

**Psychology at
Maastricht University**

The Maastricht Psychology curriculum

Program profile

The psychology program in Maastricht is rather unique and has developed its own profile.

Recent developments in psychology have been marked by two revolutions. One, the cognitive revolution, began in the early 60s but came to full maturity only in the 80s, when computers gradually became both smaller and infinitely more powerful. It was primarily the idea that computer programs could simulate human thought which provided an important stimulus to the rise of cognitive psychology. The cognitive revolution led to new insights into thought and language, not only with regard to people but also animals (research into the use of language by chimpanzees, for example), and to new theories about perception and emotions.

The second revolution began in the mid-1970s. Since that time, our knowledge of the operation of the brain and particularly the manner in which the brain determines behaviour has increased tremendously. This has been decisive for the development of biological psychology. The biological revolution has radically changed the way we look at human behaviour. Sleep and waking appear to be controlled by the brain. Our sexuality and eating habits are matters not merely of subjective feeling but of hormones and neurotransmitters; it is becoming increasingly clear precisely how the ability to speak and understand language is related to structures of the brain. It appears that the causes of significant behavioural and cognitive disorders (such as schizophrenia and dyslexia) should be sought in biological mechanisms rather than social factors. Cognitive and biological psychology can thus be considered trailblazers for new knowledge and insights in psychology and great things are expected of them in the future.

In Maastricht, the promises and challenges of these revolutions have become the starting point for the development of an innovative educational program in psychology. These two developments in psychology form the basis for the Maastricht program. As with other programs, all sub-areas and aspects of psychology are covered, but cognitive and biological psychology provide the background and organizing principles for the entire curriculum.

Program structure / transition to Bachelor/Master structure

Until the 2001/2002 academic year, the psychology program in Maastricht fell into two distinct parts. The first year, or 'propedeutic' (propedeutic year/basic study year) had a selective and orienting function: "Does the student have the abilities to complete the full program?" and "Is the program what the student expected as a professional future?". Upon successful completion of the first year the student obtained the 'propedeutic degree' and then moved on to the second part of the program, the so called 'doctoral phase' (degree course) which led to the 'doctoral

degree' (roughly equivalent to a masters degree in the Anglo Saxon system, or to a Diplom in the German system). This part of the program took three years to complete. Hence the full length of the psychology program was four years.

However, as a result from the Bologna Declaration the educational structure in the Netherlands will be reformed in order to create overall convergence at European level. This process originates from the recognition that in spite of their valuable differences, European higher education systems are facing common internal and external challenges related to the growth and diversification of higher education, the employability of graduates, the mobility of citizens, the shortage of skills in key areas, the expansion of private and transnational education, etc. The Declaration recognizes the value of coordinated reforms, compatible systems and common action.

The Faculty of Psychology, Universiteit Maastricht, will start with the transition to the Bachelor / Master structure in September 2002.

The psychology Bachelor phase will last three years in total and will be implemented per cohort. That means that in 2002/03 freshmen students will be first year bachelor students. In year 03/04 our first and second year students will be bachelor students, and so on.

With regard to the content of the "old program": the first two years are aimed at providing a broad, general knowledge of psychology and are the same for all students. At the end of the second year, students choose between two broad tracks (degree programs): cognitive psychology or biological psychology. Within each of these they can opt for further specialisation. Cognitive psychology splits into cognitive ergonomics and educational psychology; biological psychology splits into neuro-psychology and developmental psychology. A choice for each of these is taken halfway through year three.

In the fourth year, students may add their own accent to their studies by means of electives and a research practical.

On average the program requires about forty hours per week. Each academic year is divided into 6-week course periods, called 'courses', with seven course periods in a year. These courses are constructed on the basis of central themes (such as development or memory or language) in relation to which knowledge and insights from a number of fields and scientific disciplines are studied. Each course is connected to practical training courses in which students learn specific skills, in relation to the subject matter in the current course. In addition, research methods and statistics, computer skills, writing skills and English are offered as part of a program, which runs parallel to the courses. This program will require approximately one day of study per week. In the fourth year, 24 weeks (four full course periods) are reserved for research practical and thesis.

Consequences for educational resources

This alternative educational structure has numerous consequences for the way in which educational resources are employed by instructors and students. In problem-based learning, students are stimulated to consult all sorts of relevant sources in addition to the essential reading material that they must study. These sources are to be found in the so-called "studielandschap" (learning resources centre), which will be described in greater detail hereafter in chapter 5. It is important that students, right from the beginning, learn to deal with different, sometimes contradictory, sources of knowledge and arrive at independent conclusions regarding the value of such insights. There is one essential educational resource that will be described separately: the task manual.

Task manuals

Each course in problem-based learning utilizes a "task manual" prepared by a team of instructors and students.

The task manual contains all essential information regarding the learning during the term concerned: the person(s) responsible for the course, the subject matter of the course, the knowledge which the student must have acquired by the end of the course, the skills which will be taught during that period, the essential and recommended literature involved and the lectures. The primary component, however, is formed by the tasks or assignments (usually a dozen) for the tutorial group meetings (two times per week during six weeks).

The task manual is always distributed to the students shortly before the beginning of the course.

Internationalization

Internationalization is one of the policy missions of Maastricht University. Developments in science do not stop at borders but have a pre-eminently international character. This is definitely true for developments in biological and cognitive psychology and cognitive neuroscience as well. Already quite a few of our graduates have found employment on the international labour market. To prepare students for this, language instruction (English) is part of their psychology program and a range of exchange possibilities for both electives and research practicals abroad has been taken care of.

Courses in English

As a rule all psychology courses in year 1 and 2 are taught in Dutch. However, as soon as an exchange student enrolls for one of these courses we organize one tutorial group to be taught in English. The Dutch students, who would like to have courses in

Program structure Bachelor program

The bachelor freshmen year falls into two semesters in which two course periods of 7 weeks each are both followed by a 4-week course period. In this new course period schedule, students follow two psychology courses per course period as opposed to one psychology course per course period in the "old" schedule. The first-year courses are constructed on the basis of central themes (such as development or memory or language) in relation to which knowledge and insights from a number of fields and scientific disciplines are studied. Each course is connected to practical meetings in which students learn specific skills, in relation to the subject matter in the current course. In addition, research methods and statistics, computer skills, writing skills and English are offered as separate courses.

The educational system: problem-based learning

The decision to study in Maastricht also implies the choice of a form of education which is quite different from methods commonly employed elsewhere. Training in Maastricht is based on the method of problem-based learning (PBL). In general, the following characteristics of this method can be distinguished:

1. Student-centred

In contrast to traditional forms of education, problem-based learning is not based on the transfer of knowledge from instructor to student but on the student's individual learning process. The student, rather than the instructor, is central.

2. Learning is focused on problems

The starting point for the learning process consists of problems that small groups of students discuss in depth. These problems have been formulated in such a manner that they lead students to a range of explanatory questions. Based on this discussion, students formulate "learning goals", the subject matter which they will study in the following days.

3. Tutorial groups

Instruction takes place in tutorial groups of approximately ten members which meet two times a week. In these meetings, case histories are discussed with the help of the task manual. The tutorial groups are supervised by instructors (tutors). These tutors guide and monitor the learning process.

4. Self-motivation

Focus on problems and group discussion stimulate students to acquire relevant knowledge, insights and skills in a relatively independent manner. This emphasis on self-motivation is a central feature of PBL.

English, can sign up for this tutorial group. Most of the psychology courses in year 3 and 4 are taught in English. In the introduction of each chapter you will find an overview of those courses that are regularly offered in English.

Credits and grading system

To cover a full academic load, Dutch students need to acquire 42 credits per year. Each Dutch credit represents a work load of 40 hours per week. In the European Credit Transfer system (ECTS) this means a total of 60 per year.

The Dutch grading system, used from elementary through university education is the 1 to 10 scale given in the following table, where 10 is the highest grade, 6 the minimum pass and 1 the lowest grade.

- 10 excellent
- 9 very good
- 8 good
- 7 amply sufficient
- 6 sufficient
- 5 almost sufficient
- 4 insufficient
- 3 low
- 2 bad
- 1 very bad

Educators uniformly comment on the great difficulty in obtaining 9's and 10's and the respectability of 6's. There is also agreement that an 8 represents a high level of achievement, while grades 6 and 7 generally account for the majority of passing grades awarded.

A regular course at the Faculty of Psychology could give a passing percentage of 60. Looking at a regular grade scale for a specific course (about 150 students) you will hardly find a 10, perhaps one or two students will have a 9, ten students will have an 8 and so on. The majority of students with a passing grade will receive a 7 and 6.

Organization of the Faculty of Psychology

The Dutch university has been modelled on the German system. This means that a university is organised around a number of so called 'faculties', broad organisational units responsible for both teaching and research in a scientific field. A 'faculty' is thus an organisation, and does not as in the Anglo Saxon system refer to the staff.

The Faculty of Psychology consists of two departments (Neurocognition and Experimental Psychology) the sub-department Biological Psychology and the office of the dean.

The most important administrative organ of the faculty is the board, headed by the dean of the Faculty of Psychology. The office of the dean supports the board.

Logistical, organisational and administrative support for the curriculum is provided by the Office of Educational Organisation. This office is responsible for all sorts of practical questions and issues. Teachers in the psychology program are for the majority employed within the Faculty of Psychology, but for some specialised fields staff of other faculties, primarily the Faculties of Health Sciences and Medicine is also used.

Almost all teaching takes place in the buildings at Universiteitssingel 40 (Uns.40) and Universiteitsingel 50 (Uns.50), both on the Randwyck complex of Maastricht University.

Quality assurance

All of the Dutch universities are responsible for the quality of their own teaching and research. In addition to this internal quality assurance, the fourteen members of the VSNU (Association of Universities in the Netherlands) also participate in a system of external quality assurance: periodic evaluations of the teaching and research by experts from outside the institution. In 2001 the Faculty of Psychology in Maastricht participated in this external quality assurance.

From the final report of the Review Committee we quote:

"The Psychology faculty of Maastricht has existed for five years now. From the start, it expressly presented itself as unique on two points: with respect to content, through its choice for the biological-cognitive perspective; and educationally, through its resolute choice for problem-based learning.

In both aspects, the choice for a narrow profile and for a univocal learning environment, Maastricht is exemplary for the Netherlands and also for other countries. If we look at the results of these last five years, the balance may be called positive, in terms of objective indices of success rate and the achieved learning results as well as in terms of subjective satisfaction indices of students and staff members. However, the system does require some optimization in several aspects. Part of the new student population also chooses Maastricht for other reasons than the problem-based learning model. Graduates expect to acquire skills that give them the feeling that they can also do other jobs than research alone. Besides, the implementation of the bachelor/master structure will have to be faced.

The committee trusts that the faculty will be able to enter on these challenges in a creative way, maintaining its basic options."

In the new bachelor program, the faculty has already paid more attention to the development of professional skills.

Mission, objectives and final attainment levels of faculty	7.5
Structure and content program	7.5
Learning environment	8.5
Intake*	7
Doability	7.5
Number of students moving on and success rates**	(6.5)
Quality graduates	7
Effectiveness organization	7
Qualities staff	7
Facilities	8
Internationalization	8.5
External contacts	7
Internal quality care	7.5
Self-study report	5.5

Note:

- * Intake: the figures concern the activities with respect to information, connection to VWO (university-prep) and so on, not the quantity and quality of the student intake; the committee thinks these latter aspects are hard to calculate;
- ** Number of students moving on and success rate: there is only limited information available on the UM.

An English translation of the Maastricht report may be obtained from the international relations officer, Ina Engelen (i.engelen@psychology.unimaas.nl).

Overview Bachelor Year 1

1.1 GENERAL

In 2002/03 we will start with the Bachelor program for the first time. This first year serves as to orient, select and refer. For this reason, not only a representative picture of psychology and its basic disciplines is presented but also an overview of the subjects that can be majored in and the educational approach utilized at Universiteit Maastricht. The program starts with a Problem-Based Learning training, in which all skills are practised, needed for this special student-centered teaching method. This first week is followed by two course periods of 7 weeks each. In each course period students take two courses at the same time (an "a" and "b" course). These two periods are followed by a 4-week period in which only one course is offered. After this third course period, again two 7-weeks course periods follow, each with two different courses, concluded with another 4-weeks course period with one course. During the course periods in which two courses are followed at the same time, students have three tutorial group meetings per week: two meetings for course "a", and one meeting for course "b". The other week they will have one meeting for course "a", and two meetings for course "b". In the 7th week of the course period, course "a" will have the last meeting on Mondays and the exam on Wednesdays, whereas course "b" will have its last meeting on Tuesdays and the exam on Fridays. The first two simultaneous courses are 1.1.a "Social behavior" and 1.1.b "Body and behavior". "Social behavior" provides an introduction to social psychology and "Body and behavior" shows how biological mechanisms determine and influence behavior. The next two simultaneous courses are 1.2.a "Development and Learning" and 1.2.b "Perception". In "Development and Learning" human development is studied from not only a cognitive but also a biological perspective. "Perception" provides an introduction to perceptual psychology. In January 2003 an intensive 4-week course is offered about research methods and an introduction to statistics, course 1.3 "Research methods".

In course periods 4 and 5, again two courses are offered simultaneously: 1.4.a Writing and Presentation Skills" and 1.4.b Statistics in course period 4; 1.5.a "History and Foundations of Psychology" and 1.5.b "Human Cognition" in course period 5. In the history course the discipline of psychology is placed in its historical context. In "Human cognition" cognitive psychology stands central. The last course period, course period 6, concludes the year with a 4-week training: 1.6 "Conversation techniques". After this last course period, there is 1-week resit period. Parallel to every course and lectures are practicals (only taught in Dutch) in which skills connected to the material presented in the lectures are acquired and practised. In the course descriptions, the specific objectives and content of the practicals are also presented. More detailed information can be found in the course manuals for each particular course.

After completion of a course, a so-called course examination is administered. This can consist of open questions or a combination of open questions and multiple-choice questions, with each portion counting for 50% of the exam result.

Regulation English courses

Nowadays, the labour market for our graduates does not stop at our borders. Therefore we think it is highly important for our students to improve their position on the labour market by a thorough knowledge of English. Offering courses in English is also important for our visiting exchange students. In year 1, courses are initially offered in Dutch only. However, as soon as an exchange student enrolls for a first-year course, one tutorial group will meet in English. Regular Dutch students can sign up for this specific tutorial group. Lectures and practical meetings do not have to be run in English. The course coordinator decides upon this. If so, the exchange students will have an extra meeting with the course coordinator once every week. If the practical is not available in English, the exchange students will have to do a replacing assignment. The English tutorial group can do the exam either in Dutch or English.

1.2 OVERVIEW OF BASIC STUDY YEAR

Course period	Number of weeks	Course
Period 0	1	Training problem-based learning / PBL
Period 1	7	1.1.a Social behavior 1.1.b Body and behavior
Period 2	7	1.2.a Development and Learning 1.2.b Perception
Period 3	4	1.3 Research methods and techniques
Period 4	7	1.4.a Writing and presentation skills 1.4.b Statistics I
Period 5	7	1.5.a History and foundations of psychology 1.5.b Human cognition
Period 6	4	1.6. Conversation techniques

1.2.1 Description of the courses

Training Problem-Based Learning

September 9 - October 25, 2 ects

Course coordinator: Marianne van den Hurk, Office of the Dean

Objectives

Education at Maastricht University is based on the method of problem-based learning. In order to function well within this educational system, which clearly differs from traditional educational methods, some knowledge of the background and key elements is essential along with training on a number of basic skills.

Further description of the course

The basic introduction starts with the skills necessary to work within the tutorial group meetings. By means of small tasks, PBL is practiced in three of the four tutorial group meetings. Students also learn how to use the university library and the computers. Students are obliged to attend all meetings in this course (100% attendance obligatory).

Essential reading

Will be handed out during the training.

Practical Computer training

Description: Students will gain basic knowledge about computer hardware and learn how to work with WindowsXP and some other regular computer programs.

