience, Phone (043) 38 84040,
40 Universiteitssingel East, Room 4.738, E-mail: e.formisano@psychology.unimaas.nl

This workshop is intended to provide:
- introductory knowledge of the basic principles underlying the most common imaging methods
- appreciation of potentialities and limitations of various neuroimaging methods in studying human brain functions and dysfunctions.

The investigation of human brain anatomy and functions using a range of imaging methods represents the most influential development in Psychology in the last years. In this workshop essential facts about all major structural and brain mapping techniques, including Positron Emission Tomography (PET) and SPECT, structural and functional Magnetic Resonance Imaging (fMRI) will be reviewed. The focus will be on the strengths and weaknesses of each of these methods and on the description of relevant applications in the normal and pathological brain.

Instructional Approach
Lectures, paper discussion, and demonstration visit to the MRI scanner

Form of Assessment
Written exam with open questions

467 NP Psychopharmacology – 1 Credit

Coordinators: Wim Riedel, Neuropsychology & Psychopharmacology,
Phone (043) 38 84322, 40 Universiteitssingel East, Room 2.755,
E-mail: w.riedel@psychology.unimaas.nl

The workshop aims to present Psychopharmacology in a broad sense. The multidisciplinary nature of psychopharmacology encompasses pharmacology, molecular biology, genetics, physiological psychology, experimental, clinical and cognitive neuropsychology and biological psychiatry. The emphasis will be on understanding drug development, drug action, drug research, animal and human pharmacological models of clinical disorders, experimental / clinical trial design and the development of biomarkers, real measures and surrogate measures of drug efficacy.

The course will focus on major areas in Psychopharmacology such as Addiction, Depression, Anxiety, Psychosis and Cognition. These areas will be illuminated form both the perspectives of basic neuroscience including animal subjects as well as experimental and clinical human psychopharmacology.

Instructional Approach
Each half-day the programme will consist of a sequence of three elements:
- Key-note Lectures by Internationally renowned speakers in the morning

• Presentations of recent research by PhD students or junior researchers
• Forum discussions about the presentations
The workshop offers plenty of opportunity for the master's student to interact with PhD students, junior and senior staff and the invited guest speakers

Form of Assessment
Short presentation in the forum discussion and written assignment

561 NP Protocol Writing – 2 Credits

Coordinator: Herman Schaalma, Work and Social Psychology, Phone (043) 38 84329, 5 Universiteitssingel, Room 3.001, E-mail: h.schaalma@psychology.unimaas.nl

During this course, students will be familiarized with the different phases of writing scientific protocols and research reports. In advance of their upcoming master's thesis, they will learn to define and crystallize a research question based on its feasibility and scientific relevance; to prepare and structure their arguments and to plan the different parts of the paper; to think about suitable designs and research methods for data acquisition and analysis, and, finally, to learn how to walk through the writing process starting from draft to the final version. This all will be accomplished by competence-based learning in which they have to integrate factual knowledge (from the literature) into skill-based practice (by exercise).

Instructional Approach
A combination of introductory lectures, literature meetings and practical sessions

Form of Assessment
Written research proposal

3.5 Schedule Neuropsychology

	YEAR 1
1 week	Introduction Week
7 weeks	**Trends-in** Cognitive Neuroimaging & **Trends-in** Psychopathology (2 credits each) **Core Courses**: Brain Damage (4 credits) & Behavioural Disorders (4 credits) **Skills Training**: Neuropsychological Assessments (2 credits) **Colloquia** (5 credits)
7 weeks	**Trends-in** Cognitive Neuroimaging & **Trends-in** Psychopathology **Core Courses**: Cognitive Aging (4 credits) & Arousal, Attention, and Psychopharmacology (4 credits) **Skills Training**: Basic Cognitive Psychological Skills (2 credits) **Colloquia**
Christmas break	
4 weeks	**Core Course**: Biopsychology (3 credits) & Advanced Statistics (4 credits) **Workshop**: Research Theory and Designs (1 credit) **Skills Training**: Neuroanatomy (1 credit) **Colloquia**
4 weeks	**Core Course**: Brain, Learning, and Memory (3 credits) & Advanced Statistics **Workshop**: Advanced Neuropsychological Testing (1 credit) **Skills Training**: E-prime (1 credit) **Colloquia**
4 weeks	**Core Course**: Executive Function and Control of Action (3 credits) & Advanced Statistics **Workshop**: Research Ethics (1 credit) **Skills Training**: Psychophysiological Skills (1 credit) **Colloquia**
4 weeks	**Core Course**: Neuropsychiatric Disorders (3 credits) **Workshop**: Epidemiology (1 credit) **Workshop**: Imaging (2 credits) **Skills Training**: Neuropsychological and Neuropsychiatric Instruments I (1 credit) **Colloquia**
4 weeks	**Core Course**: Neuropsychopharmacology (3 credits) **Workshop**: Psychopharmacology (1 credit) **Skills Training**: Neuropsychological and Neuropsychiatric Instruments II (1 credit) **Colloquia**

	YEAR 2
4 weeks	**Core Course**: Cognitive Development (3 credits) **Workshop**: Protocol Writing (2 credits) **Skills Training**: Neuropsychological Treatment Intervention – Elective (Electives 2 credits) **Skills Training**: ERP – Elective
4 weeks	**Core Course**: Brain, Cognition, and Mental Health (3 credits) **Workshop**: Protocol Writing **Skills Training**: Data Management - Elective
32 weeks	**Research Internship & Master's Thesis** (50 credits) **Optional: Clinical Internship & Minor's Thesis**

401 NP & 403 NP - Trends-in courses: 10th September-10th December
404 NP - **Colloquia**: 14th September 2007- 13th June **2008**

Core Courses

441 NP - Brain Damage: 10th September- 26th October **2007**
442 NP - Behavioural Disorders: 10th September- 26th October
443 NP - Arousal, Attention, and Psychopharmacology: 29th October- 14th December
444 NP - Cognitive Aging: 29th October- 14th December
445 NP - Biopsychology: 7th January- 31st January **2008**
446 NP - Brain, Learning, and Memory: 11th February- 6th March
447 NP - Executive Function and Control of Action: 10th March- 10th April
448 NP - Neuropsychiatric Disorders: 14th April- 15th May
449 NP - Neuropsychopharmacology: 19th May- 12th June
450 NP -Advanced Statistics: 7th January – 9th April
541 NP - Cognitive Development: 3rd September- 27th September
542 NP - Brain Cognition and Mental Health: 1st October – 25th October

Skills Trainings

451 NP - Neuropsychological Assessments: 14th September- 19th October **2007**
452 NP - Basic Cognitive Psychological Skills: 2nd November- 7th December
453 NP - Neuroanatomy: 11th January- 1st February **2008**
454 NP - E-prime: 15th February- 7th March
455 NP - Psychophysiological Skills: 14th March- 11th April
456 NP - Neuropsychological and Neuropsychiatric Instruments I: 18th April- 16th May
457 NP - Neuropsychological and Neuropsychiatric Instruments II: 23rd May- 13th June
551 NP - ERP (Elective): 6th September- 27th October
552 NP - Neuropsychological Treatment Intervention (Elective): 7th- 28th September
553 NP - Data Management (Elective): 5th October- 26th October

Workshops

461 NP -Research Theory and Designs: 8th January- 29th January **2008**
463 NP -Advanced Neuropsychological Testing: 12th February- 4th March
464 NP -Research Ethics: 11th March- 8th April
465 NP -Epidemiology: 15th April- 6th May
466 NP -Imaging: 20th May – 21st May
467 NP -Psychopharmacology: 27th May- 28th May
561 NP -Protocol Writing: 5th September- 24th October

4

Specialisation Psychopathology

The specialisation in Psychopathology provides students the theoretical background and clinical insights necessary for future research in the various fields related to mental health; in particular experimental psychopathology, clinical psychology, and psychiatry. The interactive core seminars cover biopsychosocial theories and state-of-the-art research on the epidemiology, genetics, psychological and neurobiological mechanisms underlying onset and course, treatment, and prevention of mental disorders throughout the life cycle. In addition to coverage of specific disorders, attention is paid to positive psychology and to broader issues and controversies, such as gender and cultural differences, the validity of experimental and animal models of psychopathology, and gene-environment interactions. The programme includes training in diagnostic and other clinical skills, as well as research experience in health care settings. The possibility of choosing course elements from the other two specializations affords students not only an in-depth understanding of the multidisciplinary approaches to psychopathology but also the opportunity to tailor the programme along the lines of their personal research interests.

Psychopathology Coordinator:
Nancy Nicolson, Psychiatry and Neuropsychology,
Phone (043) 36 88684,
Vijverdal, Room SN2.068,
E-mail: n.nicolson@sp.unimaas.nl

Colloquia Coordinator:
Anne Roefs, Clinical Psychological Science,
Phone (043) 38 82191, 40 Universiteitssingel, Room 3.747,
E-mail: a.roefs@psychology.unimaas.nl

4.1 Trends-in courses

401 PP Trends-in Cognitive Neuroscience – 2 Credits

Coordinator: Alex Sack, Cognitive Neuroscience, Phone (043) 38 84267,
40 Universiteitssingel East, Room 4.765, E-mail: a.sack@psychology.unimaas.nl

Cognitive neuroscience is an entirely new research field that originally emerged from a combination of traditional sciences such as philosophy, psychology, medicine, and biology that all investigate the principles of perception, behaviour and cognition from different perspectives. As technical developments of different methods and tools in the field of cognitive neuroscience came forth, and as theoretical application of different mathematical and computer science-based models were used to explain neuronal functioning, additional disciplines, such as physics, mathematics, bioengineering, and computer science materialized as an important part of this research field. Subsequently, an effective research project in cognitive neuroscience requires an interdisciplinary cooperation.

This Trends-in course will provide students with a broad overview over the general research approaches, methods and techniques as well as applications in the field of Cognitive Neuroscience. Presented and discussed topics will range from neuronal bases of perception, attention and mental imagery, language and self-monitoring, as well as clinical investigations of dyslexia.

402 PP Trends-in Neuropsychology – 2 Credits

Coordinator: Jan Ramaekers, Neuropsychology & Pharmacology, Phone (043) 38 81951,
40 Universiteitssingel East, Room 2.736, E-mail: j.ramaekers@psychology.unimaas.nl

Neuropsychology focuses on the relationship between brain and behaviour. The so-called brain-behaviour relationships are addressed on a continuum ranging from normal to deviant in children, adolescents, and patient populations. In addition, in the context of psychopharmacology biological mechanisms are studied which pertain to neurotransmitters, hormones and drugs acting upon cognitive function and behaviour. An integrated series of lectures will be presented that includes most aspects of basic and applied neuroscience. The Trends-in-Neuropsychology lectures will provide students with a broad overview of the multidisciplinary research field of Neuropsychology. Presented topics will include the neuropsychology of neurological and psychiatric disorders, cognitive aging and development, motor action and executive control, and pharmacological models of cognitive dysfunction.

4.2 Core courses

471 PP Anxiety Disorders – 3 Credits

Coordinator: Arnoud Arntz, Clinical Psychological Science, Phone (043) 38 81606, 50 Universiteitssingel, Room 1.308, E-mail: arnoud.arntz@MP.unimaas.nl

This seminar covers the main findings and controversies related to the anxiety disorders. While treatment issues are dealt with, the emphasis of the course is on biological and psychological mechanisms that are involved in the origin and maintenance of the various anxiety disorders.

Both in North America and in West Europe anxiety disorders are the largest group of mental disorders for which patients are referred and anxiety disorders are relatively well studied, well understood and treatment outcome is relatively favourable. As to the etiology the focus will be on the role of life events, genetics and stable personality features in the origin of anxiety disorders. With regards to the maintenance of the disorders the course concentrates first of all on anxiety related aberrations in the processing of negatively valenced information. Such selective processing is studied with regards to perception, attention, memory, reasoning and interpretation. Furthermore students study the maintaining role of 'safety behaviours': attempts to prevent a feared catastrophe with the ironic effects that anxiety is reinforced. Throughout the course the role of the various neurotransmitters in the anxiety disorders are highlighted. Students are trained in the use of various experimental (laboratory) paradigms that are typically employed in the study of the cognitive psychology/biological psychology of anxiety disorders: Carbon dioxide inhalation, dot-probe methodology, various tests to measure interpretation biases etc.

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures, group discussions, and student presentations

Form of Assessment
Written papers and presentations

472 PP Mood Disorders – 3 Credits

Coordinator: Frenk Peeters, Psychiatry and Neuropsychology, Phone (043) 38 77444, 12 Dr. Tanslaan, Room 3.G4.042, E-mail: f.peeters@sp.unimaas.nl

This course is intended to give the student an overview of current concepts and research in the field of mood disorders. In the last decades, it has become increasingly clear that mood disorders are chronic psychiatric disorders characterized by acute episodes, relapses, recurrences, and residual symptomatology. Both onset and course of mood disorders are the result of complex interactions between distal (e.g. genetic

and developmental) and proximal (e.g., severe life-events) risk factors. This is illustrated by discussion of mood disorders across the life span in the light of biological, psychological, and social approaches. Current research strategies aimed at clarifying the role of these different aspects will be the central theme throughout the course. Based on this framework, state-of-the-art treatments for mood disorders are addressed and illustrated where possible.

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures, group discussions, and student presentations. Presentations will be based on short papers. Additionally students will write research proposals that will be presented during the last meeting.

Form of Assessment
Participation in discussions, presentations, and writing and presenting a research proposal

473 PP Stress and Trauma – 3 Credits

Coordinator: Nancy Nicolson, Psychiatry and Neuropsychology, Phone (043) 36 88684, Vijverdal, Room SN2.068, E-mail: n.nicolson@sp.unimaas.nl

This seminar familiarizes students with key concepts and controversies in current stress research, with an emphasis on the role stress is thought to play in the etiology, pathophysiology, and the course of psychiatric and psychosomatic disorders. The following issues will be discussed:

- What is stress? Theoretical background and translation of the construct into research design and methods
- Adaptation to stress: normal psychological and biological processes, allostasis
- Does stress cause psychiatric / psychosomatic disorders? Evidence and possible pathways
- Long-term effects of adverse early experience: what can we learn from animal models and epidemiological studies?
- Why are some individuals more vulnerable (or more resilient) to stress than others?
- ost-traumatic stress disorder: controversies concerning the concept of trauma, biological and psychological processes, treatment and prevention

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures, group discussions, and student presentations

Form of Assessment
Participation, editorial review, presentation, and research proposal

474 PP Developmental Psychopathology – 3 Credits

Coordinator: Kathleen Restifo, Clinical Psychological Science, Phone (043) 3881733, 50 Universiteitssingel, Room 1.354, E-mail: k.restifo@dmkep.unimaas.nl

This seminar aims to give the student an up-to-date overview of classification of child psychopathology, etiological models and evidence-based treatment options.

Topics

- Classification:
  - internalizing disorders: anxiety disorders and depression
  - externalizing disorders: ADHD, ODD, CD (oppositional defiant and conduct disorder)
  - learning and other developmental disorders

- Etiological factors:
  - genetics, organic/neurological factors
  - the role of rearing factors in child psychopathology
  - family functioning and the role of parental psychopathology
  - the role of life events

- Treatment:
  - Cognitive-behavioral
  - Family/systems
  - Psychodynamic/supportive
  - Educational remediation

Instructional Approach

The seminar consists of two 2-hour interactive meetings per week„ including lectures, group discussions, and student presentations.

Form of Assessment

Written papers and presentations

475 PP Somatoform Disorders – 3 Credits

Coordinator: Johan Vlaeyen, Clinical Psychological Science, Phone (043) 38 81601, 50 Universiteitssingel, Room 1.316, E-mail: j.vlaeyen@dep.unimaas.nl

This seminar familiarizes the student with key concepts and controversies in current research in somatoform disorders, with an emphasis on the cognitive and behavioural mechanisms that play a role in the etiology and maintenance of chronic pain and fatigue.

Topics

- Biomedical and biopsychosocial models of health and illness
- Controversies in the assessment of physical complaints

- Overview of somatoform disorders
- Common mechanisms of unexplained complaints: a symptom perception approach
- The role of catastrophic misinterpretations of bodily sensations
- The role of attribution, attention, and affect
- Chronic pain and fatigue: psychological models
- Cognitive-behavioural treatments of somatoform disorders
- Coping or acceptance
- Self-management strategies

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures, group discussions, and student presentations. Students work in team of two on an 8-10 page research paper. The final meeting is a symposium during which students present their research papers (10 minute presentations and 5 minutes for discussion).

Form of Assessment
Participation in discussions, research paper, and presentation of the research paper

476 PP Psychosis – 3 Credits

Coordinator: Jim van Os, Psychiatry and Neuropsychology, Phone (043) 38 75443,
12 Dr. Tanslaan, Room 3.G4.044, E-mail: j.vanos@sp.unimaas.nl

This seminar aims to give the student an overview of current thinking and unresolved issues in schizophrenia research. The process of psychotic disorder and psychosis transition has been the subject of intense study in the last decade. Early epidemiological approaches have been complemented with studies of cognition and neuroimaging and, finally, treatment trials. There is now evidence to suggest that the onset of psychotic disorder is the endpoint of a process of interactive etiological forces that involve genetic background factors associated with low grade, non-clinical expression of psychosis in the general population, environmental stressors such as cannabis use and psychological trauma, and a number of cognitive vulnerabilities in the realm of neuropsychology and social cognition. In addition, it is now increasingly clear that the process of onset of psychosis is associated with neurocognitive changes and progressive sensitization to dopaminergic stimulation, greater quantities of which may predict subsequent brain changes and poorer outcome.

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures, group discussions, and student presentations

Form of Assessment
Written papers, presentation, and research proposal

477 PP Eating Disorders – 2 Credits

Coordinator: Anne Roefs, Clinical Psychological Science, Phone (043) 38 82191, 40 Universiteitssingel, Room 3.747, E-mail: a.roefs@psychology.unimaas.nl

This course aims to give the student a state-of-the-art overview of current thinking and unresolved issues in research on eating disorders, with an emphasis on experimental psychopathology research.

Eating disorders are among the most prevalent disorders in female adolescents and young adults. The exact aetiologies are largely unknown, although it has become evident that a range of factors influence an individual's vulnerability to eating disorders (ranging from genetic to environmental factors). With respect to these vulnerability factors, some may be specific to eating disorders, but there may also be more general factors (e.g., behavioural disinhibition) that make an individual more vulnerable to both eating disorders and addictions
A first aim of this course is to discuss influential theories and empirical papers about the origin or maintenance of eating disorders. Second, special attention will be paid to experimental psychopathology research methods as an elegant method to test hypotheses on the origin, maintenance or reduction of these disorders. Third, the gap with clinical practice is scrutinised. What is the best treatment a patient can get? And why is it so difficult to implement the evidence-based treatments in clinical practice?

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures, group discussions, and student presentations.

Form of Assessment
Written papers, presentation, and discussion papers

478 PP Addiction – 2 Credits

Coordinator: Reinout Wiers, Clinical Psychological Science, Phone (043) 38 81935, 40 Universiteitssingel East, Room 3.732, E-mail: r.wiers@psychology.unimaas.nl

This seminar aims to give the student a state-of-the-art overview of current thinking and unresolved issues in research on addictive behaviours, with an emphasis on experimental psychopathology research. Addictive behaviours are one of the most prevalent psychiatric disorders. In young males it is even by far the most prevalent psychiatric disorder. In history, the explanation of addictive behaviours has moved from the person (weak character) to the substance (e.g., stories about sweets with heroin to hook kids), to the environment (bad examples from parents or peers), to genetic factors, and models combining some of these factors. The course will touch upon recent addiction research, including genetics, models of craving and tension reduction, expected vs. pharmacological effects, the role of implicit and explicit cognition in the etiology of addiction, prevention and treatment.

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures, group discussions, and student presentations.

Form of Assessment
Written papers and abstracts, and presentation and research proposal

479 PP Psychopathology and the Law – 2 Credits

Coordinator: Corine de Ruiter, Clinical Psychological Science, Phone (043) 38 84344, 40 Universiteitssingel East, Room 3.757, E-mail: corine.deruiter@psychology.unimaas.nl

Psychology and law are fundamentally different disciplines, which has great impact on the work of the forensic psychologist. In this seminar, recent research on forensic psychological issues will be related to actual cases, including video material. Emphasis will be on the assessment and treatment of mentally disordered offenders, and on the sometimes crucial role the forensic psychologist plays in judicial decision making. In specific, we will pay attention to:
- The concept of criminal responsibility and the assessment of it
- The relationship between mental disorders and violence; violence risk assessment
- Psychopathy
- Antisocial behaviour in women
- Treatment of sexual offenders

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures, group discussions, and student presentations.

Form of Assessment
Participation in discussions, written paper and presentation with fellow student

480 PP Advanced Statistics – 4 Credits

Coordinator: Gerard van Breukelen, Methodology and Statistics, Phone (043) 38 84001, 40 Universiteitssingel East, Room 5.743, E-mail: gerard.vbreukelen@stat.unimaas.nl

Throughout the course, the General Linear Model will serve as a continuous thread. During the first five days, participants will be given an in-depth training in standard statistical methods such as factorial ANOVA for between- and within-subject designs, multivariate ANOVA, discriminant analysis, and multiple regression. Prescience of two-way factorial ANOVA and multiple regression at the bachelor level of, say Psychology or Health Sciences at Maastricht University, will be presumed and these methods will be briefly reviewed. The following advanced topics will furthermore be covered in these five days: unbalanced factorial designs, covariates, contrast analysis in ANOVA, interaction, nonlinearity and dummy coding in regression, collinearity and residuals

checks, data transformation, multivariate ANOVA and discriminant analysis. Five other course days give an introduction to two advanced methods of analysis that become increasingly important to psychology: mixed (multilevel) linear regression for nested designs and longitudinal studies, and structural equations modeling (SEM, sometimes called LISREL). Finally, the important topic of optimal design and sample size is introduced in a one-day training.

Literature
For each course day we will use the handout of the lecture plus a suitable book chapter or article. Details of these will be given in time on Blackboard.
Fox (1997) and Kleinbaum (1998) give a fair impression of the content and level of the first course half.

References
Fox, J. (1997). Applied regression analysis, linear models, and related methods. Thousand Oaks (CA): SAGE.
Kleinbaum, D.G., Kupper, L.L., Muller, K.E., & Nizam, A. (1998). Applied regression analysis and other multivariable methods. 3rd ed. Pacific Grove (CA): Brooks/Cole.

Instructional Approach
Each meeting starts with a lecture (2 hours), followed by self-tuition (2 hours) in the morning. Each afternoon some computer exercises will be done, followed by a plenary discussion session. Participants are supposed to prepare themselves for each session by reading the handout or literature. Staff will vary between, but not within weeks, so it will always be clear whom to address for technical questions. General issues can be discussed with the course coordinator.

Form of Assessment
Open-book multiple-choice exam will consist of questions resembling the exercises (general theory, some elementary computations, interpretation of computer output).

571 PP Personality Disorders – 3 Credits

Coordinator: David Bernstein, Clinical Psychological Science, Phone (043) 38 81483, 50 Universiteitssingel, Room 1.328, E-mail: d.bernstein@dmkep.unimaas.nl

This seminar aims to give the student a state-of-the-art overview of theories, classification issues, and treatment models of personality disorders, with an emphasis on current scientific debate on these issues.
Topics
- Personality theories relating to personality disorders
- Biological models of personality disorders (including genetic and neurotransmitter models)
- Psychological models of personality disorders (modern psychodynamic, conditioning, cognitive, interpersonal, integrative models)

- Sociological perspectives on personality disorders
- Classifications issues (DSM-IV diagnosis; axis-1 vs. axis-2; categorical vs. dimensional models; polythetic definition; diagnostical techniques)
- Etiological issues
- Epidemiological issues
- Treatment options

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures and group discussions

Form of Assessment
Written exam with open questions

572 PP Mental Health and Happiness – 3 Credits

Coordinator: Madelon Peters, Clinical Psychological Science, Phone (043) 38 81603, 50 Universiteitssingel, Room 1.361c, E-mail: m.peters@dep.unimaas.nl

As a closure of the obligatory Psychopathology course trajectory, this course will familiarize students with concepts and ideas from what is sometimes called "positive psychology". The aim is to provide students with an understanding that even under unfavourable (genetic or environmental) circumstances people can maintain their health and wellbeing.