This practical training will provide the basic computer knowledge in order to enable students to work with all the ITC-possibilities that are used within the psychology program. Students will learn about:

- procedures of psychology computer rooms
- how to use the computer hardware
- how to work with WindowsXP
- how to use in a network-environment (how to log in, authorization)
- how to use ICT within the Universiteit Maastricht (electronic readers, library's)

Practical Library training

Students will be explained how the university library is organized and how they can find articles and literature.

Instructional form

4 training sessions, 2 practical meetings and 2 lectures.

Course 1.1.a Social Behavior

September 9 - October 25, 5 ects

Course coordinator: Harm Hospers, Experimental psychology

Objectives

To provide a brief introduction to social psychology.

Further description of the course

Social psychology studies the cognitions, emotions and human behaviour especially determined by interaction with other people. The course begins with a few of the classical themes from social psychology: conformity, attitudes and attitude change, cognitive dissonance. Furthermore themes like prejudices and stereotypes, aggression, social cognition and interpersonal attraction will be considered.

Essential reading

- Gleitman, H., Fridlund, A.J. & Reisberg, D. (1999). *Psychology* (5th Ed.). New York: W.W. Norton & Company.
- Myers, D.G. (2002). *Social Psychology* (7th Ed.). Boston: McGraw Hill.
- Electronic reader.

Practical Internet/E-mail

Description: Students learn how to work with Internet and E-mail, especially how they can use these sources of information to help with their studies.
E-mail:

- E-mail through Outlook Web access;
 - how to deal with several types of attachments;
 - how to use Cc, Bcc and so on;
 - what to do with SPAM-mail;
 - mailing lists.
- Internet:
- the blessings of the Internet;
 - search engines, multimedia library Psychology;
 - how to deal with viruses;
 - do's and don'ts from the Internet.

Practical CD-ROM

Description: To learn how to work with CD-ROM databases that are necessary to find literature, such as PsycInfo.

Practical Word

Description: Students will learn how to work with Word.

Instructional form

10 tutorial group meetings, 6 lectures and 4 practicals.

Examination form

A combination of a minimum of 5 open essay questions and 50 multiple-choice questions.

Course 1.1.b Body and behavior

September 9 – October 25, 5 ects

Course coordinator: Arjan Blokland, Neurocognition

Objectives

The course Body and behavior provides an introduction to some important topics from biological psychology. An important goal is to provide insight into the biological bases of psychological phenomena. Sleep, vigilance, and dreaming are important to human functioning. This also holds for eating, drinking, and sexuality. This course provides students with examples of the connection between biological and psychological processes (like experience, thinking, consciousness and emotions) and will help students to gain insight in the coherence between physical processes and behavior.

Stated briefly, the objectives are as follows:

- to acquire knowledge of physical processes that play a role in experience and behavior;
- to gain insight into psychological processes (jointly) determined to an important extent by biological mechanisms; and
- to recognize which biological processes in addition to psychological and social factors influence experience and behavior.

Further description of the course

In the beginning of this course students learn about the structure and function of the brains by means of CD-ROMs and phantoms. Subjects to be discussed: structure of the brains, parts of the brains and the different cells. Afterwards, tasks are devoted to the following topics: brain development, the biological clock, sleeping and dreaming; memory, medications and behavior; hormones and behavior; and sexuality. The second part of this course consists of a practical meeting in which a psychophysiology test will be done.

Essential reading

- Pinel J.P.J. (2002). *Biopsychology* (5th Ed.) Boston: Allyn and Bacon
- Electronic reader.

Practical brain anatomy

Objectives: knowledge of brain anatomy.

This practical session is divided into two parts. In the first part, the student works with phantoms of brains from both human and sheep. The practical serves to provide the student with insight into the structure of the brain and the location of the most important neuro-anatomical structures. In the third part, students can study the anatomy of the brains independently, using an exercise book. This practical meeting takes two times 2 hours.

Practical psycho-physiology

By tracing the activity of the brain, one can learn more about the relation between mental effort and biological mechanisms. You will receive practical experience in the psycho-physiological methods used to do this. This practical training will take 2 hours.

Instructional form

10 tutorial group meetings, 6 lectures and 3 practical meetings.

Examination form

Combination of a minimum of 5 open and 50 multiple-choice questions.

Course 1.2.a Development and learning

October 28 – December 13, 5 ects

Course coordinator: Erik van Loosbroek, Neurocognition

Objectives

During this course, the student learns how children develop psychologically from baby till adolescence. Of particular interest will be how their thinking, reasoning, memory, language, gender identities, and emotions develop over the years. Considerable attention will be paid to such learning processes as habituation, classical conditioning, operant conditioning, and social learning. Also, a number of developmental disorders such as ADHD, will be examined.

Further description of the course

The development of and changes in psychological functions from birth through adolescence are the topic of this course. Just how children learn to think, reason, and remember (or their cognitive development) will be examined, and such influential older theories as that of Piaget will be compared to more recent information processing models of development. How does a child reason? How does a child learn to think faster and better? And why is a 6-year old better in playing memory than an adult and why is an adult better in playing strategy than a 6-year old? How does a child succeed in developing from almost nothing into an adult? How children will learn to perceive and to think (the so-called cognitive development) will be looked into. In addition to these questions, attention will be paid to language development and attachment. It is amazing to see how a newborn baby who does not understand a word and cannot say anything learns to talk within the space of two or three years without, incidentally, the use of dictionaries or grammar books. Yet another important question is how we form attachments and with whom? Is attachment important? Do our early attachments influence our later emotional development? And what is the course of development? When is an active young boy normal and when do we say that he has an attentional disorder?

Development can be looked at as changes in behaviour resulting from adjusting the child to physical and social environment, and a consequential reorganisation in biological structures. Learning contributes to that immensely. If one did not realize how complex and numerous the changes are that children have to face within development and learning, this course has to achieve that realization. At the same time, this course intends to arouse students' interests for the fundamental character of development and learning.

Essential reading

- Bee, H. (2000). *The developing child* (9th ed.). Needham Heights, MA: Allyn and Bacon.
- Electronic reader.

Practicals

Objectives: The practical consists of two independent computer tasks. In the first practical, the student learns classical conditioning via the computer. By manipulating different variables, the student acquires insight into the ways in which classical conditioning occurs. In the second practical, the student learns to observe systematically. A written report has to be made about both practicals.

Instructional form

10 tutorial group meetings, 7 lectures, 1 practical meeting.

Examination form

A combination of a minimum of 5 open questions and a minimum of 50 closed questions.

Course 1.2.b Perception

October 28 – December 13, 5 erts

Course coordinator: Fren Smulders, Experimental Psychology.

Objectives

Introduction to the psychology of perception and its application.

Further description of the course

The psychology of perception is perhaps the best developed branch of psychology. Behavioral studies, neuroscientific research, and advances in artificial intelligence and robotics contribute further every year. Knowledge about the capacities and limitations of the human perceiver can help us to improve to arrange our world in a better fashion. The study of illusions and effects of brain damage will reveal the cognitive and biological mechanisms of perception of color, contrast, and depth. Next to the visual perception, also the auditory perception: smell, touch and timekeeping

will be studied. In the practical meeting, students will become acquainted with perception phenomena that cannot be experienced by paper or computer.

Essential reading

- Goldstein, E.B. (1998). *Sensation and perception* (5th Ed.). Pacific Grove, CA: Bruce/Cole.
- Gleitman, H., Fridlund, A.J. & Reisberg, D. (1999). *Psychology* (5th Ed.). New York: W.W. Norton & Company. Chapters 5 and 6.
- Electronic reader.

Practical meetings

Objectives: To get acquainted with smell perception, depth perception and hearing illusions.

Instructional form

10 tutorial group meetings, 6 lectures, 1 seminar, 1 practical meeting.

Examination form

Combination of a minimum of 5 open and a minimum of 50 multiple-choice questions.

1.3 Research methods and techniques

January 6 – January 31, 6 erts

Course coordinator: Fren Smulders, Experimental Psychology.

Objectives

In the conduct of psychological research, a number of different methods may be used: experiments, field observations, and questionnaires. In their first year, the students will become acquainted with the most important research methods used by psychologists and with some statistical techniques that are used to present the results of the research. This knowledge is necessary for students, not only for understanding and critically judging literature during their study, but also for their own research projects. This knowledge is being used in a practical meeting in which by means of a simple questionnaire empirical data will be gathered.

Further description of the program

During this course the following topics will be considered:

- the experiment and problems of control in experimental research;
- correlational research;
- quasi-experimental approaches;
- direct observation studies; interviews and questionnaires;
- measures of central tendency and variance, correlation, linear regression.

Essential reading

- Mook, D.G. (2001). *Psychological Research: The ideas behind the methods* (1st Ed.). New York: Norton.
- Moore, D.S. & McCabe, G.P. (2002). *Introduction to the Practice of Statistics* (4th Ed.). Freeman and Company.
- Manual and electronic reader.

Instructional form

- 1.1 tutorial group meetings, 7 lectures, 1 seminar, 1 practical meeting.

Examination form

Combination of a minimum of 5 open questions and 50 multiple-choice questions.

Course 1.4.a Academic and professional skills: Writing and presentation skills

February 3 – March 28, 5 ects

Course coordinator: Monique Römken, Neurocognition.

Objectives

Good writing and presentation skills are indispensable for both psychologists working in research and actual practice. One cannot start writing soon enough during one's study. With this in mind, a number of points at which the students can practice their writing skills are provided in this course. Students will write a scientific paper and present this paper with the use of the computer program: PowerPoint. Objectives are:

- searching scientific literature in the library;
- searching relevant literature through electronic literature databases;
- processing the found literature;
- learning to write a scientific paper;
- preparation and presentation of a paper;
- adequate use of visual aids;
- to be able to answer the questions about the paper adequately;
- adequate use of PowerPoint.

Further description of the program

This course consists of three parts:

- writing a paper about a general psychological topic;
- a training "Presenting a paper";
- a training "PowerPoint".

The first training is library training; you need material (articles/literature) on the topic you intend to write about. The library training will familiarize you with how to find this in the library.

The second training is CD-ROM training within the framework of computer-aided instruction. Most of the important journals in the field of psychology are available on CD-ROM. With one of these databases, PsycInfo, you will learn to search the psychological literature.

In the third training students will have to write a paper on a general psychological topic. A small number of relatively recent publications on the topic of interest will be discussed in this paper. The purpose is that the writing skills that were introduced in the first two training sessions will be integrated into this paper. A lecture will also be presented explaining processing literature and discussing the writing of a scientific paper. Guidelines and requirements are presented in the 'Schrijfvaardigheids-onderwijs' manual.

Instructional form

2 obligatory lectures, 4 practical trainings and 1 seminar in which students will present their papers.

Examination form

Papers will be assessed for content and use of language. Also the presentation of the paper will be assessed. Both marks need to be a pass.

Submission procedure

The first version of the paper needs to be handed in in the 3rd week, the second revised version in the 7th week of the course. They need needs to be submitted in duplicate, one hard copy and one electronic copy. On the hard copy, name, ID number and "Writing Skills I" have to be written on the bottom right. Students can hand them in at the desk of the Education Affairs Office of the Faculty of Psychology (level 0, Uns.40). The electronic copy has to be sent as an attachment to werkstuk@psychology.unimaas.nl. The attachment also has to have your ID-number in the filename. So, please name your file: werkstukjaar1.IDxxxxx.doc.

Course 1.4.b Statistics I

February 3 – March 28, 5 ects

Coordinator: Nick Broers, Methodology and Statistics

Objectives

In their first year, the students are introduced to psychological research in a variety of forms. On the basis of research results, psychologists accept or reject all kinds of theories. They justify their decisions by referring to the data they collect and typically process with the aid of various statistical methods. In order to estimate the

value of the claims of psychologists, a good understanding of statistics is thus indispensable.

Further description of the program

The statistical instruction during the first year is primarily conceptual in nature and aimed at teaching students to evaluate the significance of their research results. Calculation is less important than insight. The emphasis is on a broad introduction to a variety of topics.

Statistics I covers the following components:

- elementary probability calculations;
- sample distributions;
- testing and estimating;
- a number of common applications, including the t-test and analysis of variance.

Practical

Research psychologists will seldom do mental arithmetic. They will use statistical software programs to produce their analysis. Most commonly used program is SPSS (Statistical Package for the Social Sciences). Students will analyse data and based on the results, they will further explore the statistical theory.

Essential reading

- Moore, D.S. & McCabe, G.P. (1988). *Introduction to the practice of statistics* (4th Ed.). New York: Freeman and Company.
- SPSS Syllabus.

Instructional form

6 modules, each consisting of: 1 lecture, 1 or 2 tutorial group meetings, 1 SPSS practical sessions and a closing seminar.

Examination form

Will be announced.

Course 1.5.a History and Foundations of Psychology

April 7 – May 28, 5 ects

Course coordinator: Rob de Vries, Neurocognition.

Objectives

Students learn how modern psychology emerged as a science and has developed with regard to content, theories, and institutional practice.

Further description of the course

One of the most remarkable features of psychology is that psychologists do not agree with one another. Some psychologists think that the others are not scientists; others think that some are old-fashioned and outmoded. There are theories that agree upon their ideas about reliable psychology, but also quite a number of controversial theories exist. Sometimes these controversies are fruitful; sometimes they lead to useless aggressive conflicts.

Many modern psychological ideas and institutions (e.g. a psychological lab) can be seen as successful solutions to prior problems. If you do not want to fall prey of an accidental discipline but you want to have an insight in the most recent psychology, you will have to be aware of the its foundations. The most important reason for the dissection within psychology theories is the large number of unsolved problems that have occupied psychology from the beginning.

The history of both types of problems will be considered in this course. To be able to form an opinion of competitive theories and movements, students need the aid of epistemology. Epistemology is concerned with questions like: What does science distinguish from non-science? What is scientific progress? How does the process of scientific reduction work? Students will get acquainted with these problems and opinions.

While the problems have remained unsolved, they are nevertheless the source of inspiration for a large amount of psychological research. Among the topics receiving consideration in this course will be:

- the content, social, and institutional causes of the scientific revolution;
- the emergence of psychology as a consequence of the emergence of the modern natural sciences during the scientific revolution;
- the mind-body problem as a consequence of the scientific revolution;
- the emergence and role of the experiment and laboratory research in the field of psychology;
- continuity between man and animal;
- are animals aware? Do chimpanzees have a language capacity?
- the nature and role of human consciousness in human life and the field of psychology;
- what is cognitive psychology?

Essential reading

- Boon, L. (1998). *Geschiedenis van de psychologie* (7^e druk). Meppel: Boom.
- Chalmers, A. (1999). *Wat heet wetenschap*. Meppel: Boom.
- electronic reader.

Instructional form

10 tutorial group meetings, 7 lectures.

Examination form

A minimum of 6 open essay questions.

Course 1.5.b Human cognition

April 7 – May 28, 5 ects

Course coordinator: Peter Houx, Neurocognition.

Objectives

This course provides an introduction to central cognitive processing: comprehension, knowledge acquisition and knowledge representation, memory, thinking, and problem solving. The students become acquainted with models of the information processing system, which lies at the foundation of the aforementioned processes.

Further description of the course

Human cognition can be construed as the “fast track” for adaptation to changing circumstances in our environment and thus in contrast to the “slower” methods of genetic mutation and (operant) learning. We begin the course with an introduction to the topic of attention. How does our attention help us deal with the information from our external and internal environment in an efficient manner, and what happens when our attention fails? Knowledge and knowledge representation constitute a second topic. The relevant questions here are: In what manner do we internally represent information from our environment, and how do we use this knowledge to interpret the world around us? The structure and functioning of our memories constitute a third topic. How is information remembered in the short and long term? What exactly happens when we “call up” memories? What do neuro-psychologists have to say to us about this? The final topic concerns thinking and reasoning. Can certain patterns or laws be detected in our reasoning? How do the expert and the novice within a particular domain think? In the end producing language and language comprehension will be discussed, as well as the relation between language and thinking.

Essential reading

- Sternberg, R.J. (1998). *Cognitive psychology* (2nd Ed.). Fort Worth: Harcourt Brace.
- electronic reader.

Practical

Objectives: The purpose is to acquaint the student with the different experimental arrangements used in the domain of complex cognition and obviously supplement the reading for this course. A number of frequently used experimental and clinical paradigms will be considered.