Topics
- Philosophical views of "positive psychology"
- The non-expression of genetic vulnerability for psychiatric disorders
- Resilience factors for mental and physical health: the role of humour, optimism and sense of coherence
- Buffering effects of the social environment on the adverse effects of trauma
- Trauma and personal growth
- Emotional disclosure and (mental) health
- Determinants of happiness
- Cultural differences in the experience of happiness and well-being

Instructional Approach
The seminar consists of interactive meetings, which consist of lectures, group discussions, and student presentations.

Form of Assessment
Written assignment

4.3 Skills trainings

481 PP Research Practicum Psychometrics– 2 Credits

Coordinator: Anne Roefs, Clinical Psychological Science, Phone (043) 38 82191, 40 Universiteitssingel, Room 3.747, E-mail: a.roefs@psychology.unimaas.nl

This training will focus on giving students hands-on experience with the application of psychometrics. Students will work together in small groups on psychometric analyses of existing research datasets, supervised by one or two faculty members. In addition to scheduled lectures and discussions with experts in psychometrics, students will have the opportunity to consult a statistician for their analyses. Beyond the primary goal of learning more about how to evaluate and improve the psychometric properties of research instruments, students will also become acquainted with current research on psychopathology being conducted by senior staff, post-docs, and PhD students at the UM.

Form of Assessment
Pass/fail, based on attendance at required sessions, participation, and a final written report.

482 PP Clinical Skills I: Interviewing Skills – 2 Credits

Coordinator: Inge Drost, Clinical Psychological Science, Phone (043) 38 81733, 50 Universiteitssingel, Room 1.354, E-mail: inge.drost@dep.unimaas.nl

The aim of this training is to teach students basic clinical interview skills needed for interviewing patients with psychopathology. After this training students should be able to execute semi-structured interviews covering chief complaint, more specific follow-up, mental status, developmental and social assessment, diagnoses, and type of treatment requested.

The level of the training will be adapted to the entrance level of the student, to be assessed with a simulated interview.
Students write reports of each training session. These reports are assessed by the trainer and form, after approval, the portfolio for this training.

Instructional Approach
Seven 2-3 hour sessions

Form of Assessment
Portfolio of written reports and practical assignments

483 PP Clinical Skills II: Diagnostic Test Procedures – 2 Credits

Coordinators: Petra Hurks, Neuropsychology & Psychopharmacology,
Phone (043) 38 84269, 40 Universiteitssingel East, Room 2.747,
E-mail: p.hurks@psychology.unimaas.nl; Rudolf Ponds, Vijverdal,
E-mail: r.ponds@vijverdal.nl

The aim of this training is to teach students procedures for psychodiagnostic and neuropsychological testing needed for assessing type, severity and extent of psychopathology and neuropsychological problems in individuals with psychiatric disorders. Students will learn to administer a psychodiagnostic interview in adult clients with psychiatric diagnoses as well as in parents of children with developmental problems. Also, they will extend their experience in neuropsychological test administration and observation. They will acquire skills in writing a formal report and in communicating their conclusions to the patient.

Following an introduction to the main cognitive domains in relation to brain areas and relevant neuropsychological and psychopathological test procedures, the training will focus on five disorders: developmental disorders (including disorders of executive functioning and disorders of learning and attention), schizophrenia, bipolar disorder, depression, and personality functioning. These conditions will be discussed in relation to the principles of assessment of psychopathology and neuropsychology outlined in the first session. Students will practice their interviewing skills in real client interviews. In addition, students will be trained in neuropsychological history taking and test administration, which they will perform on fellow students.

Instructional Approach
Seven 3-hour meetings. The sessions will consist of introductory lectures, plenary discussions, and interviews of different patients or their caregivers. In addition, students will perform a neuropsychological examination on a fellow student.

Form of Assessment
Assessment of students' skills in these areas will be based on observation of their behaviour as well as on their written reports.

484 PP Neuroanatomy –1 Credit

Coordinator: Jos Prickaerts, Neuropsychology & Psychopharmacology,
Phone (043) 38 81168, 50 Universiteitssingel, Room 1.108,
E-mail: j.prickaerts@psychology.unimaas.nl

The aim of the training is to become acquainted with the neuroanatomical terminology and to gain insight into the spatial and functional organisation of the brain. It is essential to have a basic knowledge of the brain anatomy when working in the field of neuropsychology or neurobiology. Many specific brain areas can be linked to particular functions. Thus, knowledge of the brain anatomy and its main functions

allows one to directly link specific neurological or psychiatric disorders to particular brain areas. After a short theoretical introduction the students will study whole brains and brain material of mammals at both macroscopical (visual inspection) and microscopical level. The emphasis will be on major brain systems including the basal ganglia and limbic system.

Instructional Approach

Almost exclusively practical: dissection of sheep brain, studying of microscopical slices of rat brain, working with plastic human brain models, CD-ROM programs, and textbook.

Form of Assessment
Written exam with open questions

485 PP Psychophysiological Skills – 1 Credit

Coordinators: Pascal van Gerven, Neuropsychology & Psychopharmacology, Phone (043) 38 84512, 40 Universiteitssingel East, Room 2.742; E-mail: p.vangerven@psychology.unimaas.nl; Eric Vuurman, Neuropsychology & Psychopharmacology, Phone (043) 38 81046, 40 Universiteitssingel East, Room 2.747, E-mail: e.vuurman@psychology.unimaas.nl

The goal of this skills training is to acquire basis skills in major peripheral psychophysiological methods that are used in neuropsychological research and practice and to evaluate the criteria needed to choose psychophysiological methods in neuropsychological research.

The training consists of four meetings. In the first meeting an overview will be presented of the psychophysiological methods that are relevant for Neuropsychology with their possibilities. The second through fourth meeting will be devoted to three major domains in psychophysiology, namely 1) cardiovascular psychophysiology (heart rate, heart rate variability, blood pressure measurements, galvanic skin response), 2) eye movements and pupillometry (e.g., saccadic eye movements, fixations, blink rate and pupil dilation). Through the four sessions, hands on experience will be offered in the laboratory. Basic guidelines about data collection and analysis will be provided. Examples are provided with respect to the relation between basic psychophysiological variables and cognitive variables such as memory load, mental effort, attention, and cognitive (e.g., inhibitory) control.

Instructional Approach
Meetings which will include lectures, demonstrations, practicals, and working group discussions

Form of Assessment
Report on the procedures, approach, dependent variables and problems presented through the practicals

486 PP Clinical Assessment Instruments – 2 Credits

Coordinator: Anton de Vries, Cognitive Neuroscience, Phone (043) 38 84043,
40 Universiteitssingel, Room 4.765, E-mail: a.devries@psychology.unimaas.nl

Running parallel to the core seminars throughout Year 1, a series of 12 training sessions will familiarize students with the range of rating scales, questionnaires, and interview instruments most commonly used in clinical practice and research. The first session will provide an overview of the classes of available instruments: applications in clinical and research contexts, development, strengths and weaknesses. Sessions 2 through 9 focus on instruments designed to assess specific symptoms and severity of the disorders covered in the current core seminar (i.e., session 2 will focus on assessment of anxiety and panic disorder, session 3 on depression, session 4 on traumatic events and PTSD, and so on). The last 3 sessions will focus on broader measures of personality, psychopathology and adjustment (e.g., MMPI, SCL-90, quality of life, social adjustment and coping scales). These training sessions will give students basic background information and hands-on experience in valid and reliable instruments for assessing psychopathology.

Instructional Approach
Lectures, demonstrations, practical training and group discussions

Form of Assessment
Written assignments.

581 PP Clinical Skills III: Clinical Interview for the DSM IV (SCID I and SCID II) – 1 Credit

Coordinator: Reinier Kreutzkamp, Clinical Psychological Science, Phone (043) 38 81605,
50 Universiteitssingel, Room 1.324, E-mail: r.kreutzkamp@dep.unimaas.nl

The aim of this training is to teach students how to conduct the semi-structured clinical interview for the DSM-IV-Tr Axis I (SCID I) and Axis II (SCID II) diagnoses. Students will learn to interpret the outcome of these interviews, to establish differential diagnoses, and to summarize findings in a written report.

Instructional Approach
Four 2-3 hr sessions

Form of Assessment
Students' skills in the above areas will be assessed on the basis of observation of their interview behavior as well as on their written reports

582 PP Clinical Skills IV: Intervention Techniques – 1 Credit

Coordinator: Marisol Voncken, Clinical Psychological Science, Phone (043) 38 81253, 50 Universiteitssingel, Room, 1.351, E-mail: m.voncken@dep.unimaas.nl

The aim of this training is to teach students the basics of evidence-based therapeutic methods for the treatment of relatively simple forms of psychopathology. The level of this training will be adjusted according to the student's previous training and experience.

After this training students should be able to carry out some elementary therapeutic procedures.

Instructional Approach
Four 3-hour sessions

Form of Assessment
Students will be assessed on the basis of skills demonstrated during the last session, in which the group works with a similation patient, and a written assignment (verbatim transcript of a therapeutic session).

4.4 M&T workshops

491 PP Ecological Psychiatry – 1 Credit

Coordinator: Philippe Delespaul, Psychiatry and Neuropsychology, Phone (043) 36 88685, Vijverdal, Room: SN2.069, E-mail:ph.delespaul@sp.unimaas.nl

The expression of psychiatric symptoms is reflected in an individual's behaviours and private phenomena such as thoughts, perceptions and emotions. Psychiatric deficits reveal themselves in the ongoing interplay between the patient and the everyday environment. As a consequence, most psychopathological expressions are unavailable for direct observations by the clinician. They occur – often in a qualitatively different form - outside of the therapist's office and, because they are private experiences, they should be assessed with self-reports in this natural context ('ecological validity').

The aim of the course is:
- to introduce the field of ecological psychiatry;
- to discuss the methodological and statistical challenges related to research with self-reports in normal living situations;
- to illustrate the applicability of these research methodologies in basic and applied clinical research (using schizophrenia research as the primary reference).

Instructional Approach
The workshop will combine traditional teaching and work group sessions. During

the first week, students will monitor their own behaviour and emotions using the Experience Sampling Method. Meeting 1 will be an introduction and a briefing; meeting 2 will primarily focus on technical aspects of the methodology. In small groups, workshop participants will use these data as the basis for 15-minute presentations, to be given in the final meeting. In addition to the face-to-face meetings, approximately 16 hours will be spent on homework and preparation of group presentations.

Form of Assessment
Homework assignments and presentation

492 PP The Application of Cognitive Methods in Psychopathology Research – 1 Credit

Coordinator: Anne Roefs, Clinical Psychological Science, Phone (043) 38 82191, 40 Universiteitssingel, Room 3.747, E-mail: a.roefs@psychology.unimaas.nl

The goal of this workshop is to introduce the students to the most important paradigms from cognitive psychology that are often used in psychopathology research to study biased cognitive processing. Biased cognitive processes play an important role in many kinds of psychopathology, such as depression, anxiety disorders, and eating disorders. The most intensively studied processes involve attention, memory, interpretation, and associations. To study these processes, experimental paradigms from cognitive psychology have been adapted to the needs of clinical psychology. Most of these experimental tasks involve the measurement of reaction times. Unlike other techniques (e.g., eye-tracking, fMRI, EEG), they are easy to program and often run on a standard PC. This workshop will introduce the students to the most popular tasks in the areas of attention (emotional Stroop task, dot probe task, visual search paradigm), memory (free recall, recognition, word stem completion) interpretation, and associations (Implicit Association Test, (extrinsic) affective Simon Task, affective priming paradigm). At the end of this course, students should know the pros and cons of each task well enough to choose an appropriate task for a given research question, and they should be able to change the features of the chosen task to fit their own research needs.