The practical covers:

- Timing of processes: mental rotation (Shepard & Metzler), Stroop color-word test, and an alternative test for selective attention.
- (Working) memory: semantic memory, memory span tests with and without chunking, Brown-Peterson.
- Planning, executive function: Tower of London, Wason selection task.

In the articles which are to be read and during a lecture, the experimental possibilities for these tasks will be described and just what their clinical neuropsychological use entails. Age norms will be presented, and the students will then test a number of fellow students. A brief summary of the results will then be compared to the normative values for the group to which the students belong. A 100% obligatory attendance will apply for this practical.

Instructional form

10 tutorial group meetings, 8 lectures, 3 practical meetings.

Examination form

A combination a minimum of 5 open and a minimum of 50 closed questions.

Course 1.6 Conversation techniques

June 2 – June 27, 6 ects

Course coordinator: Rob Markus, Experimental Psychology.

Objectives

- knowledge and insight in effective communication and conversation techniques,
- insight in goal, function and use for skills and techniques,
- to promote an effective attitude,
- to develop and improve communication skills.

Further description of the course

As well as in private or business relations, effective communication is an essential part in our relations with other people. The quality and effectiveness of our business skills as well as our social skills in personal relations is highly determined by the way conversations are carried on. The general purpose of this course is to improve the knowledge and skills in effective communication, especially in dialogues. It is therefore that the course consists of a theoretical and practical part, using a text manual, several exercises, practical meetings and video recording sessions. Within the theoretical part the following subjects will be discussed:

- listening skills (asking questions, restating, summarizing and reflecting of feelings);
- managing skills (opening a conversation, determining goals, giving feedback, clarifying and structuring, closing a conversation);

- so-called “transmitting skills” (providing information, doing requests and giving assignments, giving and reacting to feedback and criticism). In the practical part, different situations will be simulated by means of role-playings. In these role-playings a number of frequently conversation models will be showed. For example: the information gathering conversation, the advice conversation, the bad news conversation, the evaluation and assessment conversation.

Essential reading

- Will be announced later.

Instructional form

Will be announced later.

Examination form

Will be announced later.

1.2.2 Basic textbooks

A number of books are essential for instruction during the basic study year. The instructors have selected the books, and it is suggested that you purchase the textbooks yourself. It is possible to receive a discount on the purchase of textbooks, provided you are a member of the faculty's student association “Luna-tic” (see under General: Discount on books). For the basic study year, the following books are required reading.

- Bee, H. (2000). *The developing child* (9th Ed.). Needham Heights, MA: Allyn and Bacon.
- Boon, L. (1998). *Geschiedenis van de psychologie* (7^e druk). Meppel: Boom.
- Chalmers, A. (1999). *Wat heet wetenschap*. Meppel: Boom.
- Gleitman, H., Fridlund, A.J., & Reisberg, D. (1999) *Psychology* (5th Ed.). New York: W.W. Norton & Company.
- Goldstein, E.B. (1998). *Sensation and perception* (5th Ed). Pacific Grove, CA: Bruce/Cole.
- Mook, D.G. (2001). *Psychological research: the ideas behind the methods* (1st Ed.). New York: Norton.
- Moore, D.S. & McCabe, G.P. (1998). *Introduction to the practice of statistics*. New York: Freeman and Company.
- Myers, D.G. (2002). *Social Psychology* (7th Ed.). Boston: McGraw Hill.
- Pinel J.P.J. (2002). *Biopsychology* (5th Ed.). Boston: Allyn and Bacon.
- Sternberg, R.J. (1999). *Cognitive psychology* (2nd Ed.). Fort Worth: Harcourt Brace.

In addition to the basic textbooks and library journals, a (electronic) reader may be made available with photocopies of articles and book chapters otherwise not available. This will be listed in every course manual. It is important that these other sources are also regularly consulted during the course of the year.

1.2.3 Formative examinations

Formative examinations are tests intended to provide the taker with feedback on his/her level of knowledge. In contrast to summary examinations, such as the course examinations, decisions with regard to acceptable or unacceptable academic performance or passing versus failure are not made on the basis of the scores obtained on a formative test. The taking of a formative test is intended to be a study guide. By taking a formative test a few times during a course, it is possible for the student to see if he or she has studied sufficiently and whether his or her manner of studying appears to be appropriate. For each question, the student is confronted with certain subject matter and must reflect on the material in order to answer the question. Given that the student receives immediate feedback on every answer, the subject matter becomes better anchored in his or her memory and any misinterpretation is corrected. Given that the tests are done via a computer in one of the computer rooms, the student is also free to complete the tests whenever he or she wants. (These formative examinations are only available in Dutch.)

1.2.4 Obligation to act as a subject

Every first year student is obliged to act as a subject for 6 so-called “subject hours”. This means that students need to participate in research done by other psychology students because of their third year thesis, fourth year master thesis, or fourth year elective course. Participation in research of staff members is not considered as part of this obligation.

Overview year 2

2.1 GENERAL

The second study year encompasses two distinct periods: the first six courses substitute the first period and involve both a deepening and expansion of the knowledge acquired in the basic study year; the second period provides the student with an opportunity to devote him/herself to his or her own interests and select a possible major.

In the first year, the student was provided with an overview of the different disciplines within the field of psychology: social psychology, developmental psychology, differential psychology, and experimental psychology. Also, the biological, psychological, and cognitive processes that provide the foundations for behavior were considered. In a total of six courses in the second year, a number of broadly related themes will be considered — themes that will mostly make use of the knowledge acquired in the first year. The themes are selected in such a manner that the cognitive and biological-psychological perspectives are always essential.

Course 2.1 "Evolution and behavior" is devoted to the question of how human behavior (and the underlying cognitive and biopsychological mechanisms) emerged phylogenetically and just what the evolutionary function of such may be. In course 2.2 "Psychopathology" the extent to which the knowledge acquired in the first year can be used to explain and possibly help behavioral disturbances and experiences, will be examined. Course 2.3 "Memory" is devoted to theories of human memory that do not consider memory to have an isolated function. In these theories, all such higher functions as learning, thinking, reasoning, judging, and imagining are integrated. In course 2.4 "Language" the structure, function, and evolution of one of the most important means of communication and mental functioning, namely human language, are examined. Course 2.5 "Consciousness" will deal with the human consciousness, the topic of philosophy, cognitive psychology, and biological psychology. In course 2.6 "Computing" the theories derived from artificial intelligence will be considered. Course 2.7 "Research practical" is, as its name already says, a research practical.

The non-course related program consists of two statistical components. Furthermore, the writing instruction provided in the first year is continued with writing two other papers. The first needs to be written and presented in Dutch, the second one as part of the English skills training course, has to be written and presented in English. This English training is primarily devoted to learning to write and speak in English. Finally, the non-course related program in the second year of study includes further computer skills instruction: an introductory course on programming in Delphi (Delphi I).

Regulation courses in English

Nowadays, the labour market for our graduates, does not stop at our borders. Therefore we think it is highly important for our students to improve their position on the labour market by a thorough knowledge of English. Offering courses in Eng-

lish is also important for our visiting exchange students. In year 2, courses are initially offered in Dutch (except for course 2.5. Consciousness that will be offered in English only because it is integrated in the English language course). However as soon as an exchange student enrolls for a one of the other second year courses, one tutorial group will meet in English. Regular Dutch students can sign up for this specific tutorial group. Lectures and practical meetings do not have to be run in English. The course coordinator decides upon this. If so, the exchange students will have an extra meeting with the course coordinator once every week. If the practical is not available in English, the exchange students will have to do a replacing assignment. The English tutorial group can do the exam either in Dutch or English.

2.2 OVERVIEW OF SECOND STUDY YEAR

Course	Topic	Practicals	Exercises
2.1*	Evolution and Behavior	Research proposal	Writing skills Ia Delphi
2.2*	Psychopathology	Complaint interview	Writing skills Ia Delphi
2.3*	Memory	Memory practical	Writing skills Ia Delphi
2.4*	Language	Language research	Statistics Ia Writing skills Ib (English)
2.5	Consciousness	PowerPoint	Statistics Ia Writing skills Ib (English)
2.6*	Computing	Connectionist modeling	Statistics Ia Statistics Ib Writing Skills Ib (English)
2.7	Research practical		

* On request only, courses in year 2 will be offered in English (this does not apply to the additional studies and to course 2.5 Consciousness which is offered in English only).

2.2.1 Overview of the courses

Course 2.1 Evolution and behavior

August 26 - September 27, 6 ects

Course coordinator: Harry Smit, Neurocognition.

Objectives

The purpose to this course is to:

- acquire basic knowledge of evolutionary theory;
- acquire basic knowledge of the genetic mechanisms that provide for natural selection;
- learn to think about behavior and psychological functioning in evolutionary terms;
- become familiar with the most important ideas with regard to the evolution of behavior and cognition.

Further description of the course

In psychology and the neurosciences, the central question is how behavior and brain functions arise. The question of "why" concerns the function of the behavior: How did a particular behavior, viewed historically, emerge in light of the evolution of the species?

In the lectures, practicals, and case analyses, the following topics will receive consideration:

- the state of the art with regard to Darwin's theory of evolution through natural selection;
- basic principles of population genetics; genetic variability;
- evolutionary explanations for such aspects of social behavior as altruism; game theoretic explanations such as "tit for tat";
- evolutionary explanations for sexuality and sex differences in behavior and cognition;
- the evolution of the brain and cognition;
- evolutionary explanations for the phenomenon of aging;
- evolution and health;
- improper application of evolutionary explanations.

Essential reading

- Buss, D.M. (1999). *Evolutionary psychology: The new science of mind*. Boston: Allyn & Bacon.
- Various articles and books to be found in the learning resources center.

Practical

Objectives: The practical consists of the writing of a paper in which you show that you can construct and apply a evolutionary-theoretically correct argument. How do you do this? A number of dimensions of behavior can be distinguished. One dimension is part of the living environment and conditions of man. The different dimensions can be distinguished from each other because they are relatively independent. That is, the knowledge and skills pertaining to one dimension do not say much about the knowledge and skills pertaining to a different dimension. The assignment is to select a behavioral phenomenon and categorize the phenomenon under one or more dimensions. You must then provide your arguments for the behavior as such.

Instructional form

10 tutorial group meetings, 5 lectures, 1 practical meeting.

Examination form

Combination of a minimum of 5 open questions and a minimum of 50 closed questions.

Course 2.2 Psychopathology

September 30 - November 8, 6 ects

Course coordinator: Sandra Mulken, Experimental psychology.

Objectives

After completion of this course, the student will be familiar with the most common behavioral disorders: the clinical picture and the diagnostic criteria, the etiological theories and empirical findings that either support or refute the theories, the current manner of treatment, and the effectiveness of the therapies.

Further description of the course

The course psychopathology is concerned with disturbed behavior. On the basis of case descriptions, such important clinical pictures as the different anxiety disorders, eating disorders, addictions, mood disorders, psychotic disorders, and psycho-organic disorders are studied.

The questions that will be raised continually during the course are: What is the clinical picture? Where is the boundary between normal and abnormal? What causes such a disorder? And what can be done about the disorder? As will be seen, there is a large gap between theory and practice, between scientific thinking and clinical treatment. A number of different theoretical schools will also be seen to exist, and these schools explain/treat behavioral disorders in keeping with their favorite theory. The choice of theory/treatment in most cases is thus based on ideology and not empirical findings, and the question is whether this situation is so desirable.

Essential reading
Various articles.

Practical

Objectives: During the practical, the student becomes familiar with the conduct of an intake interview and establishment of a complaint inventory. Via role-playing, interview techniques are practiced and students are given the opportunity to apply the techniques they have learned to simulated patients with different psychological disturbances. Grading is based on the acceptability of a paper.

Instructional form

12 tutorial group meetings, 6 lectures, 6 practical meetings of 3 hours each.

Examination form

A minimum of 6 open questions.

Course 2.3 Memory

November 11 - December 20, 6 ects

Course coordinator: Peter Houx, Biological psychology.

Objectives

This course is intended to give the student insight into an integral and indispensable part of every information processing system: How does memory work? Numerous qualitatively different forms of memory are needed to enable the wide range of cognitive functions that we continuously and effortlessly perform. The recollection of an experience from our youth imposes different demands on our cognitive system than finding our bicycle in a bike rack or finding the right word while speaking. In this course, the emphasis is placed on the role of memory in the processing of information. Attention will be equally paid to both cognitive and neurobiological theories of (cognitive) learning and memory. The cognitive processes that play a particularly important role in a normally functioning memory will also be considered: attention, planning, and (re)construction.

Further description of the course

The course starts with a review of what was learned about memory in the course Human cognition. The standard memory model is contrasted to later insights, with the Working Memory Model of Baddeley receiving particular attention. The extent to which recent theories of brain functioning can lend further insight and plausibility to cognitive models of memory will also be raised. The student will be introduced to a few of the cognitive theories of learning, memory, and forgetting. As will be seen, neurobiological insights sometimes fit quite well with the cognitive theories and sometimes they actually counter the standard models.

Essential reading

- To be announced.
- Various articles, especially from: Neath, I. (1998). *Human memory: An introduction to research, data, and theory*. Pacific Grove, CA.: Brooks/Cole.

Practical

Objectives: During the practical, a number of tests stemming from the field of neuropsychology (e.g., the Wechsler Memory Scale) will be studied. The students will first practice the administration of the tests with each other, under the supervision of the practical coordinator. In addition, the students will be familiarized with a number of memory test paradigms, which make use of the computer: the Sperling task and levels of processing. Thereafter, that which has been learned is actually put into practice with at least three people of different ages: young, middle-aged, and old.

The clinical neuropsychological tasks to be used are: 15 word learning test, Digit Span and Digit Span Backwards, Rey Complex Figure Test, bicycle drawing. Paired-associated learning, and questionnaires concerned with meta-memory processes (MIA, CFO).

The students must process their results and evaluate them in light of the clinical norms supplied to them in a test of clinical reporting.

Instructional form

12 tutorial group meetings, 6 lectures, 1 practical meeting.

Examination form

Open questions.

Course 2.4 Language

January 6 - February 14, 6 ects

Course coordinator: Rob de Vries, Neurocognition.

Objectives

To acquaint the student with linguistic research into the structure of language, psychological research into the functions (and dysfunctions) of language, and biological research into the evolution of the human language capacity and its position within the cognitive system. To acquaint the student with the particular vision of linguists and psycholinguists on the nature of the cognitive apparatus.

Further description of the course

The capacity to use language is one of the most important prerequisites for human social and cognitive functioning. Among the topics to be considered:

- the structure of language: the linguistic descriptions of the structure of our linguistic competence; the language acquisition device (LAD); the modular structure of our linguistic capacity (phonological, syntactic, and semantic/conceptual modules); the difference between grammar as etiquette and grammar as a description of our linguistic knowledge system;
- language acquisition: language learning versus parameter setting, the nature/nurture problem;
- language processing;
- language production;
- storage of language in the mental lexicon;
- a damaged and/or deficient linguistic capacity: genetic defects as the cause of a specific language disturbance;
- selective influence of brain damage on the different language modules (aphasia).

Essential reading

Various articles.

Practical

Objectives: Reading is one of the most important skills to function properly in an information society. Still a sustainable part of our children (about 5 per cent) does not learn how to read fluently. To be able to develop treatments, one needs to know how the learning process works. Is reading a visual activity in which words are recognized as visual patterns, or is reading an activity in which also the process of language sounds plays an important role? In the first practical meeting students will design an experiment based on the Stroop-task. In the second meeting, the experiment is done and guidance to the analysis is provided. Assessment is based on a report about the set up, the experiment itself, and the results.

Instructional form

12 tutorial group meetings, 7 lectures, 2 practical meetings.

Examination form

A minimum of 6 open questions.

Course 2.5 Consciousness

February 17 – April 4, 6 erts

Course coordinator: Rob de Vries, Neurocognition.

Objectives

Further acquaintance with the newest cognitive and neuropsychological theories in the area of consciousness. Philosophical reflection on the caveats and problems associated with the notion of consciousness.