Instructional Approach
Before and during the course, students are given a number of introductory papers about the tasks. In the lectures the various paradigms are explained, briefly demonstrated, and applications in several forms of psychopathology are discussed. An important aspect of the lectures will be a discussion of the pros and cons of the various paradigms. Besides the two lectures, students will do a short practical. In the first lecture they are given an extensive introduction to this practical. The practical will consist of a 1 hour lab session in which the paradigm, computer program, and testing procedure is explained. Each team of two or three students will then be responsible for the recruitment and testing of 4 participants (in 1 session, 4 computers are available in 1 room). On the final day of this training, students will analyze and interpret their own

data set. They will also produce an overview of results, write a brief discussion on the results, and give a critical evaluation of the paradigm that was used.

Form of Assessment
Pass/fail, on the basis of report that is written during the final day of the training

493 PP Research Theory and Designs – 1 Credit

Coordinator: Arnoud Arntz, Clinical Psychological Science, Phone (043) 38 81606, 50 Universiteitssingel, Room 1.308, E-mail: arnoud.arntz@MP.unimaas.nl

The aim of the workshop is to provide students a good understanding of the theoretical and practical issues of different designs that are used in the domain of psychopathology.

This workshop will elaborate on basic issues of research theory and methodology of scientific research in the field of psychopathology. There are four sessions. The first session is devoted to a comprehensive review of issues involving the empirical cycle, epistemology, explanatory power and appeal of theories, and deriving hypotheses from theories, testing them, and the importance of falsification in the empirical cycle. The second through fourth sessions will focus on three main types of designs used in the field: (1) experimental designs to test causal hypotheses in theories of psychopathology; (2) advanced correlational designs, including prospective designs; and (3) the design of treatment outcome studies, including randomized clinical trials.

Instructional Approach
Interactive discussions under the leadership of research faculty with special interest in the topic.

Form of Assessment
Written assignment

495 PP Research Ethics – 1 Credit

Coordinators: Eef Theunissen, Neuropsychology & Psychopharmacology, Phone (043) 38 81940, 40 Universiteitssingel East, Room 2.735, E-mail: e.theunissen@psychology.unimaas.nl

Students will learn to think critically about ethical dilemmas that psychologists encounter when exercising their profession. This workshop will discuss legal and ethical conflicts that are involved in psychological research and clinical practice. Students will be introduced to the ethical and legal rules and boundaries in human research, and to the organisations and institutes supervising the application of these rules. Psychologists always need to make sure that they carry out their work in an ethical and legally sound way. However, there is often a conflict of interests of the involved

parties. In all circumstances, however, it is the psychologist's primary task to secure the patients/participants welfare and to keep risks at to a minimum. Therefore psychologists should know which ethical aspects are of importance and which laws and rules need to be applied and also which institutions supervise on the application of these rules. In addition, these aspects should be taken into consideration when writing and submitting a research proposal to an ethical commission.

The following topics will be discussed:
- Examples of ethical and legal failings
- Necessity of ethical and legal rules
- Different guidelines: declaration of Helsinki, guidelines for Good Clinical Practice, etc.
- Working with participants/patients: rights and duties, confidentiality, data processing and storage, etc.
- Applying ethical and legal rules in e.g., protocol, case report form, informed consent, etc.
- Ethical and legal reviews

Instructional Approach
Lectures and discussion groups

Form of Assessment
Written assignment

496 PP Epidemiology – 1 Credit

Coordinators: Marcus Huibers, Clinical Psychological Science, Phone (043) 38 81487, Universiteitssingel 50, Room 1.353, E-mail: m.huibers@dmkep.unimaas.nl

Epidemiology often is referred to as "quantative medicine". In general, epidemiology deals with methodology issues in the field of health research, including mental health. Students in this workshop will be introduced to the principles of epidemiological research. Topics that are covered in the workshop include: frequency measures, association measures, sources of bias, validity issues, cohort studies, clinical trials, and systematic reviews. The theory of epidemiology will be studied and applied in interactive workshop sessions.

Instructional Approach
Format of the workshop is a series of four weekly 2-hour sessions. Starting each session, the lecturer will give a 30-minute presentation of the topics covered in that session, followed by a 30-minute discussion of these topics. The second hour will be spend on group assignments under supervision of the lecturer.

Required reading will consist of several chapters from a clinical epidemiology textbook and additional research papers. In addition to the workshops sessions, students are expected to spend at least 5 hours a week on reading and homework assignments.

Form of Assessment
Group Assignment:
During the entire workshop, students will work on a research proposal in groups of three or four (depending on the number of students). Students will prepare the proposal during the sessions; the remainder of the work is part of the homework assignments. At the end of the fourth session, each group will give a 10-minute presentation, after which the written proposal is handed in. The lecturer will evaluate the research proposals.

497 PP Imaging – 2 Credits

Coordinator: Elia Formisano, Cognitive Neuroscience, Phone (043) 38 84040, 40 Universiteitssingel East, Room 4.738, E-mail: e.formisano@psychology.unimaas.nl

This workshop is intended to provide:
- introductory knowledge of the basic principles underlying the most common imaging methods
- appreciation of potentialities and limitations of various neuroimaging methods in studying human brain functions and dysfunctions.

The investigation of human brain anatomy and functions using a range of imaging methods represents the most influential development in Psychology in the last years. In this workshop essential facts about all major structural and brain mapping techniques, including Positron Emission Tomography (PET) and SPECT, structural and functional Magnetic Resonance Imaging (fMRI) will be reviewed. The focus will be on the strengths and weaknesses of each of these methods and on the description of relevant applications in the normal and pathological brain.

Instructional Approach
Lectures, paper discussion, and demonstration visit to the MRI scanner

Form of Assessment
Written exam with open questions

498 PP Psychopharmacology – 1 Credit

Coordinators: Wim Riedel, Neuropsychology & Psychopharmacology, Phone (043) 38 84270, 40 Universiteitssingel East, Room 2.732, E-mail: w.riedel@psychology.unimaas.nl

The workshop aims to present Psychopharmacology in a broad sense. The multidisciplinary nature of psychopharmacology encompasses pharmacology, molecular biology, genetics, physiological psychology, experimental, clinical and cognitive neuropsychology and biological psychiatry. The emphasis will be on understanding drug development, drug action, drug research, animal and human

pharmacological models of clinical disorders, experimental / clinical trial design and the development of biomarkers, real measures and surrogate measures of drug efficacy.

The course will focus on four major areas in psychopharmacology: depression, anxiety, psychosis and cognition. These areas will be illuminated from both the perspectives of basic neuroscience including animal subjects as well as experimental and clinical human psychopharmacology.

Instructional Approach
Each half-day the programme will consist of a sequence of three elements:
• 1 or 2 keynote lectures by internationally renowned speakers
• Presentations by PhD students or junior researchers
• Round table group discussions
Keynote lectures and chairmanships of the roundtable discussions will be given by national and international guest lecturers. The workshop offers plenty of opportunity for the master's student to interact with PhD students, junior and senior staff and the invited guest speakers.

Form of Assessment
Written assignment

499 PP Sexual Disorders (Elective) – 1 Credit

Coordinator: Jacques van Lankveld, Clinical Psychological Science, Phone (043) 38 81265, Universiteitsingel 50, Room 1.342, E-mail: j.vanlankveld@dep.unimaas.nl

The workshop introduces students to key concepts in current research in sexology, with an emphasis on the cognitive and behavioral mechanisms that play a role in the etiology and maintenance of sexual dysfunction.

Topics
• The biopsychosocial model of sexual functioning, including the subjective, physiological, and relational dimensions of sexual functioning
• Gender differences in sexual functioning
• The role of cognitive errors in attribution and expectancy
• The role of attention and affect
• An overview of sexual disorders
• Cognitive-behavioural treatments of sexual disorders

Instructional Approach
Two 3-hour meetings, separated by one week.
The first meeting introduces the students to the topics and consists of an introductory lecture and a question and discussion round. Students are given general reading material and tips on further - more specific – material.

As a preparation for the second meeting, each student chooses a topic for a research paper, in which a specific theoretical issue relevant to the area of sexual disorders will be examined, and prepares a discussion paper. The discussion paper presents the central aim of the research paper and one or more specific topics for student presentations and discussion during the second meeting.

The final research paper is due during the week following the second meeting.

Form of Assessment
Discussion paper and research paper

591 PP Protocol Writing – 2 Credits

Coordinator: Herman Schaalma, Work and Social Psychology, Phone (043) 38 84329, 5 Universiteitssingel, Room 3.001, E-mail: h.schaalma@psychology.unimaas.nl

During this course, students will be familiarized with the different phases of writing scientific protocols and research reports. In advance of their upcoming master's thesis, they will learn to define and crystallize a research question based on its feasibility and scientific relevance; to prepare and structure their arguments and to plan the different parts of the paper; to think about suitable designs and research methods for data acquisition and analysis, and, finally, to learn how to walk through the writing process starting from draft to the final version. This all will be accomplished by competence-based learning in which they have to integrate factual knowledge (from the literature) into skill-based practice (by exercise).

Instructional Approach
A combination of introductory lectures, literature meetings and practical sessions

Form of Assessment
Written research proposal

Electives
5 credits, to be chosen from:
- Workshop Sexual Disorders (1 credit)
- Core courses, skills trainings, and workshops given by Neuropsychology or Cognitive Neuroscience (by arrangement)
- Other courses, workshops or trainings given at the graduate level (for masters, PhD, or post-graduate students) at Maastricht University or other academic institutions (by prior approval from the Board of Examiners)
- Individually designed electives (by prior approval from the Board of Examiners)

4.5 Schedule Psychopathology

	YEAR 1
1 week	Introduction Week
4 weeks	**Trends-in** Cognitive Neuroscience & **Trends-in** Neuropsychology (2 credits each) **Core Course**: Anxiety Disorders (3 credits) **Skills Training**: Clinical Skills I (2 credits) - 7 weeks **Skills Training**: Research Practicum Psychometrics (2 credits) – throughout Year 1 **Skills Training**: Clinical Assessment Instruments (2 credits) – throughout Year 1 **Electives** (5 credits) – throughout Year 1 **Colloquia** (total of 5 credits)
4 weeks	**Trends-in** Cognitive Neuroscience & **Trends-in** Neuropsychology **Core Course**: Mood Disorders (3 credits) **Skills Training**: Clinical Skills I **Skills Training**: Clinical Skills II (2 credits) - 7 weeks **Colloquia**
2 weeks	**Trends-in** Cognitive Neuroscience & **Trends-in** Neuropsychology **Workshop**: Ecological Psychiatry (1 credit) **Workshop**: The Application of Cognitive Methods in Psychopathology Research (1 credit) **Skills Training**: Clinical Skills II **Colloquia**
4 weeks	**Trends-in** Cognitive Neuroscience & **Trends-in** Neuropsychology **Core Course**: Stress and Trauma (3 credits) **Skills Training**: Clinical Skills II **Colloquia**
Christmas break	
4 weeks	**Core Course**: Developmental Psychopathology (3 credits) & Advanced Statistics (4 credits) **Workshop**: Research Theory and Designs (1 credit) **Skills Training**: Neuroanatomy (1 credit) **Colloquia**
4 weeks	**Core Course**: Somatoform Disorders (3 credits) & Advanced Statistics **Colloquia**
4 weeks	**Core Course**: Psychosis (3 credits) & Advanced Statistics **Workshop**: Research Ethics (1 credit) **Skills Training**: Psychophysiological Skills (1 credit) **Colloquia**

3 weeks	**Core Course**: Eating Disorders (2 credits) **Workshop**: Epidemiology (1 credit) **Workshop**: Imaging (2 credits) **Colloquia**
3 weeks	**Core Course**: Addiction (2 credits) **Workshop**: Epidemiology **Workshop**: Psychopharmacology (1 credits) **Colloquia**
3 weeks	**Core Course**: Psychopathology and the Law (2 credits) **Workshop**: Sexual Disorders - Elective **Colloquia**
	YEAR 2
4 weeks	**Core Course**: Personality Disorders (3 credits) **Workshop**: Protocol Writing (2 credits) **Skills Training**: Clinical Skills III (1 credit)
4 weeks	**Core Course**: Mental Health and Happiness (3 credits) **Workshop**: Protocol Writing **Skills Training**: Clinical Skills IV (1 credit)
32 weeks	**Research Internship & Master's Thesis (30 credits)** **Clinical Internship & Minor's Thesis (20 credits)**

401 PP & 402 PP - **Trends-in courses**: 10th September- 10th December **2007**
404 PP - **Colloquia**: 14th September 2007 – 13th June **2008**

Core Courses

471 PP - Anxiety Disorders: 11th September- 4th October **2007**
472 PP - Mood Disorders: 8th October- 6th November
473 PP - Stress and Trauma: 20th November- 13th December
474 PP - Developmental Psychopathology: 10th January- 31st January **2008**
475 PP - Somatoform Disorders: 11th February- 6th March
476 PP - Psychosis: 10th March- 10th April
477 PP - Eating Disorders: 14th April- 28th April
478 PP - Addiction: 6th May- 22nd May
479 PP - Psychopathology and the Law: 26th May – 12th June
480 PP - Advanced Statistics: 7th January – 9th April
571 PP - Personality Disorders: 3rd September - 26th September
572 PP - Mental Health and Happiness: 1st October - 25th October

Skills Trainings

481 PP - Research Practicum Psychometrics: by arrangement, from October 2007 through April 2008
486 PP - Clinical Assessment Instruments: 12th September 2007 – 13th June 2008
482 PP - Clinical Skills I: 14th September- 26th October **2007**
483 PP - Clinical Skills II: 30th October - 11th December
484 PP - Neuroanatomy: 11th January- 1st February **2008**
485 PP - Psychophysiological Skills: 14th March- 11th April
581 PP - Clinical Skills III: 7th 6th September- 28th September
582 PP - Clinical Skills IV: 5th October- 26th October

Workshops

491 PP - Ecological Psychiatry: 29th October- 2nd November **2007**
492 PP - The Application of Cognitive Methods in Psychopathology Research: 12th November- 15th November
493 PP - Research Theory and Designs: 8th January – 29th January **2008**
495 PP - Research Ethics: 11th March- 8th April
496 PP - Epidemiology: 15th April- 6th May
497 PP - Imaging: 21st May – 22nd May
498 PP - Psychopharmacology: 27th May – 28th May
499 PP - Sexual Disorders: 3rd June – 10th June
591 PP - Protocol Writing: 5th September- 24th October

Education and Examination Regulations

5.1 Education and Examination Regulations

Research Master in Cognitive Neuroscience, Neuropsychology and Psychopathology

§ 1 GENERAL CONDITIONS

Education and Examination Regulations for the 2007-2008 academic year for the Research Master Study Programme in the Faculty of Psychology, as meant in article 7.13 of the Law on Higher Education and Scientific Research (WHW).

Article 1.1 Scope of the Regulations

These regulations apply to the education and examinations for the full-time Research Master Study programme "Cognitive Neuroscience, Neuropsychology and Psychopathology", hereinafter referred to as the study programme.
The study programme is offered by the Faculty of Psychology in cooperation with the Faculty of Health, Medicine, and Life Sciences, hereinafter referred to collectively as the Faculties.
The Faculty of Psychology, hereinafter referred to as the Faculty, is responsible for coordinating and administering the study programme. The regulations have been established by the Faculty Board, after the advice from the study Programme Committee and the approval from the Faculty Council had been obtained, and will apply as of 1st September 2007 for the 2007-2008 academic year.

Article 1.2 Definitions

In these regulations the following is understood by:

a. The law: the Law for Higher Education and Scientific Research (WHW);
b. Student: he/she who has been enrolled at the University of Maastricht as of 1st September 2007, for the purpose of attending the courses and/or fulfilling the formal requirements of the study programme.
c. Academic year: the period from 1st September of a calendar year through 31st August of the following calendar year.
d. Part: a study unit of the study programme as meant by article 7.3 of the law.
e. Course: a study unit of the study programme, as meant by the law.
f. Tutorial Group Meeting: a practical exercise, as meant by article 7.13 paragraph 2, sub t of the law.
g. Practical Training: a practical exercise, as meant by article 7.13, paragraph 2, sub d of the law.
h. Test: the test as part of the examination as meant by article 7.10, paragraph 1 of the law.
i. Examination: all of the formal requirements (a total of 120 European credits) for the Research Master study programme for a given specialization, including tests, papers, assignments, internships, theses, and other requirements as specified for each course or part of the education.
j. Credit: a study load of 28 hours, in accordance with article 7.4 of the law. The total

study load of the Research Master study programme amounts to 120 European credits.

k. Board of Examiners: the committee as meant by article 7.12 of the law.
l. Examiner: the person, appointed by the Board of Examiners, who is responsible for assessing student performance.
m. Course Coordinator: an examiner who is responsible for the content of a certain course, workshop, colloquium, skills training, or other part of the study programme.
n. Board of Appeal: the Board of Appeal for Examinations as meant by article 7.60 of the law.
o. Rules and Regulations: the rules drawn up by the Board of Examiners to ensure a smooth running of the assessments, and the regulations governing the way in which the examinee is assessed and how the results of the assessments are arrived at as meant by article 7.12, paragraph 4 of the law.
p. Faculty Board: the Executive Board of the Faculty of Psychology of the University of Maastricht as meant by article 9.24 of the law.

Other terms are to be understood in accordance with the meaning assigned to them by the law.

Article 1.3 Purpose of the Study Programme

1. The Research Master programme Cognitive Neuroscience, Neuropsychology and Psychopathology is a two-year programme designed for students who want to continue their studies at a graduate school that prepares them for a career in the field of research. Therefore, the purpose of the study programme is the following:
   - academic formation within the context of the Maastricht University educational concept and its distinct profile;
   - provide students with a stimulating scientific environment that will enable them to develop as independent thinkers with a broad curiosity in the various aspects of the multidisciplinary research domain;
   - possibility to broaden one's knowledge in other disciplines;
   - acquisition of specialized knowledge, skills, and insight in one of the three specializations, namely, Cognitive Neuroscience, Neuropsychology, or Psychopathology;
   - preparation for a PhD trajectory or a research career in a non-academic setting.

2. There are sufficient elements in the study programme to enhance the further development of the academic formation of the student, in particular with regard to:
   - thinking and acting independently and scientifically;
   - communicating scientifically in English;
   - applying specialized scientific knowledge in a broader context.

Article 1.4 Organisation of the Study Programme

The study programme will be offered on a full-time basis.

§ 2 STRUCTURE OF THE STUDY PROGRAMME

Article 2.1 Study Load

The two-year study programme has a total study load of 120 European credits (60 credits each year).

Article 2.2 Research Master Specializations

Specializations in the Research Master Study Programme

a. Cognitive Neuroscience (CN)
b. Neuropsychology (NP)
c. Psychopathology (PP)

Article 2.3 Composition of the curriculum

1. Cognitive Neuroscience

Trends-in courses: 4 credits

Core Courses:

- Neural Correlates of Selection in Language Processing: 4 credits
- Perception & Attention: 4 credits
- Neuroimaging: 4 credits
- The Cognitive Neuroscience of Sensory and Motor Systems: 4 credits
- Advanced fMRI:3 credits
- Magnetic Brain Stimulation: 3 credits
- Tracking the Time-course of cortical processing using MEG and EEG: 3 credits
- The Auditory System: 3 credits
- Neural Correlates of Consciousness: 3 credits
- Neurocognition of Literacy and Numeracy: 3 credits
- Modeling: 3 credits
- Advanced Statistics: 4 credits

Skills Trainings: 11 credits

Each training has a study load of either 1 or 2 credits. The skills trainings provided are listed in the programme's Prospectus.

Workshops: 9 credits

Each workshop has a study load of 1 or 2 credits.

The workshops provided are listed in the programme's Prospectus.

Colloquia: 5 credits

Research internship (36 credits) and master's thesis (14 credits): 50 credits

2. Neuropsychology

Trends-in courses: 4 credits

Core Courses:

- Brain Damage: 4 credits
- Behavioural Disorders: 4 credits

- Cognitive Aging: 4 credits
- Arousal, Attention, and Psychopharmacology: 4 credits
- Biopsychology: 3 credits
- Brain, Learning and Memory: 3 credits
- Executive Functions and Control of Action: 3 credits
- Neuropsychiatric Disorders: 3 credits
- Neuropsychopharmacology: 3 credits
- Cognitive Development: 3 credits
- Brain, Cognition, and Mental Health: 3 credits
- Advanced Statistics: 4 credits

Skills Trainings: 11 credits
Each training has a study load of either 1 or 2 credits. The skills trainings provided are listed in the programme's Prospectus. In Year 2, students choose one of the following two options:
- Neuropsychological Treatment Intervention: 1 credit AND
- Data management: 1 credit

OR
- ERP: 2 credits

Workshops: 9 credits
Each workshop has a study load of 1 or 2 credits.
The workshops provided are listed in the programme's Prospectus.

Colloquia: 5 credits
Research internship (36 credits) and master's thesis (14 credits): 50 credits
(Optional: Research internship (20 credits) and Master's thesis (10 credits): 30 credits and Clinical internship (16 credits) and minor's thesis (4 credits): 20 credits)

3. Psychopathology
Trends-in courses: 4 credits
Core Courses:
- Anxiety: 3 credits
- Mood Disorders: 3 credits
- Stress and Trauma: 3 credits
- Developmental Psychopathology: 3 credits
- Somatoform Disorders: 3 credits
- Psychosis: 3 credits
- Eating Disorders: 2 credits
- Addiction: 2 credits
- Psychopathology and the Law: 2 credits
- Personality Disorders: 3 credits
- Mental Health and Happiness: 3 credits
- Advanced Statistics: 4 credits

Skills Trainings: 12 credits
Each training has a study load of either 1 or 2 credits. The skills trainings provided are listed in the programme's Prospectus.

Workshops: 10 credits
Each workshop has a study load of 1 or 2 credits.
The workshops provided are listed in the programme's Prospectus.

Colloquia: 5 credits
Electives: 5 credits. The electives provided are listed in the programme's Prospectus.
Research internship (20 credits) and Master's thesis (10 credits): 30 credits
Clinical internship (16 credits) and Minor's thesis (4 credits): 20 credits

Article 2.4 The Research Master Examination

The examination consists of the following parts:
1. The courses, tutorial group meetings, and practical trainings pertaining to the selected Research Master specialization;
2. The research proposal, research internship, and the Master's thesis;
3. For PP students (elective for NP students), the clinical internship and the Minor's thesis

Article 2.5 Language of Instruction

The education and examination in the Research Master study programme are conducted in English.

§ 3 TESTS AND EXAMINATIONS

Article 3.1 Compulsory Sequencing of Parts

1. The research internship cannot be started until:
   - At least 60 credits have been attained during the programme;
   - In the above mentioned 60 credits, the Advanced Statistics course must be included.
2. The clinical internship cannot be started until:
   - At least 60 credits have been attained during the programme;
   - In the above mentioned 60 credits, the Advanced Statistics course and for students following the Psychopathology specialization all Clinical Skills (I–IV) trainings must be included; for students following the Neuropsychology specialization the following skills trainings must have been completed:
     - Neuropsychological Assessments
     - Basic Cognitive Psychological Skills
     - Psychophysiological Skills
     - Neuropsychological and Neuropsychiatric Instruments I and II
3. If a student deviates from the sequencing as described under 1 and, if applicable, 2 without permission from the Board of Examiners, the result of the part in question can be declared invalid.

Article 3.2 Periods and Frequency

1. Assessments take place twice each academic year for each unit, at times determined by the Board of Examiners: i.e. once during or immediately following the period in which the relevant unit was done and once later in the same academic year.
2. In special cases, the Board of Examiners can decide that an assessment can take place at a time different from that set in accordance with the previous point.