Further description of the course

Consciousness, conscious experience, and perception were the most important topics of nineteenth-century psychology. With the rise of behaviorism, consciousness disappeared as a topic on the psychological agenda. Only over the past few decades has consciousness reappeared in psychology and neuropsychology, and consciousness is now viewed as one of the most important aspects of mental life. In this course, the material basis for and role of consciousness in mental life will be considered together with the philosophical problems associated with the relation between conscious experiences and the substantive processes that are the carriers of these conscious processes. Important questions and topics are: Is intentionality the hallmark of consciousness? Is consciousness a single entity or do split-brain patients have two separate minds and thus a divided consciousness? Can we access the content of and processes underlying our consciousness via introspection? Are there important forms of mental processing, such as thinking and reasoning, that run unconsciously? What do such dissociation phenomena as blindsight tell us about the unconscious? Such special states of consciousness as dreaming and the different theories of dreaming will also be considered. Libet's research into the neurophysiological correlates of free will and the criticisms of this will be discussed. Furthermore, at the end of the course, the question of whether all this knowledge from psychology and neuroscience has brought us further in our attempts to unravel the brain-consciousness problem or not will be considered. In these evaluations, the newest views of the philosophers Colin McGinn and David Chalmers will be given consideration.

Essential reading

Various articles.

Practical

Objectives: Students will learn to prepare and give a presentation on a topic covered in the course. To do this, the students will also make use of Power Point.

Instructional form

12 tutorial group meetings, 6 lectures, 3 practical meetings.

Examination form

A minimum of 6 open questions.

Course 2.6 Computing

April 7 – May 16, 6 erts

Course coordinator: Herco Fonteijn, Experimental psychology.

Objectives

The purpose of this course is as follows:

- introduction to cognitive science;
- familiarization with the use of computational models in cognitive and biological psychology.

Further description of the course

Psychological hypotheses are increasingly specified in the form of computational models. The precision, transparency, and heuristic value of these models, on the one hand, and the availability of sufficient calculation capacity, on the other hand, have contributed to the popularity of these models. Cognitive psychological theories are increasingly leaning on symbolic architectures to characterize human problem solving, reasoning, and knowledge acquisition or on connectionist models to characterize aspects of human learning, categorization, perception, memory, and attention. Within the field of biopsychology, theories are currently developed and tested with the aid of models of the behavior of networks of neurons. In this course, a few of the influential architectures and algorithms will be discussed in connection with the various (bio)psychological phenomena that have given shape to them. Computational models of stereoscopic vision, facial recognition, the conditioning of fear, prosopagnosia, chess, creativity, sadness, learning to walk, and the landing of an airplane will all be considered. In doing this, the student will also become acquainted with such critical undercurrents within cognitive science as situated cognition, artificial life, and dynamic system theory.

Essential reading

- Various articles.

During the first lecture of this course more information will be given with regard to choosing one of the above mentioned books.

Practical

The students will familiarize themselves with the relevant material by conducting a number of practical exercises.

Instructional form

10 tutorial group meetings, 6 lectures, audiovisual material, practical exercises.

Examination form

Will be announced.

Course 2.7 Research practical

May 19 - June 27, 6 erts

Course coordinator: Anita Jansen, Experimental psychology.

Objectives

The aim of the course "research practical" is to supply the need for an intensive training in empirical research skills. The course includes all the things that are related to the practice of doing empirical research:

- the transformation of a general research question to the formulation of a hypothesis,
- making the hypothesis operational,
- designing the experiment,
- sampling the data,
- analysis of the data,
- interpretation of the results,
- writing a research report and presenting the research.

Further description of the course

The course will comprise a full 6-weeks course period in which students work in little groups (about 5 students a group) under the supervision of a researcher. The period will be closed with a conference during which the students themselves present lectures and posters.

The global structure of activities is:

week 1: Reading and formulation of the research question and hypothesis,
week 2: Designing the research protocol. Making a plan for the statistical analysis and recruitment of subjects for participation.

week 3: Measurements. Starting to write the report (introduction and method),

week 4: Measurements and the analysis of data.

week 5: Analysis and interpretation of data, writing it up, and

week 6: complete the report (introduction, method, results, discussion, like a "real" scientific article according tot APA-style) and present the research as a lecture and as a poster on the conference.

There are also weekly plenary lectures arranged about general research themes such as classical experiments in psychology, different designs and research methods, research ethics and how articles need to be read, written and discussed. A literature file about these themes is available.

Essential reading

Various articles (electronic reader).

Instructional form

Group meetings, lectures.

Examination

Examination is based on input and participation of the meetings, the research report and one's individual contribution to it and the research presentation during the closing conference.

2.2.2 Parallel program (non course related)

The non-course related program includes: Computer skills I, Statistics Ila and Iib, and Writing skills Ila and Iib (Ib is in English). All of the components (with the exception of English) relate to the instruction in the first year. Statistics is presented parallel to courses 2.4 through 2.6. The Writing skills instruction starts at the beginning of the year and continues throughout the year. As part of the writing instruction, a "presentation" training program is organized in course 2.1. The Computer skills instruction (Delphi I) runs parallel to courses 2.1 through 2.3.

Delphi I

4 ects, coordinator: Pieter Unema, Experimental psychology.

Objectives

- to get acquainted with the first principles of programming;
- to gain insight in the way programming skills can be of use within the modern psychological science;
- to obtain basic knowledge and skills to program independently and to do tests in Delphi;
- to get a firm basic knowledge for the more in-depth study in year 3.

Further description of the program

A computer is just a silly locker filled with electronics. It will only act when told to do so. These instructions are called programs or software. It is of high importance to learn how to program, because within psychology one can do research only when there is a fair comprehension of how a program can be made. In many cases, the researcher will find out that the available software is not able to process the data as desired, or is not able to support the way in which the experiment is set up. In this course students will learn with Delphi how to make these programs. Delphi offers the possibility to learn to make computer programs through visual programming. Just like any other program that runs under Windows, Delphi consists of a graphic represented window with a number of components, like textmaps and buttons. A program like this is not only fun to look at, but it also reacts when some one clicks on a certain button. Learning to make and test these kinds of programs, the learning material offers students the possibility to practice with these components' features (like colour, position) and the instructions in the programming language Object-Pascal. In the end, students will have to apply these basic skills and will be able to independently build and test.

Essential reading

- Practical book.

- Kerman, M.C. (2002). *Programming & Problem Solving with Delphi*. Boston: Addison Wesley.

Instructional form

Lectures and obligatory practical meetings.

Examination form

Assignments and test.

Statistics Ila and Iib

6 ects

Part Ila

Coordinator: Nick Broers, Statistics

Objectives

Academic psychology is marked by a strong orientation towards experimental research. As a consequence, most of the models used for the analysis of data are directly or indirectly related to analysis of variance. In this course the student is familiarized with the logics and diverse applications of analysis of variance, as traditionally used in the context of experimental designs.

Further description of the program

The course starts with a repetition of oneway analysis of variance, as introduced in the first year of study, complemented with posthoc and contrast analyses. After this, the model is extended into the more complex form of twoway analysis of variance. A distinction is made between orthogonal and nonorthogonal experimental designs. Next in the course, analysis of covariance is introduced as a means of controlling for confounders. Analysis of covariance may be considered as a mixture of analysis of variance and regression modelling, a technique also introduced in the previous year of study. The course closes with a demonstration of the equivalence of analysis of variance and regression analysis. It will be shown that, by using so-called 'dummy variables', any analysis of variance model can be reformulated into a regression model. It the course of this discussion, the simple regression analysis model that was introduced in the first year of study will be further developed into the technique of multiple regression analysis.

Essential reading

- Moore, D.S. & McCabe, G.P. (1998). *Introduction to the practice of statistics*. New York: freeman and Company.
- Statistics Ila Manual, in which a number of chapters from a reader by Gerard van Breukelen are inserted.

Instructional form

A total of 6 topics are dealt with. There is one lecture per topic, with an accompanying tutorial group meeting, an SPSS practical, and a workshop.

Examination form

15 multiple-choice questions. Open book exam.

Part IIb

Coordinator: Gerard van Breukelen, Statistics

Objectives

Expanding on the material of Statistics 2A, the analysis of repeated measures of a continuous variable (like reaction time or a test score) is discussed. Two repeated measures designs are frequently used in psychology. In laboratory experiments use is frequently made of within-subjects designs: experimental designs in which all subjects are observed under every experimental condition, and therefore repeatedly measured. In field experiments, for example in the evaluation of a new therapy or educational method, use is often made of a between-subject design: each person is allocated to only one condition (like an experimental or a control group). The dependent variable is measured on repeated occasions, for example in advance of the experimental treatment, directly afterwards, and one year after its conclusion. In the course both designs will be discussed. The objective is to teach students to recognize these designs and to analyze and interpret the corresponding data in an appropriate manner. The emphasis lies on the comprehension of the underlying statistical model and the translation of seemingly complicated computer output to known statistical methods like the paired and independent t-tests that were covered in the first year statistics course, and the oneway analysis of variance model that was extensively discussed in Statistics 2A.

Further description of the program

The content includes three designs. First the oneway within subject design will be introduced, a design that constitutes the within subjects counterpart to the oneway design in which different experimental conditions contain different groups of subjects. After this, the twoway within subjects design is discussed as the within subjects counterpart of the twoway analysis of variance model that was introduced in Statistics 2A. Both designs will be tackled by two known methods of analysis, the univariate (mixed model) method and the multivariate (manova) method. In the course of discussing these methods of analysis, attention will be paid to the underlying model assumptions. Finally, the so-called split plot design for field experiments with repeated measurements of the dependent variable will be treated. This design includes both a between subjects factor (the experimental factor) and a within subjects factor (moment of measurement). Often, the design also includes a covariate (pretest score).

Essential reading

- "Werkboek Statistiek IIb", with lecture handouts and SPSS practicals.

Instructional form

For each of the designs: a lecture, an tutorial group meeting on the theory and a pen and paper assignment, an SPSS practical, and a seminar in which the SPSS assignments are discussed. (This procedure is thus repeated three times.)

Examination form

15 multiple-choice questions, open book exam.

Writing skills IIa

4 ects, coordinator: Monique Römken, Neurocognition.

Objectives

The writing instruction in the second year builds on that in the first year. In the second year, two essays are written.

- the preparation and presentation in English and Dutch;
- to use visual aids correctly;
- to answer adequately questions asked resulting from the presentation;
- learning to write a scientific paper in English and Dutch.

Part IIa: Presentation and essay, 4 ects

This course consists of the training of presentation skills and the writing of an essay on a general psychological topic. During this course students will mainly practice how to present a paper. Emphasis will be given to a correct preparation and presentation; the use of visual aids; how to deal with questions and introducing and thanking a speaker. As in year 1 a paper will have to be written on the basis of relevant literature. Guidelines and requirements are presented in the 'Schrijfvaardigheidsorderwijs' manual.

Instructional form

This training consists of 3 meetings, one of which will be in one of our presentation rooms.

Examination form

The paper will be graded both on contents and use of language. Also the presentation of the paper will be graded. These two conditions have to be sufficient.

Handing in the papers

It will be ample announced where and when the papers need to be handed in. First version of the papers needs to be handed in in duplicate, one hard copy and one electronic copy. Both have to be handed in on the deadline. On the hard copy, name, ID

number and second year paper have to be written on the bottom right. The electronic copy has to be sent as an attachment to werkstuk@psychology.unimaas.nl. The attachment also has to have your ID-number in the filename. So, please name your file: `werkstukjaar2a IDxxxx.doc`.

Part IIB: English and essay
4 ects, coordinator: Annemiek Vermeeren, Neurocognition.

Objectives

This course consists of:

- the development of scientific writing skills in English via the writing of short papers and research summaries;
- the expansion of one's English speaking ability with an emphasis on scientific presentation and discussion in English.

Further description

This part consists of writing a paper in English and participating in scientific English writing skills practical meetings. Because the students' speaking skills will be trained during the English course 2.5 Consciousness, this training will be focused on the students' writing skills. The students will be asked to write a number of short pieces during this course. The structure of the course is such that students can use their own written pieces to give a short presentation or lead a discussion within the tutorial group meetings. In addition, there is considerable space for feedback, adjustment, and development. The course is directed at the writing of a second year paper with guidance and feedback. In addition to the writing of this paper, it is also required that the student give a presentation on the basis of the paper. Popular scientific subjects have to be presented and discussed, taking in mind that the audience will be a scientific one, but not familiar with psychology subjects. The chosen subjects do not need to have a relation with the contents of course 2.5 Consciousness. The objective is to learn to speak in public, with particular attention to correct formal language use and the relevant vocabulary. In addition, attention is paid to how skillfully the students can answer questions and express themselves so that a better understanding and thereby a good discussion can be facilitated. The training will work up to writing an English paper. They will be guided and receive feedback about their performances. Students will also have to present their paper (in English). Guidelines and requirements are presented in the 'Schrijfvaardigheids-onderwijs' manual.

Instructional form

Tutorial group meetings and feedback meetings.

Examination form

The paper is evaluated with regard to the content and the English, with both components counting equally. The presentation is also evaluated with regard to the content and the English. Both the paper and the presentation must be judged satisfactory.

Submission procedure

It will be ample announced where and when the papers need to be handed in. First version of the papers needs to be submitted in duplicate, one hard copy and one electronic copy. Both have to be handed in on the deadline. On the hard copy, name, ID number and second year paper have to be written. The electronic copy has to be sent as an attachment to werkstuk@psychology.unimaas.nl. The attachment also has to have your ID-number in the filename. So, please name your file: `werkstukjaar2b IDxxxx.doc`.

2.2.3 Basic tekstbooks

Similar to the first year, the second year also uses a list of basic textbooks that should be purchased by the students. Provided one is a member of the faculty's student organization "Luna-tic," it is possible to purchase these books at a discount (see General).

- Moore, D.S., & McCabe, G.P. (1998). *Introduction of the practice of statistics*. New York: Freeman and company.
- Kerman, M.C. (2002). *Programming & Problem Solving with Delphi*. Boston: Addison Wesley.

Overview year 3

3.1 GENERAL

In the third study year, the students choose one of two possible directions for further study: biological or cognitive psychology. Within this direction, the students further specialize by choosing a specific major. The third year is constructed in such a manner that the first three courses (between September and December) consist of the basic courses for the general direction of specialization. The remaining four courses consist of courses from the student's major. In the direction of cognitive psychology, the possible majors are Cognitive ergonomics or Educational psychology. In the direction of biological psychology, the possible majors are Neuro-psychology, Developmental psychology or Cognitive neuroscience. In addition, it is possible for students to follow, after completion of the basic program in either cognitive or biological psychology, part of the program from the mental health program (Geestelijke gezondheidskunde, GGK) within the Faculty of Health Sciences (for a major in Psychopathology). The Faculty of Health Sciences does not offer these courses in English.

Regulation courses in English

Nowadays, the labour market for our graduates, does not stop at our borders. Therefore we think it is highly important for our students to improve their position on the labour market by a thorough knowledge of English. Offering courses in English is also important for our visiting exchange students. In year 3, the following courses are offered in English only:

- within biological psychology: 3.2.b, 3.3.b, 3.6.3, 3.7.4, 3.4.6, 3.5.6, 3.6.6 and 3.7.6
- within cognitive psychology: 3.3.a, 3.4.1 and 3.4.2.

In these courses, all tutorial group meetings, lectures, papers and tests will be in English only. It is up to the course coordinator whether the practical meetings will be in English as well. Students are allowed to do the exam either in English or Dutch, except for course 3.2.b. The exam for course 3.2.b can be done in English only.

For all other courses in year 3, the following guideline applies: as soon as an exchange student enrolls for one of these courses, one tutorial group will meet in English. Regular Dutch students can sign up for this specific tutorial group. Lectures and practical meetings do not have to be run in English. The course coordinator decides upon this. If so, the exchange students will have an extra meeting with the course coordinator once every week. If the practical is not available in English, the exchange students will have to do a replacing assignment. The English tutorial group can do the exam either in Dutch or English. Due to the fewer number of regular students for some of our 3rd year courses, it might happen that Dutch students cannot opt for an English or Dutch tutorial group, because only one English tutorial group will run for that specific course.