Article 3.3 Form of the Assessments

1. As a rule, assessments are in written form. This includes tests done on a computer. An examiner needs to receive approval by the Board of Examiners to conduct assessments in a form other than open questions, papers, or portfolios.
2. For written examinations, students will be admitted and can take the test for up to 30 minutes after the test has started. After this, admission will be refused and no extension of the duration of the test will be granted. Students are not allowed to leave the room where the test is taken, until at least 30 minutes after the test has started.
3. A condition for taking course examinations is the compliance with the minimum requirements for participation in the group meetings as laid down in article 4 of section 5.2.
4. The Board of Examiners has the authority to permit a different form of testing or assessing in special cases.
5. The Board of Examiners can draw up guidelines for written papers. These guidelines will be included in the programme's Prospectus or in the manual pertaining to the relevant part.
6. Students with a functional disability may request permission from the Board of Examiners to take the tests in a manner that is, as far as is possible, in keeping with their handicap. The Board of Examiners can ask for expert advice before arriving at a decision.
7. During written examinations students are not allowed to carry cellular telephones or electronic organisers. The exam will be declared invalid if the student does not conform to this regulation. If a student is discovered to be using a cellular phone or an electronic agenda during the examination, the fraud regulation will be applied.

Article 3.4 Oral Tests

1. Oral tests are permitted only in special cases and can be conducted only if the examiner has received approval by the Board of Examiners.
2. Oral tests are not given to more than one person at the time.
3. An oral test is administered by two examiners, unless the Board of Examiners has decided otherwise.
4. Administering an oral test is done publicly, unless the Board of Examiners or the relevant examiner has decided otherwise in a special case, or if the student has raised objections to this.

Article 3.6 Attendance at Tutorial Group Meetings

1. The Board of Examiners lays down the minimum of tutorial group meetings a student

is required to attend in the rules and regulations and determines how the actual attendance of each student in the education is registered.
2. Students who do not comply with this minimum attendance requirement, compulsory participation in the tutorial group meetings, but have not missed more than one meeting than is allowed, can still comply with the compulsory attendance requirement by applying for a compensatory assignment from the Board of Examiners, no later than two weeks after the relevant course has ended. At most, three requests for a compensatory assignment will be granted to a student in each academic year. The Board of Examiners will inform the student whether permission for a compensatory assignment has been granted no later than four weeks after the course assessment has taken place.

Article 3.7 Proof of Having Passed Courses

1. Once a student has taken part in a sufficient number of tutorial group meetings and has successfully completed the course assessment and any associated practical training, this will count as proof of having passed the relevant course. The proof will be obtained after an examiner or a non-academic employee, under the supervision and responsibility of the Board of Examiners, has declared that the requirements for that part of the examination have been complied with. A condition for obtaining proof of having passed a course is that the student has complied with the admission requirements for the relevant part of the examination. The Board of Examiners can revoke the decision of the examiner if the admission requirements have not been complied with.
2. If the non-academic employee doubts whether the requirements for granting proof of having passed a course have been complied with, he/she puts this before the Board of Examiners for a final decision.

Article 3.8 Research Internship

1. The Board of Examiners determines the criteria that the nature and content of an internship must meet in the internship regulations.
2. The internship regulations are set out in Appendix 1.
3. In order to ensure that the internships proceed smoothly, further guidelines have been drawn up, which can be found in the Manual on Internships. The manual is provided to Research Master students before the end of the first academic year.
4. A student can only follow a research internship once during his/her programme of study. During the internship the student will be supervised by the Faculty.

Article 3.9 Clinical Internship

1. The clinical internship coordinator determines the criteria that the nature and content of the internship must meet in the internship regulations.
2. The clinical internship regulations are set out in Appendix 2.
3. In order to ensure that the internships proceed smoothly, further guidelines have been drawn up, which can be found in the Manual on Internships. The manual is provided to Research Master students before the end of the first academic year.
4. A student can only follow a clinical internship once during his/her programme of

study. During the internship the student will be supervised by the Faculty.
5. PP students may be allowed, but only under exceptional circumstances and with prior approval of the Board of Examiners, to omit the clinical internship and minor's thesis; in this case, the research internship and master's thesis would together represent 50 credits.

Article 3.10 Period of Validity

As a rule, the period of validity of assessments is unlimited.
However, by way of exception, the Board of Examiners can set a supplementary or alternative assessment for a part a student passed more than six years previously.

Article 3.11 Right of Inspection

1. The student, on request, has the right to inspect his/her corrected work within a period of two weeks after the results of a written assessment have been made known, at a place and time determined by the course coordinator.
2. The student who has undergone the assessment can go through the questions and tasks of the relevant assessment during this inspection, and, in addition, see the norms on which the assessment had been based.

Article 3.12 Exemptions

The Board of Examiners can, on the request of a student, grant exemption from taking a test or other assessment, if the student provides satisfactory written proof that he/she:
1. has already successfully completed a similar course at a university or higher college of higher professional education, which is equivalent in content and level;
2. possesses sufficient knowledge and skills in relation to the relevant test or assessment by way of work or professional experience.

Article 3.13 Determining and Publishing Results

1. The Board of Examiners determines the standards for the assessment of each part of the examination.
2. The examiner determines the provisional result of a written assessment within 15 working days after the day on which the assessment took place, and provides the educational office with the data needed for the publication of the result to the student.
3. The examiner determines the result of an oral test immediately after it has been taken and issues the student with a written declaration to this effect. If several students take the same test one after the other, the time for determining the result can be extended by maximally one week.

Article 3.14 Fraud

1. If the Board of Examiners ascertains that, in the course of any form of assessment, a student:
    - made use of illicit aids, texts or notes, or makes or made use of prohibited electronic aids or means of communication;
    - verbally or by means of gestures communicated or tried to communicate with a

fellow student without the permission of a supervisor, examiner or member of the Board of Examiners;
- copied or tried to copy or gave somebody the opportunity to copy;
- deliberately misled or tried to mislead the, the examiner or the supervisor, with respect to the examination;
- committed any other form of fraud, including plagiarism, then the Board of Examiners can declare the result of the relevant assessment invalid for the student concerned.

2. The Board of Examiners can furthermore take the following measures for the cases mentioned under point 1:
   - reprimand,
   - exclusion from (further) participation in one or more parts of the examination of the study programme for a period of at the most one year.
3. In the case of fraud, the Board of Examiners will apply the same fraud regulation as set out in the Rules and Regulations for the Research Master Examination. This document also specifies what is understood by fraud.

Article 3.15 Results

Students who have complied with the requirements for the Research Master examination and who wish to receive the relevant certificate must submit a request to the Exam Administration office to determine the result of the examination, at least one month prior to the date of graduation.

Article 3.16 Examination

1. The Board of Examiners confirms the result of the Research Master examination as soon as the Exam Administration office has received sufficient proof that the student has passed the assessments. The student, who has met all the requirements for the Research Master examination, will be conferred the Research Master Degree and will receive the diploma belonging to the Research Master examination as proof of this.
2. Before the Board of Examiners determines the result of the examination, it is entitled to enquire into the student's knowledge in respect of one or more parts of the study programme, should the results of the relevant assessments give reason for this.

Article 3.17 Degree, Diploma

1. He/she who has passed the examination successfully will be awarded the degree of "Master of Science".
2. The diploma issued as a result of having passed the examination successfully will contain:
   a. the name of the study programme;
   b. the degree that has been awarded;
   c. the most recent date on which the study programme has been accredited, or alternatively has undergone the test of being a new study programme.
3. The diploma will be signed by at least two members of the Board of Examiners.
4. The presentation of the diploma is done in public, unless the Board of Examiners decides otherwise in special cases.

5. A separate list of marks will be issued with the diploma.
6. An English diploma supplement will be issued with the certificate.
7. The Board of Examiners can award the diploma with the qualification of 'with distinction' in accordance with the Rules and Regulations of the Research Master examination.

Article 3.18 Right of Appeal

A student has the right to appeal to the Board of Appeal for Examinations in accordance with article 7.61 of the law. This is clearly stated on the form on which a decision by the examiner and the Board of Examiners that is open to appeal is communicated to the student. In addition, this form mentions the period within which such an appeal has to be lodged.

§ 4 ADMISSION

Article 4.1 Admission Requirements for the Research Master Study Programme (art. 7.30b)

The programme will selectively admit a group of maximally 60 highly qualified students each year. Admission is limited to those with at least a university bachelor degree (obtained by September 1st 2007).

The following documents are needed for application:

- Completed application form
- Application letter that covers the applicant's background and motivation for research training in the chosen specialization (maximum 500 words).
- A Curriculum Vitae (maximum 2 pages)
- A certified English transcript of university courses followed and marks received
- Two academic references completed on the provided forms and mailed directly by the referees.
- Non-native English speakers who have not studied at a Dutch University must provide evidence of satisfactory English test results:
  - IELTS: minimum score 6.5
  - TOEFL: minimum score 570 paper-based, 230 computer-based, or 88 internet-based.
  - Other recognized proof of English proficiency approved by the Board of Examiners

A copy of the official test results is required.

Furthermore, all applicants must pay a non-refundable application processing fee of € 75, and application materials must be received by the deadline published on the website.

Article 4.2 Limitations on Enrolment

1. At least two months before the mentioned closing date published on the website the Dean proposes the maximum number of students to be admitted to each of the three specializations of the Research Master to the University Board.
2. Admission of qualified students is based on a two-step selection procedure. In the first round the Board of Admission assesses the curriculum vitae, academic

record, letter of motivation, academic recommendation letters, and proof of English proficiency, provided by the applicant. Following a favourable decision in the first round, the applicant is invited to the second round, which consists of an individual interview conducted by members of the Board of Admission and a written assignment. Final admittance decisions are made following this.

The Board of Admission is not bound to admit a minimum number of applicants to the Research Master programme or to any of its three specializations.

Article 4.3 Board of Admission

1. The Board of Admission of the Research Master programme is delegated the authority to make judgements concerning admission to the programme and to supply proof of such admission. The Board of Admissions consists of:
   - the board of examiners
   - a faculty member for each specialization

Appointment to the Board of Admission is effected by the Dean according to the advice of the Board of Education.

§ 5 STUDY ADVICE AND GUIDANCE

Article 5.1 Individual Access to Study Results

1. The Faculty registers the individual study results of the students in such a way that they can be consulted by the students via Premium.
2. The Faculty furnishes each student with an overview of the personal study results obtained at least once a year (preferably halfway through the second semester).

Article 5.2 Study Mentoring

The Faculty organises an introductory programme and assigns a faculty mentor to each student enrolled in the study programme. The mentor guides the learning process and supervises the personal growth of the student. Close monitoring of student performance and progression will help ensure that students complete the Research Master programme on schedule.

§ 6 PROCEDURAL RULES AND EXCEPTIONS

Article 6.1 Change

1. Changes in these regulations will be determined by special decision of the Faculty Board on the advice of the study programme commission and with the approval or advice of the Faculty Council.
2. A change in these regulations will not apply to the academic year in which it occurs, unless the interests of the students are not adversely affected by such a change.

3. A change can furthermore not be to the detriment of students by affecting any other decision that had been taken on the basis of the original regulations.

Article 6.2 Publication

1. The Faculty Board sees to the proper publication of this regulation, of the Rules and Regulations that have been determined by the board of examiners, and also of any changes in these, by incorporating them in the programme's Prospectus among other things.
2. Interested persons can obtain a copy of the documents referred to in point 1 from the secretariat of the Board of Examiners.

Article 6.3 Unforeseen Cases

The Board of Examiners decides in cases that have not been foreseen by these regulations.

Article 6.4 Hardship Clause

The Board of Examiners is entitled to deviate from these regulations in individual cases, if a strict adherence will, in its opinion, result in an unfair outcome for the individual, in view of the special circumstances.

Article 6.5 Appeal

When the results students have obtained for (parts of) assessments are announced, the Board of Examiners will notify them of the right to inspection, of the possibility to appeal against the decision with the Board of Appeal for Examinations as meant in article 7.61 of the Law, and of the period of four weeks within which this appeal has to be lodged.

Article 6.6 Date of Taking Effect

This regulation takes effect as of 1st September 2007 and will be in force for the 2007/2008 academic year.
Thus enacted with the approval of the Council of the Faculty of Psychology in its meeting of July 19, 2007.

No rights can be derived from the education and examination regulations as included here. Copies of the definitive education and examination regulations can be obtained from the secretariat of the Board of Examiners.

5.2 Rules and Regulations

For the Research Master's examination of the study programme Cognitive Neuroscience, Neuropsychology and Psychopathology

Article 1 Board of Examiners

The Board of Examiners sees to the execution of the regulation for the Research Master examination and its parts, taking into account the law and the education and examination regulations concerning the organisation and scope of the examinations

of the Research Master study programme of the Faculty of Psychology. The Board of Examiners appoints examiners who are competent to assess student performance in a course. In particular cases the Board of Examiners can annul decisions taken by the examiners and can take its own new decision. This will in particular be the case if a student has not complied with the admission requirements for a part of the examination which he/she has completed.

Article 2 Composition of the Research Master Examination

The Research Master examination consists of the following parts:

a. the courses pertaining to the Research Master specialization;
b. the other courses, workshops, skills trainings, and colloquia;
c. the tutorial group meetings pertaining to the courses as meant under a.;
d. the research internship and the master's thesis;
e. where applicable, the clinical internship and minor's thesis.

Article 3 Proof of Having Passed a Course

1. *Core Courses*
   A student can have a course registered as passed if the following requirements have been met:
   - A minimum of 85% attendance at the tutorial group meetings. A student who arrives more than 10 minutes after the official starting time of the meeting shall be considered not to have attended. For admission to the course examination, a student must have attended a minimum of 85% of the tutorial group. If a student has not complied with the minimum attendance requirement but has not missed more than one meeting than is allowed, he/she will be admitted provisionally to participate in the course examination. In this case a student can still comply with the minimum attendance requirement by applying for a compensatory assignment;
   - A satisfactory assessment for the practical training, if applicable;
   - At least sufficient marks for the final course assessment.

2. *Trends-in Courses*
   A student can have a trends-in course registered as having been passed if the following requirements have been met:
   - Attending a minimum of 85% of the lectures and discussion sessions;
   - Satisfactory performance of all components of the discussion leader role.

   These requirements apply separately to each of the two trends-in courses a student follows.

3. *Colloquia*
   A student can have the colloquium series registered as having been passed if the following requirements have been met:
   - Registered attendance at a minimum of 15 colloquia; if a student has not complied with the attendance obligation but has not missed more than one meeting, he/she will be able to apply for a compensatory assignment;
   - Timely and satisfactory completion of the required assignments.

4. *Skills Trainings*
   A student can have a skills training registered as having been passed if the following requirements have been met:
   - Attendance of 100 % of the skills trainings sessions. If a student has not complied with the attendance obligation but has not missed more than one meeting, he/she will be able to apply for a compensatory assignment;
   - Timely and satisfactory completion of the required assignments.

5. *Workshops*
   A student can have a workshop registered as having been passed if the following requirements have been met:
   - Attendance of a minimum of 85% of the group meetings; if a student has not complied with the attendance obligation but has not missed more than one meeting, he/she will be able to apply for a compensatory assignment;
   - Timely and satisfactory completion of the required assignments.

6. Electives

a. Electives can be regular courses offered by the UM or another university at the master's level or higher. The content of elective courses should have a link to the RM programme goals. In questionable cases, the Board of Examiners will decide. Course content should not duplicate or extensively overlap with previously taken courses, as judged by the Board of Examiners.
b. Individually-designed electives: Students can design an elective tutorial, research project, or other study, provided that it meets established criteria, as judged by the Board of Examiners. These criteria include: supervision and assessment by a faculty member; a minimum study load of 28 hours per credit; assessment based on a written paper or examination; content linked to the goals of the RM programme, as described on page 8 of the Prospectus (General). A maximum of 2 of the 5 required electives for PP students can be obtained through an individually-designed course or activity. A maximum of 2 credits can be earned for any single individually-designed elective.
c. Applications to register for electives (including individually-designed electives) must be submitted 6 weeks in advance of their starting date.
d. Admission to an elective course can be denied if the student does not have the prerequisite background knowledge (if in doubt, students should consult the course coordinator before applying).
e. The Board of Examiners will notify students as soon as possible, at the latest within 2 weeks after the application has been submitted, in case their application for an elective cannot be granted.
f. By notifying the Board of Examiners, a student can cancel enrolment in an elective course anytime up to and including the second meeting of a course of at least 4 meetings, or up to and including the first meeting of a shorter course, or during the first week of an individually-designed elective.
g. For elective courses in which a grade is given, this grade will appear on the transcript but is not included in the grade point average
h. There is no limitation on the number of elective courses students in any specialization

may take; however, credits obtained from elective courses cannot be used to substitute for credits that must be obtained from required courses or parts of the curriculum.

i. If an elective course is assessed with a grade, this will appear on the student's transcript but it will not be included in the calculation of the Grade Point Average.

Article 4 Attendance Requirements

1. Where attendance of at least 85% of meetings is mandatory, the following applies:
   - of a total of 18 meetings: at least 15 meetings;
   - of a total of 16 or 17 meetings: at least 14 meetings;
   - of a total of 15 meetings: at least 13 meetings;
   - of a total of 14 meetings: at least 12 meetings;
   - of a total of 13 meetings: at least 11 meetings;
   - of a total of 12 meetings: at least 10 meetings;
   - of a total of 11 or 10 meetings: at least 9 meetings;
   - of a total of 9 meetings: at least 8 meetings
   - of a total of 8 meetings: at least 7 meetings;
   - of a total of 7 meetings: at least 6 meetings;
   - of a total of 6 meetings: at least 5 meetings;
   - In the case of 5 or fewer meetings there is an attendance obligation of 100%.
2. Attendance will be registered on a form, which is transmitted to the education office at the end of the course or training.
3. If a student has not complied with the attendance requirements, the relevant course will not be registered as having been passed.

Article 5 Compensatory Assignment

In order to qualify for a compensatory assignment a student must apply for this within two weeks after the course is finished by filling in the form **Request Compensatory Assignment Insufficient Attendance** (to be collected at the education desk) and handing it in at the education desk on level 0 (Universiteitssingel 40) during opening hours. The student will receive a receipt, with the deadline for handing in the assignment on it. The assignment must be handed in to the course coordinator within four weeks after it has been given to the student. If this compensatory assignment is considered to be satisfactory the student will be considered to have complied with the attendance requirements and the provisional result of the course examination shall be ratified. If the request for a compensatory assignment has not been submitted in time and/or more than one meeting above what is allowed has been missed, the compensatory assignment will not be given and the provisional result of the course examination will be annulled. The student will then have to comply with the attendance obligation and take the course examination in the following academic year. A student can qualify for a compensatory assignment at the most three times per academic year. After a compensatory assignment has been given three times, this regulation cannot be applied another time in the same academic year;

Article 6 Requirements for the Research Master Degree in Cognitive Neuroscience, Neuropsychology and Psychopathology

The awarding of the Research Master degree and the issuing of the relevant Diploma will take place when proof of having passed all parts of the examination mentioned in article 2 have been obtained:

1. At least sufficient marks for each of the assessments;
2. Proof of satisfactory performance for all practical training sessions that are part of the education;
3. Compliance with the attendance requirement for all courses and practical training sessions;
4. Proof of satisfactory completion of the research internship, research proposal and the master's thesis;
5. Where applicable, proof of satisfactory completion of all components of the clinical internship, the clinical research proposal and the minor's thesis.

Article 7 With Distinction Degree Completion

1. Degree completion "with distinction" is attached to the Research Master examination, if each of the following requirements has been met:
   a. A weighted grade point average (GPA) of at least 8.0 for all parts of the Research Master examination that are assessed on a ten-point scale. Furthermore, all assessments must be passed on the first attempt.
   b. Weighting of course grades occurs according to the credits obtained in each course (see also Article 2.3).
   c. Master's thesis: a score of at least 8.0 or, where applicable, the proportional average of the scores for the master's thesis and the minor's thesis is at least 8.0.
   d. In the calculation of the overall GPA, thesis grades are weighted as follows: the master's thesis is equivalent to 14 European credits; for students writing both a master's and a minor's thesis, the master's thesis is equivalent to 10 credits and the minor's thesis to 4 credits.

Article 8 Exemptions

1. Request for exemption from taking an assessment or undergoing another part of the examination on the strength of what has been determined by law will be submitted to the Board of Examiners. Written proof must be submitted to support the request.
2. The Board of Examiners makes a substantiated decision within four weeks after having received the request. The Board of Examiners is entitled to extend this period of four weeks by a period it determines. The student will be informed of the Board of Examiners's decision in writing.
3. No credits will be awarded for the parts of the examination for which exemption has been granted.

Article 9 Reassessments/Resits

The following reassessment arrangements apply to students who in the first instance have not passed a part of the Research Master examination. The relevant reassessments are available only to students who have complied with the attendance requirement.

1. Core courses, including Advanced Statistics
The student who failed a course assessment will get one other opportunity to repeat that examination per academic year.
If a student passes the initial assessment he/she cannot repeat the examination. In the case of a reassessment the highest mark counts.

2. Workshops, Skills Trainings, Trends-in Courses, and Colloquia

Students who failed a task of a practical training will have to complete a reassessment in the same academic year.

3. Papers
There will be one chance per unit to redo papers (including the master's and minor's thesis) per academic year. This will consist of rewriting the relevant paper.

Article 10 Hardship Clause

The Board of Examiners has the right to deviate in individual cases from what has been determined in the regulation on the request of a student, if a strict application of the rules would lead to an unfair or unreasonable situation. In the assessment of individual cases the Board of Examiners uses as its starting point the generally applicable legal principle that equal must be treated as equal and unequal must be treated as unequal. The Board of Examiners uses the so-called principle of unforeseen circumstances as the criterion for acceptability.

Article 11 Implementation and Date of Taking Effect

1. The Board of Examiners makes decisions in all cases that have not been foreseen by the Rules and Regulations.
2. These Rules and Regulations take effect as of September 1, 2007.

Thus enacted by the Research Master Board of Examiners at its meeting of July 19, 2007.

No rights can be derived from the education and examination regulations as included here. Copies of the definitive education and examination regulations can be obtained from the secretariat of the Board of Examiners.

5.3 Appendices

With the rules and regulations of the Research Master's examination

Appendix 1: Regulation on Research Proposal, Research Internship, and Master's Thesis
Appendix 2: Regulation on Clinical Internship and Minor's Thesis
Appendix 3: Regulation on Fraud

APPENDIX 1 Regulation on research proposal, internship, and master's thesis

Article 1 Research proposal

1. A research proposal is an independently written proposal concerning research that the student intends to conduct during his/her internship.
2. The research proposal consists of the following parts:
   - a brief theoretical background of the research;
   - the question posed by the research;
   - a description of the research plan;
   - a description of the research methods that will be applied;
   - a description of the techniques that will be used for processing and analysing the data;
   - a timetable.
3. Guidelines for the format and length of the research proposal can be found in the Research Internship Manual.
4. The assessment is done by two assessors. They are: a. two senior staff members of the Faculties if the internship is done internally (supervisor from the Faculties and a second assessor), or b. the external supervisor and the supervisor from the Faculties in case the internship is done outside the Faculties.
5. The research proposal must be submitted within 4 weeks of commencing the research internship. If the research proposal is judged to be unsatisfactory, the regulation about reassessments for Papers, article 8, point 3, Rules and Regulations for the Research Master examination of the study programme Cognitive Neuroscience, Neuropsychology and Psychopathology applies.
6. Before the student can commence research activities, formal permission for the study must have been obtained from the appropriate Ethics Commission / Institutional Review Board.

Article 2 Research internship

1. A student is required to do a research internship and master's thesis at the conclusion of his/her study programme. If applicable, the clinical internship and minor's thesis can be done before, after, or together with the research internship.
2. The student notifies the educational office about the internship at least one month before the start of the internship by means of a research internship notification form. The educational office checks whether the student has complied with the requirements in article 3.1, point 1 of the examination regulations.