3.2 OVERVIEW OF THIRD STUDY YEAR

Course	Practical meeting	Additional studies
BASIC COURSES COGNITIVE PSYCHOLOGY		
3.1.a Reasoning and decision making	Evaluating/criticizing witness statements	Writing skills III Statistics IIIa
3.2.a Propaganda	Designing a flyer Research emotional judgement and psycho physiological reactions	Statistics IIIa
3.3.a Multimedia	Designing a website	Statistics IIIb
Cognitive ergonomics major		
3.4.1 Man-machine interaction	Evaluation of a website	Statistics IIIb
3.5.1 Traffic and aviation psychology	Research to the effects of environmental noise to performances	Delphi II
3.6.1 Information design		Delphi II
3.7.1 Evaluating human work		Delphi II
Educational psychology major		
3.4.2 Cognitive and social development	Theory Of Mind (TOM) Test	Statistics IIIb
3.5.2 Knowledge acquirement	Problem design / problem solving / improvement of texts	Delphi II
3.6.2 Assessment, testing and evaluation	Evaluation of career advisors, test development	Delphi II
3.7.2 Instruction	Research different teaching methods	Delphi II
BASIC COURSES BIOLOGICAL PSYCHOLOGY		
3.1.b Basic neuroscience	Neuro anatomy	Writing Skills III Statistics IIIa
3.2.b Biological psychology: research methods	Comparison various research methods	Statistics IIIa
3.3.b Biological psychology: theoretical perspectives	Evaluation theoretical perspectives	Statistics IIIb
Neuropsychology major		
3.4.3 Brain damage	Neuropsychological diagnostics	Statistics IIIb
3.5.3 Behavioral disorders	Intake and interviewing skills	Delphi II

Course	Practical meeting	Additional studies
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3.6.3	Arousal, attention and psychopharmacology	Psychophysiological measurements	Delphi II
3.7.3	Neuropsychology of aging	Learn to perform basic neuroscientific research	Delphi II
<i>Developmental psychology major</i>			
3.4.4	Infancy	Evaluation cognitive and motor development	Statistics IIb
3.5.4	Perception, attention and motor development	Experimental and psychological research methods and measurement techniques	Delphi II
3.6.4	Development of cognition and language	Experimental and psychological language research	Delphi II
3.7.4	Social-emotional development		Delphi II
<i>Cognitive neuroscience major</i>			
3.4.6	Mechanisms of attention in visual perception		Statistics IIb
3.5.6	Cognitive neuroscience of sensory and motor systems		Delphi II
3.6.6	Brain imaging methods		Delphi II
3.7.6	The cognitive neuroscience of auditory/speech perception		Delphi II
PSYCHOPATHOLOGY MAJOR			
3.4.5	Interviewing techniques		Writing skills III
3.5.5	Mood disorders	Intake interview / experimental psychopathology	Statistics IIb
3.6.5	Anxiety	Behavior therapy: diagnosis and functional analysis	Delphi II
3.7.5	Sexuality	Acquire professional skills	Delphi II

3-3 THE DEGREE COURSE: COGNITIVE PSYCHOLOGY

3-3-1 Basic cognitive psychology program

In a number of courses in the first two years of psychology study, the students were acquainted with cognitive science, in general, and cognitive psychology, in particular. The knowledge acquired about the different key cognitive psychological themes will be further deepened and applied during the third year program for the cognitive psychology specialization. This will be done in the first three courses. Thereafter, the student is expected to choose one of the two possible majors within cognitive psychology: cognitive ergonomics or educational psychology.

The first basic course, 3.1.a "Reasoning and decision-making inside and outside the court of law", builds on our knowledge of human decision-making and reasoning. The reliability of the cognitive system and the operation of our memory are a few of the additional cognitive-psychological themes handled within the framework of this course.

Course 3.2.a "Propaganda", builds on the already acquired knowledge of perception, emotion, and computational models. Elements from communication science, social cognition, applied linguistics, semiotics, cultural psychology, consumer psychology, and religious psychology create a fitting framework for this course. In 3.3.a "Multimedia", the themes of attention, language, and learning are accentuated. Those elements that reach across the different possible majors generally come from systems theory and information technology.

3-3-1.1 Overview of the courses

Course 3.1.a Reasoning and decision making inside and outside the court of law

August 26 - September 27, 6 ects

Course coordinator: Ineke Wessel, Experimental psychology.

Objectives

To gain:

- insight into theories of reasoning, reasoning errors, decisions, and decision-making on the basis of incomplete or "vague" information and the influence of (naïve) mental models on reasoning and decision-making;
- knowledge of important paradigms for psychological research.

Further description of the course

In this course, attention is devoted to the themes of reasoning and decision-making with special attention to decision-making on the basis of incomplete, conflicting, or vague information decisions under conditions of uncertainty, the errors that people — both individuals and groups — can make during this process, and the pros and

cons of decision-making support systems. The psychology of law will thus occupy a prominent position in this course. The administration of justice is, after all, a domain where mistaken reasoning and decision-making can have very far-reaching consequences. Finally, the role of psychological expertise in jurisprudence will be considered within this course in part because the legal system is increasingly appealing to such expertise.

Essential reading
Various articles.

Practical

Objectives: To acquaint the student with a number of methods for evaluating the truth of legal testimony. Topics: suggestibility, criteria-based content analysis (CBCA), and lie detection.

Instructional form

10 tutorial group meetings, 5 lectures, 3 practical meetings.

Examination form

A minimum of 6 open questions.

Course 3.2.a Propaganda

September 30 – November 8, 6 ects

Course coordinator: Herco Fonteijn, Experimental psychology.

Objectives

To apply and deepen cognitive-psychological knowledge acquired in the first two years of study against the background of persuasion processes. To also gain the relevant knowledge from such related disciplines as social cognition, semiotics, and communication science.

Further description of the course

In this course, the products of individual and mass communication intended to influence the behavior of people will prompt us to study underlying cognitive processes in the heads of the sender and receiver. Among the subjects to be examined: models of mass communication; public relations and attitude change; the psychology of religion and attribution theory; language pragmatics; relevance theory and humor; perceptual psychology and text layout; inferences regarding the meaning of forms and compositions; symbols in semiotics and cognitive science; music and consumer behavior; emotions and esthetics. The emphasis will be on models of the relevant (social) cognitive processes. Thus, students will become acquainted with catastrophic-theoretic models of attitude and group polarization, relevance theory,

and neural network models of visual attention and the recognition of musical patterns.

Practical 1

Objectives: Application of acquired knowledge in the design of a flyer or poster. Evaluation is based on the design and the accompanying report in which the choices that have been made are theoretically anchored. The practical meeting will be closed with a presentation and report. Presentation will be judged by peer assessment. The grade for the practical meeting will be the same as the grade for the presentation, unless the grade for the report differs more than 1 point. In that case the grade for the practical will be the same as the one for the report.

Practical 2

In this other practical, students are going to search for the connection between emotional judgment of pictures and autonomic psycho-physiological reactions, based on a simple two-dimensional model of emotions. Students will register the electro myographic and skin conductivity reactions to pictures that are emotionally charged. They will also learn how to process the data. Assessment will be based on a written report.

Essential reading

Various articles.

Instructional form

12 tutorial group meetings, 5 lectures, practical meetings.

Examination form

Will be announced.

Course 3.3.a Multimedia

November 11 – December 20, 6 ects

Course coordinator: Robert van Doorn, Experimental psychology.

Objectives

The purpose of this course is to acquire:

- knowledge of cognitive-psychological theories relevant for multimedia information presentation and multimodal information processing;
- knowledge of multimedia applications in the areas of education and communication;
- knowledge of uni- and multimodal information processing and the attention that plays part in this process.

Further description of the course

In this course the questions is how uni- and multimodal information is processed. Fundamental and applied psychological knowledge about the possibilities and limitations of human information processing will be addressed in terms of learning, memory and various forms of attention. A start will be made with multimedia applications for transfer of knowledge in learning situations. The most modern versions are electronic of nature such as hypertext and the internet. Gradually, more fundamental research insights will be discussed that have to do with both uni- and multimodal information processing, in which various forms of attention play a large role.

Essential reading

Various articles.

Practical

The practical consists of an introductory course for Microsoft Frontpage 2000. Thereafter, students will work in small groups on the design, implementation, and presentation of a Website. The following skills will be central:

- working with Frontpage 2000;
- applying website style-guides to a website design;
- presenting the design and implementation (prototype).

Instructional form

12 tutorial group meetings, lectures.

Examination form

A minimum of 6 open questions.

3-3.2 The cognitive ergonomics major

Cognitive ergonomics deal with the defeat between tasks, systems and appliances, and the human abilities to process information (to perceive, to learn, language, to decide, attention and motor skills). Upon completion of this course, students have a basic knowledge about the human data processing and about the applied research methods. Students will become trained researchers who will make their way in both fundamental and applied job opportunities, technical systems, and tasks designed in such a manner that the safety, health, comfort, and efficient functioning of people is promoted. This description makes clear that ergonomics is practice-oriented; that is, scientifically tested knowledge of human abilities and limitations are translated into practical guidelines and recommendations.

In the first course, "Man-machine interaction" (course 3.4.1), the interactions between people and machines stand central with a consideration of such matters as navigation, different search methods, and the use of metaphors. The second course,

"Traffic and aviation psychology" (course 3.5.1) is aimed at individual related variables as mistakes, fatigue, stress and surrounding variables. Basic assumptions behind the design and evaluation of information carriers (like operating instructions) will be discussed in "Information design" (course 3.6.1). Finally, in the course "Evaluating human work" (course 3.7.1), the attunement of the work environment to the possibilities and limitations of man is considered along with the research methods and techniques typically employed by cognitive ergonomists.

3-3.2.1 Overview of the courses

Course 3.4.1 Man-machine interaction

January 6 – February 14, 6 erts

Course coordinator: Robert van Doorn, Experimental psychology.

Objectives

The purpose of this course is to answer the following questions:

- What approaches are available to study information processing in the context of cognitive ergonomics?
- How can the design of (automated) tools and systems take into consideration the potentials and limitations of human information processing?

Further description of the course

Man-machine interaction constitutes an important new multidisciplinary area of work for cognitive psychologists. In this course, you will first be introduced to the most important theoretical and empirical approaches within the field. Of particular interest will be the possibilities and limitations of (the study of) human information processing in relation to automated systems. Perception, attention and motor skills will be discussed. On the practical side, the methods and techniques will be examined and applied for evaluating the usability of a system in a particular context and with a specific target group.

Essential reading

Various articles.

Practical

Students will plan, conduct, and report the evaluation of a website. The practical is concluded with a report.

Instructional form

12 tutorial group meetings, lectures, practical meetings.

Examination form

A minimum of 6 open questions.

Course 3.5.1 Traffic and aviation psychology

February 17 - April 4, 6 erts

Course coordinator: Jan Ramaekers, Experimental psychology.

Objectives

The purpose of this course is to gain:

- knowledge of cognitive psychological theories with applications from traffic psychology, aviation psychology, etc.
- knowledge of models and approaches from cognitive psychology with particular attention to such subject variables as fatigue and stress and such environmental variables as noise.

Further description of the course

Traffic and aviation psychology devote attention to the relations and interactions between people and their often non-natural environment. The most important theoretical themes considered in this course concern the ecological, energetic, and cognitive psychological models of task performance. Of primary concern are such non-natural environments as workplaces (including cockpits, control rooms, etc.), roads, and cities. Attention is devoted to the effects of fatigue, medication, noise, and temperature on human performance; on safety, risk management, and human errors; on the question of how people find their way in complex environments; and the cognitive aspects that play a role in the design of these non-natural environments. Attention is also paid to human behavior in relation to the natural environment. The themes in this context are, among others, dealing with natural and technological disasters.

Essential reading

Various articles.

Practical

Objectives: To conduct a comparative study of the effects of environmental noise on task performance.

Instructional form

12 tutorial group meetings, 4 lectures, 4 practical meetings.

Examination form

A minimum of 6 open questions.

Course 3.6.1 Information design

April 7 - May 16, 6 erts

Course coordinator: Martjeke Kools, Experimental psychology.

Objectives

The purpose of this course is to:

- become acquainted with insights and findings from the area of "information design";
- acquire insight into the possibilities for applying cognitive-psychological knowledge and theories in the development of products, devices, etc.
- introduce methods and techniques for the development and evaluation of such information design products as operating instructions, warnings, forms, and displays.

Further description of the course

Information design is the interdisciplinary field in which cognitive-psychologists, ergonomists, applied linguists, and graphic designers tackle the question of how they can produce effective graphic communication aids, such as manuals, pictograms, etcetera. After theoretical consideration of such cognitive-psychological topics as planning, gathering of information, and affordances, a large number of examples will be used to illustrate the possibilities and limitations of using language, text, figures, and symbols as means of communication. Among the examples receiving in-depth consideration are: operating instructions for (complex) devices, warnings, tables and graphs, and pictograms. Attention will also be paid to instructional materials for the elderly. The student also becomes acquainted with the skills needed to evaluate and optimize the effectiveness of the aforementioned types of information carriers. Students will conduct a task analysis, design a product evaluation test, construct an error analysis, and become acquainted with the ecological approach of interface design.

Essential reading

Various articles.

Instructional form

15 tutorial group meetings, 4 lectures.

Examination form

A minimum of 6 open questions

Course 3.7.1 Evaluating human work

May 19 - June 27, 6 erts

Course coordinator: Pieter Unema, Experimental Psychology

Objectives

The traditional approach to ergonomics is based mainly on physical and cognitive abilities and limitations of the individual and its meaning for the development of

tools and working places. However, not always problems on the working place can be attributed to the individual qualities of the employer and the working place. Also social and organisational issues have to be taken into account to a person's performance. This course aims to get a picture of all those industrial psychology factors that play a role for an employers' ultimate performance.

Further description of the course

As this course is the last one for the major in cognitive ergonomics, it will also attempt to narrow the gap between textbook study, on the one hand, and research and practical recommendations on the other, by means of a number of practical assignments.

Themes like motivation, naturalistic decision-making, team training and performance, and measuring mental workload will be discussed. Students will be introduced to cognitive ergonomics practice and its common research methods and techniques. Possible themes are ergonomic work environment analysis, observation techniques, thinking out loud protocols and measurement of mental workload.

Essential reading

Various articles and chapters.

Instructional form

5 lectures and 12 tutorial group meetings. A number of the tutorial group meetings will discuss the practical assignments. Some practical assignments will have to take place 'in the field'.

Examination form

8 to 10 short essay questions.

3.3.3 The educational psychology major

Education is an attempt to create an environment that stimulates human development; development of what people know, what they can do, and what they feel. Educational psychology examines these changes with a special emphasis on the effects of instruction on them. The point of view in Maastricht is strongly constructivist in nature (that is, learning is construed as a process of knowledge construction), aimed at learning in adequate contexts, and emphasizes the social character of learning. All of this is in line with the assumptions that characterize problem-based learning and also, thus, the extensive experiences of psychology students themselves.

The normal cognitive and social development of children and adolescents will be considered in "Cognitive and social development" (course 3.4.2). In the second course, "Knowledge acquisition" (course 3.5.2), the processes that provide the basis for the acquisition of (declarative) knowledge will be examined along with an

overview of educational methods. The third course is "Assessment, testing and evaluation" (3.6.2). Assessment is a subject that reflects both social and basic cognitive-psychological facets and therefore is important for everybody who would like to work in this field. The last course "Instruction" (course 3.7.2) deals with how knowledge about learning can be used to develop methods that improve that learning process.

3.3.3.1 Overview of the courses

3.4.2 Cognitive and social development

January 6 – February 14, 6 ects

Course coordinator: Reinout Wiers, Experimental psychology.

Objectives

The purpose of this course is to provide an answer to the following questions:

- Which processes constitute the basis for children's cognitive and social development?
- How does education influence this development?

Further description of the course

Children spend approximately 15,000 hours in school. This course examines cognitive and social development and how education can interfere with these processes. A returning element is Piaget's influential theory of cognitive development. What is the current status of Piaget's theory and what are the criticisms? More recent alternatives are discussed: naïve theories focussing on domain specific conceptual change and dynamic system theory focussing on non-linear mechanisms of qualitative change. Furthermore, the methodology of research in cognitive and social development is a target throughout the course.