3. An internship agreement is drawn up separately for each internship, in which a number of arrangements are set out between the institution where the internship takes place, the supervisor from the Faculties and the student. A copy of this agreement is sent to the educational office at least one month before the internship starts.
4. The student will be supervised during the internship by a supervisor from the Faculty and a supervisor from the institution where the internship takes place (internship supervisor). The task of the supervisor from the Faculties and/or the internship supervisor consists in advising the student in matters of content with respect to the internship activities and the reporting of these in a master's thesis (see Appendix 1: Article 3, Regulation master's thesis). In addition, the supervisor from the Faculties is the contact person with the institution where the internship takes place.
5. After the practical part of the research has been finished, an evaluative discussion takes place between the internship supervisor, the supervisor from the Faculty and the student. The internship is registered as having been completed successfully by the internship supervisor or the supervisor from the Faculty on an assessment form, which is sent to the educational office.

Article 3 Master's thesis

1. A master's thesis is an independently written report of the research that has been conducted during the research internship.
2. The master's thesis is in principle an individually written piece of work.
3. The master's thesis is assessed on the following aspects: the research question, scientific content, argumentation and form.
4. Guidelines for the format and length of the master's thesis can be found in the Research Internship Manual.
5. The student must submit four copies of the master's thesis to the educational office and one electronic version to an e-mail address that is announced on blackboard. Two copies, together with the individual assessment form, are sent on to the internship supervisor / supervisor from the Faculties and to the supervisor from the Faculties / second assessor. The assessment form, filled in and signed by both supervisors, is sent back to the educational office together with a written explanation within 20 working days. The educational office sends one copy of the approved master's thesis to the internship coordinator for filing. The fourth copy is put into the University Library unless the institution where the Internship took place has objections to this.
6. If the master's thesis is awarded insufficient marks, the Regulation for Reassessments for Papers, article 8, point 3 of the Rules and Regulations for the Research Master examination of the study programme apply.

Article 4 Requirement for obtaining credit

In order to obtain credit (50 credits for students not doing a clinical internship/minor's thesis; 30 credits for students also doing a clinical internship/minor's thesis) for this part of the Research Master examination, the student must have satisfactorily completed the research proposal, the research internship, and the master's thesis. Of these parts, only the master's thesis is graded (the average of the scores given by the first and the second

assessor). All other parts are assessed as pass/fail. The final grade for the master's thesis is equivalent to 14/10 credits respectively.

APPENDIX 2 Regulation on clinical internship and minor's thesis

Article 1 Clinical internship

1. Students following the Psychopathology specialization are required to (and students following the Neuropsychology specialization may choose to) complete a clinical internship of 13 weeks or the equivalent (520 hours).
2. The student notifies the educational office about the internship at least one month before the start of the internship by means of a clinical internship notification form. The educational office checks whether the student has complied with the requirements in article 3.1, point 2 of the examination regulations.
3. An internship agreement is drawn up for each internship in which a number of arrangements are set out between the institution where the internship takes place, the Clinical Internship coordinator from the Faculty and the student.
   A copy of this agreement is sent to the educational office at least one month before the internship starts.
4. The student will be supervised during the internship by a supervisor from the Faculties and a supervisor from the institution where the internship takes place (internship supervisor). The task of the internship supervisor from the institution is to guide and monitor the student's clinical activities, and to facilitate the clinical research project. The supervisor from the Faculties advises the student concerning the conduct and reporting of research for the minor's thesis (see Appendix 2, Article 2, minor's thesis) and is the contact person with the institution where the internship takes place.
5. After the practical part of the clinical internship has been completed, an evaluative discussion takes place between the institutional internship supervisor, the Clinical Internship coordinator from the Faculty and the student. The internship is registered as having been completed successfully when the Clinical Internship coordinator has approved the student's clinical activities report, has received a satisfactory assessment of the internship performance from the supervisor from the institution, and has sent the relevant assessment form to the educational office.
6. PP students may be allowed, but only under exceptional circumstances and with prior approval of the Board of Examiners, to omit the clinical internship and minor's thesis; in this case, the research internship and master's thesis would together represent 50 credits.

Article 2 Minor's thesis

1. All students who elect or are required to follow a clinical internship are required to write a minor's thesis.
2. The minor's thesis is an independently written research report, based on a clinical topic relevant to the clinical setting where the internship is conducted.
3. A research proposal must be submitted to and approved by the clinical internship

supervisor of the Faculties before the research activities commence.
4. Guidelines for the format and length of the research proposal can be found in the Clinical Internship Manual.
5. Before the student can commence research activities, formal permission for the study must have been obtained from the appropriate Ethics Commission / Institutional Review Board of the institution where the internship is conducted.
6. The minor's thesis is assessed on the following aspects: the clinical research question, scientific content, argumentation and form.
7. Guidelines for the format and length of the minor's thesis can be found in the ClinicalInternship Manual.
8. The student must submit two copies of the minor's thesis to the educational office and one electronic version to an e-mail address that can be found on blackboard. One copy, together with the individual assessment form, is sent on to the UM supervisor from the Faculties. The assessment form, filled in and signed by the supervisor, is sent back to the educational office together with a written explanation within 20 working days. The educational office sends one copy of the approved minor's thesis to the clinical internship coordinator for filing.
9. If the minor's thesis is awarded insufficient marks, the Regulation for Reassessments for Papers, article 8, point 3 of the Rules and Regulations for the Research Master examination of the Biopsychology and Psychopathology study programme applies.

Article 3 Requirement for obtaining credit

In order to obtain credit (20 credits) for this part of the Research Master examination, the student must have satisfactorily completed the clinical internship, the final clinical activities report, the clinical research proposal, and the minor's thesis. Of these parts, only the minor's thesis (4 credits) is graded, by the clinical internship supervisor/assessor at Maastricht University. All other parts are assessed as pass/fail.

APPENDIX 3 Regulation on fraud

The Board of Examiners has laid down the following regulation on examination fraud by way of further elaboration of article 3.14, point 1 sub e of the Education and Examination Regulation, in its meeting of 14th June 1995. This regulation is part of the Rules and Regulations.

Article 1

Fraud as referred to in article 3.14 of the Education and Examination Regulations is understood to mean:
a. acting or failing to act on the part of an examinee in a way that makes it wholly or partly impossible to form a fair judgment about the knowledge, insight and skills of the examinee.
b. acting or failing to act on the part of an examinee in a way that makes it wholly or partly impossible to form a fair judgment about the knowledge, insight and skills of a co-examinee.

Article 2

Fraud as meant in article 3.14 of the Education and Examination Regulations also includes: an attempt at fraud.

Article 3

Acting or failing to act as meant in article 1 of this regulation is understood to mean:

a. In respect to the writing of papers:
   - literal or paraphrased copying of passages from other papers or oral texts in such a way that the impression is given that it is one's own work;
   - literal or paraphrased copying of passages from scientific articles or books in such a way that the impression is given that it is one's own work.
   - literal or paraphrased copying of passages from other electronic papers in such a way that the impression is given that it is one's own work;
   - literal or paraphrased copying of passages from sources on the Internet in such a way that the impression is given that it is one's own work.
b. In respect to taking tests, comparable proofs of ability, and examinations:
   - disposing over the usage of texts other than those of which the use is expressly permitted, on or in the vicinity of the table where the examinee sits or another place accessible to the examinee, during the taking of the test;
   - exchanging information with a co-examinee, where and in whatever way, during the taking of the test.

Article 4

If in the opinion of the examiner a (possible) case of fraud has taken place, the examiner as a rule takes the following action:

a. If the (possible) fraud has been ascertained during the taking of the test:
   - the examiner notifies the examinee of the ascertained (possible) fraud;
   - any text that the examinee may have unjustly had at his/her disposal for usage is confiscated;
   - the examinee is given the opportunity to complete the test, unless the examiner decides otherwise;
   - the examiner will bar the student from further participation in the test, if the examinee refuses to hand over the text that was possibly unjustly kept at hand in order to be used;
   - a text that has been confiscated is normally not returned to the examinee after the test is finished, unless the examiner decides otherwise;
   - the examiner documents the relevant facts connected with the suspected fraud in writing and sends this statement without delay to the Board of Examiners, together with any texts that had been confiscated;
b. if the (possible) fraud has been ascertained during or after the correction of a test or examination:
   - the examiner notifies the Board of Examiners in writing without delay about the (possible) fraud, providing the relevant papers and documents;
   - the Board of Examiners notifies the examinee about the ascertained (possible) fraud.

c. if the (possible) fraud is ascertained during or after the correction of written papers that are part of a test or that count as concluding part of a study unit:
   - the examiner notifies the Board of Examiners in writing without delay of the (possible) fraud, adding the relevant papers and documents;
   - the Board of Examiners notifies the examinee about the ascertained (possible) fraud.

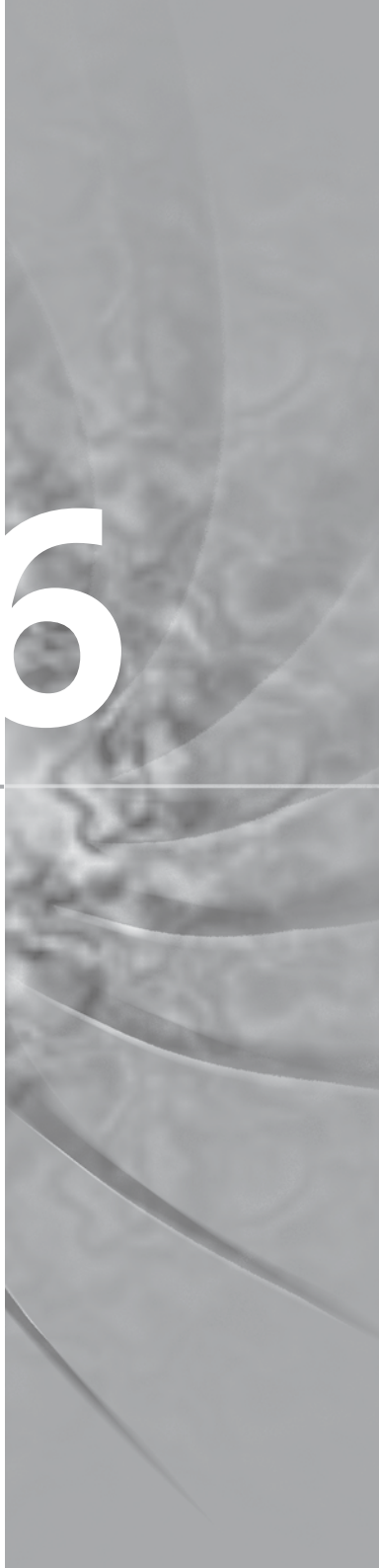
Article 5

The Board of Examiners deals with cases of possible fraud in the following manner:

a. the person who is suspected of fraud is called for a discussion; the Board of Examiners will be represented by the chairperson and the secretary or their representatives, and if possible by one other member of the committee;
b. the Board of Examiners decides, also on the ground of the outcome of the discussion as meant under point a., whether fraud has taken place;
c. the relevant test or paper will be declared invalid in each case that fraud as meant by article 1, point a. has been ascertained;
d. the Board of Examiners imposes a sanction, taking into account the nature and severity of the fraud committed in accordance with what has been said in article 3.14 of the Education and Examination Regulations, in each case that fraud as meant by article 1, point a has been ascertained;
e. the student concerned will be notified about the decision of the Board of Examiners as soon as possible;
f. an entry will be made in the student's file when a test or paper has been declared invalid and a sanction has been a imposed;
g. texts that have been confiscated will, on request, be returned by the Board of Examiners to the student concerned, if it decides that they do not need to remain available any longer in connection with the (further) treatment of the case;
h. the Board of Examiners can decide to reveal its decision publicly but without revealing the identity of the student concerned, with all the facts and circumstances on which the decision was based.

Article 6

A student can appeal to the Board of Appeal for Examinations against decisions taken by the Board of Examiners concerning fraud, within four weeks after the decision has been publicized.



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Notes