During the course the development from baby to young adulthood will be followed. For each period, the ongoing theoretical controversies will be examined along with their (possible) implications for education. In connection with this regular education (e.g. science education) and special education as well as education-related developmental problems (e.g. teasing) will be examined.

During the course, every student specializes in a task which will be presented during the last two group meetings. Every student will test an elementary school child using the (short version of the) Theory Of Mind (TOM) test. Test scores of the child will be calculated, interpreted and reported. Further, each student will do a little experiment concerning science instruction in which the task is to examine the cognitive structure of prior knowledge in a problem-based learning context. A report will be written on the theoretical background, the results, and recommendations in the chosen learning context (counts for 25% of the final score).

Essential reading

Various articles (electronic reader).

Instructional form

Practicals, lectures and tutorial group meetings (approximately 18 meetings).

Examination form

An individual report about the science instruction practical (25%) and a 5-question essay test (75%).

Course 3.5.2 Knowledge acquisition

February 17 – April 4, 6 erts

Course coordinator: Margje van de Wiel, Experimental psychology.

Objectives

Knowledge about the learning process. Based on a fundamental knowledge of learning theories, students get an insight into what changes, and how it changes when people try to understand or try to do something. The purpose of this course is to answer the following questions.

- How do people acquire declarative knowledge?
- What are the characteristics and specific requirements of learning by means of instruction?
- What are the different forms of instruction? More specifically: What are the characteristics of problem-based learning?

Further description of the course

What is learning? What is knowledge? How have the theories about learning changed in the course of time? What different forms of learning are there? How can learning be optimized best? Does that differ for the different kinds of learning forms? What knowledge stays? When is a student able to apply his/her knowledge in a different setting? What do students and teachers think about learning themselves? What motivates students to learn? These questions are central in this course. Based on daily life problems, students will think about these questions. Representatoin of knowledge is a major item, applied to humans and artificial models.

The structure of this course differs from other third year courses because a number of problems are practical problems in which also exercises and assignments will have to be performed. In this way students, by means of the word processing theory of Kintsch, learn to improve instructional texts. Furthermore students acquire knowledge and skills needed to design and evaluate problems used in problem-based learning. By means of a research project, students deepen their knowl-

edge about a block related theme and get some experience with cognitive psychological methods of research.

Essential reading

Various articles.

Research project

Objectives: Students orient themselves on research methods that are used to gain insight into cognitive processes that are active while learning and solving problems and to map the representation of knowledge. Emphasis is on gathering and analysing verbal data. In small groups (3-4 students) they will need to design a pilot-experiment and conduct it themselves.

Instructional form

tutorial group meetings, lectures, practical meetings.

Examination form

5 short essay questions. The practical is concluded with a written report.

Course 3.6.2 Assessment, testing and evaluation

April 7 – May 16, 6 erts

Course coordinator: Marianne van den Hurk, Office of the Dean.

Objectives

The objectives of this course are as follows.

Knowledge of and a critical approach to the criteria and methods for the evaluation of course participants. What criteria and methods are there? To what extent are these evaluation methods scientifically supported, reliable, valid, and manageable?

Further description of the course

This course is concerned with evaluation within the educational context, both the evaluation of the course participants and the teaching. The relevant questions are, for example: What is the predictive value of tests and questionnaires for the advising or selection of the tested people with regard to their further education or profession? What is the predictive value of examination results? Are simulations of professional situations more appropriate? How can computerized tests and evaluations contribute to the speed, objectivity, and reliability of evaluations? Should teaching be considered good when the participants are satisfied at the end, when the percentage of the participants passing is high, or when the information that is learned can be applied in the work of the participants?

To what extent do student and teacher place responsibility for (negative and positive) results with themselves? What does the total score from a test or questionnaire say about the relevant individual when the items on the measurement instru-

ment constitute a multidimensional or heterogeneous collection? How can tests and evaluations be normed? Should examination scores be judged using absolute or relative norms? Should test scores simply be connected to age and sex or are other personality characteristics more relevant? How should differences in cultures, milieus, cohorts, or generations be dealt with? How can feedbacks on the questions being evaluated lead to improvement? How can students learn from their mistakes on multiple-choice questions? What do teachers learn from their scores on the rating scales included in the educational evaluations? What remaining feedback is needed? Which criteria should be followed during evaluation, and who has the right to evaluate? Should society have a say in the evaluation of students and training programs? Is the customer always right? And just who is the customer? On the basis of a number of tasks, the preceding and a number of other questions will be considered. It is possible that a small practical on test administration and scoring may also be added.

Essential reading
Various articles.

Practical

Objectives: Among the objectives of the practical are the following:

- students design a series of stations for the evaluation of future career advisors;
- students develop an "authentic test" for this course, including guidelines for evaluation and a reliability study.

Instructional form

12 tutorial group meetings, 4 lectures, 6 practical meetings.

Examination form

Combination of practical report and self-assessment.

Course 3.7.2 Instruction

May 19 – June 27, 6 ects

Course coordinator: Theo Bastiaens, Open University Heerlen

Objectives

Knowledge about instruction design based on cognitive psychology theories and testing the instruction's effectiveness by means of the '4 Components Instructional Design Model'.

Further description of the course

The main question in this course is how you can apply knowledge to shape education and learning. Basic principles of designing instructions are the knowledge and skills to be learned. Do you have to work with declarative knowledge or with proced-

dural knowledge, or with a combination of both? The latter is the case in most cognitive skills that this course is dealing with. What does one have to know before one can actually execute a skill and how well and automatic does this have to happen? Answers to these questions are given in a task analysis.

Next steps are the determination of the instruction methods, the problems that are practised with, the sequence of problems and the form and timing of feedback. Some of the instruction methods that are dealt with are:

- part-task practice versus whole-task practice;
- direct instruction versus discovering learning;
- inductive versus deductive learning;
- worked examples versus problem solving;
- self-explanations and reflection.

How effective are the different teaching methods? How can they be improved? In other words: is there a transfer of training? Not only the theory, but also the practice of designing instructional material will be dwelled upon. Some lectures will be done by guest lecturers from the field.

Besides, two group meetings will be dedicated to constructing a blue print for instruction of complex skills based on the '4 Components Instructional Design Model'. The following phases can be distinguished:

- task analysis;
- design principles;
- learning materials.

Essential reading

Various articles and books available in the library.

Instructional form

12 tutorial group meetings, 4 lectures, 2 practical meetings.

Examination form

A minimum of 6 open questions.

3-4 THE DEGREE COURSE: BIOLOGICAL PSYCHOLOGY

3-4-1 Basic biological psychology program

The on-going biological revolution in psychology (comparable to the preceding cognitive revolution) is of overriding importance for the present-day "face" of psychology. Within the field of biological psychology, "man as information processing system" stands central, which means taking biological factors into consideration in the study of the psychological or cognitive functioning of man. The manner in which we perceive, remember, speak, and move is determined by, among other factors, the operation of the nervous system and the phases of development. Information is

often processed very differently by a computer than by people; similarly, toddlers have different cognitive skills than older children and adults.

Following the three basic biological psychology courses, students choose a major in neuropsychology or developmental psychology. A major in neuropsychology is aimed at the study of brain-behavior relations and the application of such information to problems related to health and cognitive functioning. A major in developmental psychology is aimed at the study of changes in biological and cognitive-emotional functioning throughout the lifespan.

The three basic courses of biological psychology build on the basic knowledge acquired in the first and second years of study and offer a structured program to acquire the basic knowledge needed to major in neuropsychology, developmental psychology or cognitive neuroscience. In the first basic course, 3.1.b "Basic neuroscience", the student is immersed in the functional anatomy, physiology, and plasticity of the nervous system. In the second course, 3.2.b "Biological psychology: research methods" the most important research methods within the cognitive sciences and their connections to theory formation will be treated. The third course, 3.3.b "Biological psychology: theoretical perspectives" gives an extended demonstration of the multidisciplinary approach to cognitive functions within the field of biological psychology.

3-4.1.1 Overview of the courses

Course 3.1.b Basic neuroscience

August 26 - September 27, 6 erts

Course coordinator: Wijnand Raaijmakers, Neurocognition.

Objectives

Acquire knowledge of and insight into:

- the structure and operation of the nervous system;
- the organization of the most important functional systems that provide the basis for perception, movement, emotion, and motivation;
- mechanisms for neural plasticity.

Further description of the course

Most important function of the nervous system is generating action adequately and efficiently. Perception and other data processing systems are of use only in the light of what is being done with it. The output of the nervous system and the organization of motoric and cognitive action, are the principles of this course. The integration between sensoric information and planning, programming and display of behaviour is the central issues to be discussed. In view of the development of the nervous system, general organisational principles will be discussed, especially the visual system will be one of the main issues. The substrate for acting from a

social-emotional viewpoint will come up. Also the mechanisms for plasticity during the ontogenesis as well during adulthood will be discussed.

Essential reading

- Various articles and chapters from different books.
- Bear, M.F., Connors, B.W., & Paradiso, M.A. (2001). *Neuroscience. Exploring the brain* (2nd Ed.). Philadelphia: Lippincott, Williams & Wilkins.
- Gazzaniga, M.S., Ivry, R.B., & Mangun, G.R. (1998). *Cognitive neuroscience. The biology of the mind* (2nd Ed.). New York: Norton.
- Kandel, E.R., Schwartz, J.H., & Jessell, T.M. (Eds) (2000). *Principles of Neural Science* (4th Ed.). New York: McGraw-Hill (expensive)

Practical

Objectives: The most important objectives in this practical are becoming familiar with neuroanatomical terminology and gaining insight into the spatial and functional organization of the brain. The practical meetings are very well suited for this: the preparation of structures in sheep brains, the study of brain patterns under the microscope, and a demonstration with human brain material. Assignments to be performed with the aid of brain models, CD-ROM programs, and textbook information will also be given.

Instructional form

10 tutorial group meetings; 5 lectures; 5 practical meetings.

Examination form

Combination of a minimum of 5 open questions and 30 closed questions.

Course 3.2.b Biological psychology: research methods

September 30 - November 8, 6 erts

Course coordinator: Rainer Goebel, Neurocognition.

Objectives

This course provides an overview of the basic research methods used in biological psychology.

Further description of the course

Biological psychology is the branch of psychology that includes studies of the various biological bases of behavior. These include the study of neuroanatomy and physiology, the influences of hormones and other chemicals both endogenous and exogenous, and the genetics and heritability of behavioral traits. Biological psychology has led to major advances in understanding brain processes that underlie cognitive functions such as perception, attention, language, memory and motor control.

These advances were possible only through the application of a range of different research methods.

This course aims to provide basic knowledge about all major methods used in biological psychology including animal studies, Electroencephalography and Magnetoencephalography (EEG/MEG), Positron Emission Tomography (PET), functional Magnetic Resonance imaging (fMRI), neuropsychological investigations of patients with brain lesions and psychopharmacological research. Each of these methods provides a different view on the biological basis of behaviour and has unique strengths and weaknesses. Each week we will learn about the principles and selected applications of one research method. In the last week, we will compare the different methods and discuss ways to integrate complementary information arising from different spatio-temporal levels of investigation.

Essential reading

- To be announced.

Practical

Short oral presentation. Comparison of possibilities and limitations of various research methods with respect to specific research questions.

Instructional form

12 tutorial group meetings, 5 lectures, 1 practical meeting.

Examination form

A minimum of 6 open questions

Course 3.3.b Biological psychology: theoretical perspectives

November 11 - December 20, 6 erts

Course coordinator: Leo Blomert, Neurocognition.

Objectives

Theoretical approaches to cognitive functions in biological perspective.

Further description of the course

The first two basic courses focus on brain functions and methods of research. This course will concentrate on cognitive theories in a biological perspective with the aim to investigate how brains make cognition possible. This research area is by definition interdisciplinary and uses concepts from the neuro-, cognitive and computer sciences. Developing theories in the domain of cognitive neuroscience is therefore best described as a dynamic interplay between different knowledge sources. In this way a bridge can be established between the neural and functional architecture of cognition. The revolution of new brain imaging techniques in the nineties of the last

century has contributed enormously to this goal and is indispensable for testing and constraining new models of brain and cognition.

Special attention will be paid to the 'what and how' of the information processes as conceptualised in different theoretical models. This will be illustrated by discussing the dominant theoretical perspectives for three cognitive functions.

Knowledge of these theoretical perspectives forms the basis for the approaches taken in the specialisation trajectories: the study of the development of cognitive functions (biological developmental psychology); the study of cognitive dysfunctions (neuropsychology) and the study of the fundamental nature of the relation between brain and cognition (cognitive neuro science).

Essential reading

- To be announced.

Practical

Evaluation of theoretical perspectives from a meta-theoretical point of view. Several theoretical themes and two competing theoretical points of view for each of these content areas will be provided in the form of an article basic to each theoretical position. Each student will then choose one of the ten theoretical positions to defend, taking the contrasting view into account. Students have to add at least one article of their own choice.

Instructional form

12 tutorial group meetings, 4 lectures, 1 practical meeting.

Examination form

A minimum of 6 open questions.

3.4-2 The neuropsychology major

The major in neuropsychology is for people who are interested in the connection between body and behavior (i.e., the brain and behavior). Most neuropsychologists work in the area of evaluating the functional disturbances in patients with brain injury or patients with some other behavioral disorder and thus as so-called test psychologists. Neuropsychologists may also be involved in rehabilitation or the training of cognitive skills and in research (for example, within the pharmaceutical industry or university research laboratories).

The main theme of the major in Neuropsychology is psychological functioning and the biological aspects of it. In the first course, 3.4.3 "Brain damage", the most important functional disturbances resulting from brain injury will be considered. In course 3.5.3 "Behavioral disorders", disorders in perception and behavior will be examined along with the relevant psychotherapeutic and pharmacological interventions. In the third course, 3.6.3 "Arousal, attention and psychopharmacology",

the relation between alertness and cognitive performance, on the one hand, and the relevant physiological and pharmacological brain processes, on the other hand, will be addressed in particular. Finally, in the fourth course, 3.7.4 "Neuropsychology of aging", the cognitive and emotional changes that occur during normal aging will be considered along with the neuropsychological functional disorders that accompany different forms of pathological aging.

3.4.2.1 Overview of the courses

Course 3.4.3 Brain damage

January 6 - February 14, 6 etcs

Course coordinator: Martin van Boxtel, Psychiatry and Neuropsychology.

Objectives

This course aims to provide the student with knowledge of brain-behavior 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.

Further description of the course

Much of our knowledge of cognitive and affective functioning and behavior has been gained through analyses of changes following brain injury. In the present course, 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.

Essential reading

- Several neuro psychological and neurological handbooks.

Practical

Objectives: The practical on neuropsychological diagnosis is aimed at obtaining the skills needed to conduct and report a neuropsychological examination for screening purposes. The practical involves four half days in which the student practices the conduct of neuropsychological test research and immerses him/herself in the different methods for screening and deeper neuropsychological diagnosis. In the practical, the accent lies on the interview with the patient; the interpretation of test results, and the writing of a neuropsychological report on the basis of examination, interview, and observational information. Among the diagnostic methods to be considered are: the Groninger Intelligence Test (GIT), the 15-word learning task, the Complex figure from Rey, the Stroop color-word test, and the Concept Shifting Test.

Instructional form

12 tutorial group meetings, 6 lectures, 4 practical meetings.

Examination form

A minimum of 6 open questions.

Course 3.5.3 Behavioral disorders

February 17 - April 4, 6 etcs

Course coordinator: Marko Jelcic, Experimental psychology.

Objectives

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.

Further description of the course

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 behavioral problems and cognitive functional disturbances along with the brain and behavioral 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 behavioral and cognitive disorders, both the relevant biological and psychological factors will be considered.

Essential reading

Various articles and chapters from different books.

Practical

Objectives: The practical attempts to provide students with the skills needed to conduct an intake interview in cases of neuropsychiatric disorders. Both the general interview (problem inventory, history, psychosocial factors) and the special neuropsychological anamnesis will be practiced. Use will be made of simulation patients. The practical is concluded with a report, which will be graded on a satisfactory/unsatisfactory basis.

Instructional form

12 tutorial group meetings, 6 lectures, 3 practical meetings.

Examination form

A minimum of 6 open questions.

Course 3.6.3 Arousal, attention and psychopharmacology

April 7 - May 16, 6 erts

Course coordinator: Annemiek Vermeeren, Neurocognition.

Objectives

Acquire knowledge of

- factors affecting arousal and their effects on attention and performance;
- theories concerning the relation between arousal, attention and cognitive performance;
- neural structures and neurotransmitter systems involved in the regulation of arousal.

Further description of the course

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. This course will focus on the role of arousal in cognitive and psychomotor performance. 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?

A well-known model of the relation between arousal and performance is the inverted U. This model predicts that too little or too much arousal has adverse effects on performance, and that performance is optimal at an intermediate level of arousal. Although this model is powerful in explaining many experimental findings it also has its limitations. These will be discussed and alternative models will be presented.

Psychoactive drugs are powerful tools to manipulate arousal. Many people drink coffee to increase alertness or fight sleepiness, while tranquilizers and hypnotics are among the most commonly used medicinal drugs the western society. In fact, most psychoactive drugs seem to have stimulant or sedative (side) effects. Interestingly, their mechanisms of action are very different, which indicates that various neural systems are involved in the regulation of arousal. Psychopharmacological studies can therefore be designed to manipulate arousal and study the effects on performance, or to manipulate a neurotransmitter system to study its role in the regulation arousal.

Essential reading

- Reader with various journal articles and book chapters.

Practical

Experimental manipulation of arousal and performance by means of environmental noise. Students will participate in an experiment, statistically analyze the data and write a report.

Instructional form

10 tutorial group meetings, 6 lectures, 3 practical meeting

Examination form

A minimum of 6 open questions.

Course 3.7.3 Neuropsychology of aging

May 19 - June 27, 6 erts

Course coordinator: Sven Stapert, Biological psychology.

Objectives

This course is intended to provide the student with knowledge of the cognitive, emotional, and behavioral changes that occur during normal aging. Knowledge will also be acquired of the neuropsychological functional disorders that can occur as a result of pathological forms of aging and the biological and psychosocial mechanisms that lie at the basis. The course starts with an overview of the evolutionary aspects of aging.

Further description of the course

Many of the elderly complain about their cognitive functioning, and a decline in many cognitive processes with the climbing of the years can also be objectively demonstrated. Starting in the fourth decade, a clear slowing down can already be detected. Considerable differences nevertheless exist in the degree of decline in cognitive functioning and skills across people. Some people become "successfully" old; others encounter functional disorders that can considerably hinder daily life. Severe changes can also occur, such as those accompanying pathological forms of senility. The different forms of dementia and different neuro-psychiatric syndromes are also an example of this. The present course will provide an overview of which psychological "modules" deteriorate as part of the normal aging process from the age of 25 on and what happens during pathological forms of cognitive aging. Important questions will thus be: just when do changes occur and just how rapidly? The emphasis will be on neuropsychology and cognitive gerontology along with the connections between the biological, psychological, and social factors during the process of aging. The comparative contribution of the aforementioned factors will change during the phase of life. Physiological theories of aging will be considered (such as genetics, free radicals theory, and the brain reserve theory). Neuropsychological disorders will be studied in relation to neuropsychiatric and neurological syndromes. Dementia and Alzheimer's in particular, Parkinson's disease, age-related cognitive disturbances, anxiety, and depression among the elderly will all be considered. Both diagnostics and classification, and the biological and psychological forms of treatment/care will be discussed in this connection. Various cognitive theories will also be considered: is it predominantly declining speed that is responsible for the objective and subjective deterioration, or is it actual deterioration of the senses? What measurable cognitive dysfunction precedes a memory problem or complaint? Various social and cultural influences in addition to the role of health problems will also be discussed.

Essential reading

- Articles and chapters from different books.

Practical

Objectives: The Maastricht Aging Study (MAAS) is intended to, among other things, establish norms for a number of clinical (neuro)psychological tests and tasks. The tasks are administered in a standard manner to well-documented and stratified panels of normal subjects between the ages of 25 and 85 years. Pairs of students are presented a data set with one or more of the tasks. Every pair receives a different data set and question. The statistical analyses are performed independently under the supervision of the practical coordinators (effects of age, sex, educational background, and health status). Norm tables are created. And critical discussion in light of the relevant literature provides the basis for a report.

Instructional form

12 tutorial group meetings, 6 lectures, 4 practical meetings.

Examination form

A minimum of 6 open questions.

3.4.3 The developmental psychology major

A major in developmental psychology is relevant for students who are interested in working with, psychologically evaluating, and treating children, adolescents, and the elderly. A significant percentage of the developmental psychologists are concerned with the possible causes and consequences of behavioral changes during the life course. Within this context, one may think of determining the level of development and making a prognosis for later potential consequences. These developmental psychologists work primarily in the areas of education, educational advising, public relations, and in policy functions. When the emphasis lies more on disturbed development, then the developmental psychologists work primarily in the areas of health care, mental health care, care for the mentally handicapped, etc. In addition to these options, developmental psychologists may also be involved in university and/or industrial research.

The developmental psychology program at Maastricht University is concerned more than the developmental programs elsewhere with the connections between the biological and psychosocial aspects of behavior. In the first course, 3.4.4 "Infancy" the relations between biological and psychological factors during early development will be discussed along with the influence of these factors on later development. In the second course, 3.5.4 "Perception, attention, and motor development", normal and pathological changes in perception, attention, and the motor system throughout the course of life will be considered. In the third course, 3.6.4 "Development of cognition and language", both the normal and disturbed courses of development for the cognitive capacity and language will be considered. In the final course, 3.7.4 "Social-emotional development", precisely such development will be considered. In all of the courses, attention will be paid to not only the biological mechanisms and theories of development but also to the evaluation, research, and treatment of developmental disorders.

3.4.3.1 Overview of the courses

Course 3.4.4 Infancy

January 6 - February 14, 6 ects

Course coordinator: Hans Stauder, Neurocognition.

Objectives

This course is intended to provide insight into the current state of the art with respect to the biological and behavioral processes that influence early human development. At the same time, the influence of the early course of development on later development will be examined.

Further description of the course

Early development is the most dynamic period of human ontogenesis. Given the special characteristics of research into early human development, this course has a format that deviates from that of the other courses within the developmental psychology major. In contrast to the other courses with their life-span orientation, the theme of the present course is the very earliest developmental phase. This does not, however, mean that the relation between early and later development will not be an issue. As will be seen, apparently insignificant endogenous (genetic) factors and/or environmental factors can considerably influence the further development of an individual. Early development is nevertheless characterized by a very large degree of plasticity with regard to both physiology and behavior. The removal of a complete brain hemisphere during the early phases of development, for example, need not lead to later disturbed development.

Among the topics to be considered are: brain-behavior relations during early development, inborn reflexes that later disappear, effects of drug use by the mother on the baby, the question of what infants perceive and know, leaps/discontinuity in early development, and the boundaries between normal and abnormal early development. In addition to the basic textbook, a number of recent articles will also be required reading.

Essential reading

- Bremner, J.G. (1994). *Infancy*. Oxford, UK: Blackwell.
- Various (recent) articles.

Practical

Objectives: To acquire experience with the evaluation of infant reflexes and determination of the cognitive developmental level of babies and young children with the aid of Bayley's developmental scales.

Instructional form

12 tutorial group meetings, 4 lectures, 2 practical meetings.

Examination form

A minimum of 6 open questions.

Course 3-5.4 Perception, attention, and motor development

February 17 - April 4, 6 ects

Course coordinator: Lisa Jonkman, Neurocognition.

Objectives

This course is intended to provide an overview of the human development of perception, attention, and motor functions from early to old age. The emphasis is on normal development. The most important disturbances of perceptual, attentional, and motor functions will be examined in relation to the normal course of development.

Further description of the course

Although perception, attention, and motor development change most spectacularly during the baby years, these functions are subject to change throughout the life span. In considering the relevant theories within the present course, the emphasis will be on the biological and physiological models of development. As will be seen, a disturbance in one or more of these functions can have very different consequences, depending on the age at which the disturbance occurs. Being born deaf is very different, for example, than becoming deaf at a later age. During this course, it will be quickly seen that developmental theories of perception and the motor system are inseparable from attention and the development of attention. The most important disorders related to perception, attention, and the motor system will be considered and placed within a developmental perspective. As will be seen, the examination of disturbances from a developmental perspective can provide some surprising insights. Hypotheses have been developed, for example, with regard to brain activation and perceptual disturbances that appear to constitute the basis for the development of autism. Such topics as the development of "bottom-up" versus "top-down" attentional processes, the development of inhibition and the frontal cortex, the development of motor functions, ADHD and Parkinson's disease, and the development of smell, taste, auditory, and visual perception will also be considered.

Essential reading

Various articles.

Practical

Objectives: Students will do an EEG research in small groups of 4-5 students. They will test an attention task that is also discussed in the course related to development of attention. The electrophysiological and behavioural data will have to be processed and tested by the students themselves and they will have to report about the result individually in the form of a research article.

Instructional form

12 tutorial group meetings, 4 lectures, a practical meeting.

Examination form

A minimum of 6 open questions.

Course 3.6.4 Development of cognition and language

April 7 - May 16, 6 erts

Course coordinator: Erik van Loosbroek, Neurocognition.

Objectives

To obtain insight into the development of cognition and language throughout the life course with an emphasis on the underlying biological mechanisms. Student will gain insight into several developmental disturbances of cognition and language development.

Further description of the course

Cognition and development of language are important themes within psychological. In this course they are dealt with together from a developmental psychological perspective on age related changes from approximately one year old. Developmental psychology received a new impulse by the flourishing of the more biologically based models (for instance connectionism, ecological psychology, dynamic system theories and neurocognitive models). This impulse was theoretically at first, but is being expressed in empirical research more and more. This is shown in current developmental psychology. This course will give a concise overview, described by two important questions within the developmental psychology: What is being developed? Or: what aspects of cognition and language change dramatically while growing up and what are these changes being made of? The second question is: How does this development come about? Or: what are the mechanisms that cause the changes in behavior and performance of children?

Children show clear changes in behaviour and performances while growing up. Not all these changes are part of development. By studying the mechanisms underlying these changes, one can decide what changes are part of the development and those that are not. Over and over it appears that studying the development means unravelling the coherence between cognitive and language components in the brain of children. Through these coherences, the development of cognition and language with a special emphasis on coherent changes in the brains is a broad theme. Therefore in this course a selection is made from subjects like the development of numeric cognition like calculating, working memory, analogies, words and conjugating. Developmental disorders that are being treated are: dyslexia and Williams syndrome.

Essential reading

- Various articles.
- Chapters from different books.

Practical

Objectives: To acquire practical experience with the selection, administration, and evaluation of intelligence tests for different age groups. Use will be made of the following tests: Raven's Progressive Matrices, SON-R 2.5-7, and the WISC-R.

Instructional form

10 tutorial group meetings, 4-6 lectures, 1 practical meeting.

Examination form

A minimum of 6 open questions.

Course 3.7.4 Social-emotional development

May 19 - June 27, 6 erts

Course coordinator: Harry Smit, Neurocognition.

Objectives

This course is intended to provide a picture of social and emotional development from infancy to old age. The emphasis is on biological development theories with regard to the effects of disturbed early development on later social-emotional development.

Further description of the course

Despite the fact that most people recognize the importance of social-emotional development it is nevertheless not easy to operationalize and/or measure the social and emotional aspects of development. There are no standard intelligence tests that measure social-emotional intelligence, for example. In contrast, the literature contains descriptions of very divergent forms of social-emotional development. In the present course, the following themes will be considered: the relation between the brain and the development of consciousness, the development of friendship relations, moral development, and the development of so-called complex emotions. In addition to the description of possible relations between social-emotional and cognitive development, disturbances in the area of social-emotional development will also be specifically examined. The emphasis in doing this will lie primarily on the underlying biological mechanisms and processes. Finally in a practical meeting the students will learn how to test children and adults using the Theory of Mind (TOM) test, and a test for recognizing emotions and moods.

Essential reading

Various articles.

Instructional form

This course uses two instructional forms, namely Problem-based learning (6 problems), and Project-based education. 12 meetings have been scheduled and 7 of them will deal with the tasks, 5 of them with the project. Students can choose from a number of subjects. The individual project members need to report in the tutorial group meetings about the project's progress. The project will be concluded with a report. The grade for this report will count for 50% in the overall grade of this course.

Examination form

Combination of groupwork and test.

3-4.4 The major in cognitive neuroscience

Cognitive neuroscience is a very young and still growing research discipline that addresses interdisciplinary areas such as cognitive psychology and neurosciences. A major in cognitive neuroscience is relevant for students who are interested in basic research on behaviour and brain functions of attention, perception, language, or memory. They will acquire relevant background on theories and on methods, such as functional imaging methods (fMRI) and electrophysiology (ERP). In addition, because of this background, a major in cognitive neuroscience is also very useful for students who would like to work in more applied areas of psychology such as clinical psychology or health care. The courses in cognitive neuroscience provide relevant knowledge for a better understanding of the behaviour of patients who have brain diseases or damage, or of people who have disorders in development, attention or language.

In the first course of the program, 3-4.6 "Mechanisms of attention in visual perception", the neural mechanisms of selection will be addressed. Selection is what our brain does all the time to extract most relevant stimuli from a complex environment - may it be in order to survive, or in order to communicate in a proper way with the world and other people. Selection will be addressed in the visual domain, both in healthy subjects as well as in brain lesion patients to see consequences when selection goes wrong. In the second course, 3-5.6 "Cognitive neuroscience of sensory and motor systems", the neural network of perceptual input, the decision to generate a reaction, and the motoric execution will be addressed, with a special focus on motor learning. In the third course, 3-6.6 "Brain Imaging Methods", students will receive a detailed introduction to the most relevant methods of cognitive neuroscience. An understanding of these methods is important if you want to carry out your own research, but also to understand and to interpret correctly scientific findings in your working field as a psychologist. In comparison to the general introduction course 3-2.b, this second course will focus on theoretical and practical aspects of the experimental procedures related to the investigation of cognitive functions using ERP, TMS and, especially, fMRI. In addition, students will receive hands-on practical training in experimental design, data acquisition and/or analysis. The fourth course

3-7.6 is on the neural pathways of "Auditory and speech perception", ranging from perception of simple tones to complex speech. The healthy system will be explored as well as its malfunction in patients.

3-4.4.1 Description of the courses

Course 3-4.6 Mechanisms of attention in visual perception

January 6 - February 14, 6 ects

Course coordinator: Jens Schwarzbach, Neurocognition.

Objectives

Students should acquire an in-depth understanding of current neuroscientific theories and experimental methods in the field of visual attention. Prerequisite knowledge on visual system organization will also be covered.

Further description of the course

Vision is a complex psychological 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 the visual information first enters the cortex are called early visual areas. They represent the visual input by simple feature detectors that are arranged to form retinotopic maps on the cortex. Higher-level visual processing occurs in a ventral and a 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 we look for someone in a crowd, attending to one face at a time. Attention is a general term for many different forms of selective prioritization of certain information processing. The most obvious example of attention is eye movement, also called 'overt' visual attention. 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). It has been shown to exist with different criteria for the prioritization of information (e.g. spatial attention and object-based attention). In this course we will focus on recent neuroscientific research in visual perception and attention involving different empirical methods including psychophysics (conscious and subliminal priming), electrophysiology (binding by synchronization), functional brain imaging (attention switching, visual masking), evoked potentials (gamma oscillations) and the study of lesions (blindsight, neglect). Finally we will discuss the implications of the presented experiments for a general theory of visual perception and attention. Practical sessions on data acquisition and/or analysis of fMRI data of cognitive functions such as face and object recognition will be integrated in the group meetings.

Essential reading

- An E-reader with various current articles will be provided.

Instructional form

Practical and tutorial group meetings will be integrated (approximately 16 meetings), 6 lectures.

Examination form

A minimum of 6 open questions.

Course 3-5.6. Cognitive neuroscience of sensory and motor systems

February 17 – April 14, 6 ects

Course coordinator: Alard Roebroek, Neurocognition.

Objectives

This course aims to provide an understanding of the mechanisms by which sensory information is acquired and analyzed within the central nervous system, and how the nervous system uses this information to plan purposeful movements.

Further description of the course

To be successful in catching a ball, grasping an object or playing a musical instrument, to name some examples, precise coordination and integration of sensory and motor processes is required.

Perception of the external world is meaningless in a system that cannot perform actions on that world. Furthermore, none of the sensory modalities is completely independent of motor output. Understanding how sensory information is analysed and used to initiate and plan purposeful behavior will be the focus of this course. Sensory-motor transformations and motor control as well as the integration of sensory and motor systems will be discussed.

Because the neurobiology of sensory and motor systems will be discussed in one of the earlier courses, the focus of this course will be on sensorimotor transformations. The course will start with the neural control of sensory-motor integration. Recently, anatomical, patient and neuroimaging studies have addressed the way in which sensory areas are functionally linked to motor areas. Evidence from these studies has shown that sensory areas relay their information to primary and secondary motor areas in the cortex as well as to subcortical areas as the basal ganglia and cerebellum.

Sensory systems receive information from the environment and transmit this information to the central nervous system by providing an internal representation of the outside world. How does the brain interpret and transform sensory representations into motor commands and which brain area(s) are involved in this transformation? How are motor sequences learned from sensory inputs? How does the central ner-

vous system handle the large number of degrees of freedom involved in even the simplest movement? These questions will also be addressed in this course.

Theories and models concerning human motor control and learning will be discussed based on results from behavioral (psychological) and brain imaging (PET and fMRI) experiments. Practical training on sensory-motor data will be integrated in the group sessions. The practical sessions will deal with the acquisition and/or analysis of reaction time and fMRI data in a basic sensory-motor integration experiment.

Essential reading

- To be announced.

Instructional form

Practical and tutorial group meetings will be integrated (approximately 16 meetings), 6 lectures.

Examination form

minimum of 6 open questions.

Course 3-6.6 Brain imaging methods

April 7 – May 16, 6 ects

Course coordinator: Elia Formisano, Neurocognition.

Objectives

This course is intended to provide:

- knowledge of the basic principles underlying the major brain imaging techniques;
- appreciation of potentialities and limitations of these techniques in studying human brain functions;
- understanding of theoretical and practical aspects related to the experimental design and data analysis in cognitive neuroimaging (particular emphasis will be given to functional magnetic resonance imaging [fMRI]).

Further description of the course

The investigation of human brain functions using a range of imaging methods represents the most influential development in cognitive neuroscience in the last years. This new field has led to major advances in understanding the neural mechanisms that underlie higher levels of human mental activity and in establishing a strong link between cognitive psychology and neuroscientific research.

In the first part of this course, we will learn essential facts about all major brain mapping techniques, including invasive electrophysiological recordings, transcranial magnetic stimulation (TMS), scalp-recorded Electroencephalography (EEG) and Magnetoencephalography (MEG), Positron Emission Tomography (PET) and func-

tional 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. Therefore, the most effective strategy for gaining insight into the functioning of the brain relies on the integration of the complementary information arising from different spatio-temporal levels of investigation.

After this we will focus on fMRI. fMRI has clear advantages over the other methods particularly in terms of increased spatial resolution. In addition, it may represent an ideal solution for the investigation of brain functions that are very difficult to investigate in animals such as imagery, emotion and language. Problems related to the experimental design, data processing strategies and applications of fMRI will be examined in detail in tutorial group meetings. 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. Finally, problems related to the combination of fMRI with other neuroimaging methods will be discussed.

Essential reading

- Various articles - to be announced.

Instructional form

Practical meetings, lectures and tutorial group meetings will be integrated (approximately 16 meetings).

Examination form

A minimum of 6 open questions.

Course 3.7.6 The cognitive neuroscience of auditory/speech perception

May 19 - June 27, 6 erts

Course coordinator: Bernadette Schmitt, Neurocognition.

Objectives

The course provides a deeper knowledge on how the human brain perceives acoustic stimuli ranging from simple sine waves tones to speech sounds, and complex language.

Further description of the course

Whereas the human visual system is well studied in cognitive neuroscience so far, only little is known about the constructive neural nature of the human auditory system: How do we segregate the sound of a Ferrari from the background sounds of other running car engines, or the voice of the friend from many others in a crowd? How do we know that the laughter coming from next door belongs to the boss? How is auditory information integrated with other senses such as vision or touch? In the

last few years cognitive neuroscience research on auditory and speech perception set some mile stones to get a better understanding about how our brain manages these tasks. This knowledge is considered very important because hearing and communicating with the environment and with others is one of the most relevant human cognitive skills.

This course aims to develop knowledge about the human auditory and speech system. We will start with basic neural anatomy and how the anatomy might constrain but also help auditory processing. We will then learn about the basic 'features of perception' that might be extracted from the incoming stimuli by the auditory system in order to interpret the input in a correct way. Next to these 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 focus on the healthy system, but will also address malfunctions. Practical training on the analysis of ERP data on perception will be integrated in the group sessions.

Essential reading

- To be announced.

Instructional form

Practical and tutorial group meetings will be integrated (approximately 16 meetings), 6 lectures.

Examination form

A minimum of 6 open questions and a paper.

3.5 THE DEGREE COURSE: PSYCHOPATHOLOGY

3.5-1 Basic psychopathology program

In the beginning of our psychology program, not much attention was initially paid to the field of mental health. However, it appeared that a number of students was interested in the field of mental health and would like to have more clarity on the different possibilities that Maastricht has to offer within this area. First, students can develop their own path of study in neuropsychology major, in which mental health subjects play an important role. Another possibility is to follow courses within the mental health section of the Faculty of Health Sciences. These courses are NOT available in English and are NOT available for psychology exchange students.

3.5.4.1 Overview of the courses

Course 3-4-5 Interviewing techniques

6 ects, coordinator: Geke Blok, Education development and education research, Faculty of Medicine

Objectives:

- To know about the different phases of an intake interview in mental health care
- To know about the different clarifying interviewing techniques, indispensable for getting into contact with clients in the mental health care;
- To know about the concepts used in client interviewing therapy;
- To have insight into one's own functioning as a therapist;
- To have insight into the process of assistance according to the client oriented approach;
- To have insight into the therapeutic interaction and the role of therapists variables in client oriented interview therapy.

Course 3-5-5 Mood disorders

6 ects, coordinator: Annet Hofman, Department of medical, clinical and experimental psychology, Faculty of Health Sciences.

Objectives:

This course is concerned with mood disorders (depression, mania). The theme is approached from different perspectives (social, cognitive, pharmacological, etc.). The following topics will be considered in particular: normal and abnormal mood fluctuations; epidemiology; diagnostics; biological, psychological, and social explanatory models; and treatment options. The relevant disciplines are: clinical psychology, (psycho)pharmacology, social and biological psychiatry, cognitive psychology.

Practicals and skills

Study load of 32 hours.

Anamnesis or an intake interview is a conversation with a very specific purpose: to gather that information needed to make a diagnosis. In this training, the different phases in the intake interview for mental health problems will be considered. In addition, the question of how one establishes a diagnosis on the grounds of the interview and observational information will be addressed. The skills are evaluated via simulation contacts.

Practical: Experimental Psychopathology I

Study load of 12 hours.

This short practical consists of an experiment that the students conduct themselves. The experiment concerns the influence of mood on performance. Lectures and examination form

The practical training is supported by approximately six lectures.

The examination consists of a minimum of 6 open questions and the writing of a report on the practical.

Course 3-6-5 Anxiety

6 ects, coordinator: Peter de Jong, Medical, clinical and experimental psychology, Faculty of Health Sciences.

Objectives

To acquire knowledge of the origins, manifestations, natural course, and therapy for (pathological) anxiety. The following themes will be considered: Nosology and prevalence/incidence of the most common anxiety disorders; experimental models of anxiety; cognitive behavior therapy; psychopharmacology.

Practicals and skills

Training: The behavioral-therapeutic process. Study load of 32 hours.

In this training, the different analytic schemes that are part of the diagnosis on a learning-theoretic basis (e.g., the conduct of a functional analysis) will be considered. Within the framework of this training, a workshop will also be conducted to consider the different behavioral-therapeutic principles. The training consists of five meetings of three hours each, a workshop of six hours, a simulation contact, and a follow-up discussion of the simulation contact.

Lectures and examination form

The training is supported by approximately eight lectures. The exam will consist of a minimum of 6 open questions, also consisting information from these lectures.

Course 3-7-5 Sexuality

6 ects, coordinator: Heiny Eijkes, department medical, clinical and experimental psychology, Faculty of Health Sciences.

Objectives

- The purpose of this course is to gain:
- knowledge of the biological basis for both normal and deviant sexual behavior;
- knowledge of the psychological basis for both normal and deviant sexual behavior;
- knowledge of the relational context for both normal and deviant sexual behavior;

3.6 NON-COURSE RELATED PROGRAM FOR THE THIRD STUDY YEAR

In the third study year, the non-course related instruction in such areas as statistics and computer skills will again be provided throughout the entire academic year. The instruction is the same for all students. In addition, as part of the writing skills instruction in the third year, the students are expected to write a so-called third year thesis.

Computer skills III: Delphi

6 ects, course coordinator: Michael Capalbo, Experimental psychology.

Objectives

- to extend the (basic) knowledge on Delphi;
- a first acquaintance with advanced modern programming techniques;
- develop independently Windows applications;
- learning new programming language faster.

Further description of the program

Only those students who successfully passed the introductory course Delphi, can join this course. First, basic techniques will be repeated and the environment possibilities will be explored. Besides broadening and deepening subjects dealt with in the introductory course, a number of new subjects will be presented. Emphasis is not only on skills, but also on basic conceptual knowledge. More and more a growing emphasis will be paid to systematic combining of all techniques to end up with satisfactory Windows programs.

At the end of this course students will be able to independently making Windows applications which can be used in their own professional career. They will also gain the skills needed to produce a well-functioning application in any other programming language

Essential reading

- Practical book Delphi.
- Kerman, M.C. (2002). *Programming & Problem Solving with Delphi*. Boston: Addison Wesley.

Instructional form

Lectures and obligatory practical meetings. Registration of attendance will only take place if students have fulfilled every assignment of the practical work.

Examination form

Assignments and final examination.

- knowledge of the social context for both normal and deviant sexual behavior, including the law;
- knowledge of the diagnostic criteria for sexual disorders;
- knowledge of preventive strategies with respect to sexuality;
- knowledge of research methods in the area of sexuality;
- insight into one's own attitudes with regard to sexuality.

Further description of the course

The present course is concerned with sexuality in general and the sexological problems confronted by the behavioral scientist in actual practice. In addition to topics concerned with the biological foundations for sexual behavior, themes directly associated with the professional practice of the behavioral scientist will also be examined: (mental) health care, research, and prevention. The case histories will be considered within different reference frameworks (psychodynamic, system theoretic, learning theoretic, and feminist).

Essential reading

To be announced.

Practical

Objectives: Special work form / skills training. The starting assumption in this training is that everyone is involved with sexuality in one way or another. As a social scientist, there is also a very high probability that you will be confronted with the sexuality of people at one point or another. There are nevertheless so many different ideas, norms, standpoints, and perceptions in the domain of sexuality that a very professional attitude must be adopted. One must also have considerable insight into one's own ideas, norms, behavior, and emotions on the theme of sexuality. In this training, the theme of sexuality will be approached via role-playing, magazine articles, statements, and simulation interviews. Attention will be devoted to learning how to talk and ask about opinions, emotions, and behavior in the domain of sexuality. The student will also become acquainted with the sexological intake interview; the professional interview undertaken to gain insight into a person's sexual history. The training consists of five meetings of three hours each. The students conclude the last meeting with the presentation of a few case studies.

Instructional form

12 tutorial group meetings, 5 practical meetings.

Examination form

To be announced.

Statistics III

7 ects, coordinator: Gerard van Breukelen, Statistics.

Part IIIa

Objectives

In many of the tasks in the field of psychology, tests and questionnaires are used as the method of measurement. In most cases, the answers of the individuals in question to a number of related multiple-choice questions are logically scored and summed to obtain a total score for the characteristic in question: intelligence, neuroticism, memory, or attitude (for example). A number of different questions can also then be posed: Do the items measure the same characteristic or are apples and oranges being compared? How reliable and valid is the total score as a measure of the characteristic in question? What is the measurement level of the total score? How can one compare people who have responded to different subsets of items for one and the same characteristic (as in progress tests)? Which norms should the scores be compared to? These and related questions constitute the domain of so-called psychometrics. And this course offers an introduction to the most well known classical and modern psychometric methods. The methods will be practiced using pen and paper but also using the computer and real data. The goal is to acquire a scientific attitude with respect to the foregoing questions.

Further description of the program

The course consists of two parts: classical and modern psychometrics. The following topics from classical psychometrics will be considered: classical reliability theory (Cronbach's α , split-half, retest), item analysis, generalizability theory, and validity. The following topics from modern psychometrics will also be considered: logistic models, item information, item selection, and weighting.

Essential reading

- Crocker, L. & Algina, J. (1986). *Introduction to classical and modern test theory*. Orlando: Harcourt Brace Javonovich College Publishers.
- van Breukelen, G. (1999). *Factor analysis*. In: Berger, Imbos & Janssen (eds.), *Methodologie en Statistiek deel II* (Chapter 16). Universitaire Pers Maastricht.
- Handouts from the lectures.
- SPSS Manual.

Instructional form

For classical psychometrics: 2 lectures, 2 tutorial group meetings in which both theory and pen and paper assignments are discussed, and 3 seminars in which the SPSS analyses are discussed.

For modern Psychometrics: 2 lectures, 2 tutorial group meetings in which both theory and pen and paper assignments are discussed, and 2 seminars in which the SPSS analyses are discussed.

Examination form

1.5 multiple-choice questions, open book test.

Part IIIb

Objectives

In addition to the statistical methods considered up to this point, there are many additional methods. At least two of these should be considered here: factor analysis and logistic regression. Factor analysis is a method to reduce the multitude of variables to a small number of underlying factors. At the beginning of this century, factor analysis was applied to reduce the scores on different tests to a small number of dimensions, such as verbal and spatial intelligence or extroversion and neuroticism. These days, factor analysis is frequently used to divide the items from a single questionnaire into subscales. Factor analysis is thus connected to psychometrics in such a manner.

Logistic regression is the analogue to linear regression and analysis of variance for a variable that is dichotomous and thus not continuous. Examples are: cured or not cured, passing or dropping out in a longitudinal study. With logistic regression, one can correct for the effects of other independent variables on the dichotomous variable and also examine the interactions between variables. The present course is intended to provide elementary training in factor analysis and logistic regression.

Further description of the program

The course consists of two parts: factor analysis and logistic regression. In the first part, the following will be considered: exploratory factor analysis (principal components, principal factors), values, loadings, rotations, confirmatory factor analysis (LISREL), and caveats. In the second part, the following topics will be considered: stratified intercorrelation tables, odds ratios, logistic regression, interaction, relation to discriminant analysis, and loglinear regression.

Essential reading

- van Breukelen, G. (1999). *Factor analysis*. In Berger, Imbos & Janssen (eds.), *Methodologie en Statistiek deel II* (hoofdstuk 17). Universitaire Pers Maastricht.
- Handouts from lectures
- SPSS Manual

Instructional form

For both parts of this course, the following holds: 2 lectures, 2 tutorial group meetings in which both theory and pen and paper assignments are discussed, 2 SPSS assignments, and 2 seminars in which the SPSS analyses are discussed.

Examination form

15 multiple-choice questions. Open book test.

Writing skills III

6 ects, coordinator: Rob Markus, Neurocognition.

Nature of the research paper

During their third year of study, all students must write a third year thesis/paper. Approval of the students' final research practical (traineeship) is only provided when this third year paper is judged acceptable. Students who want to do their research practical abroad must write the third year paper in English.

Choice of topic

For this purpose, there are notebooks available at the psychology education office and at the learning resources center. The notebooks contain topics for students to choose from. For each topic, the faculty member who can guide and evaluate the research project is indicated. If a student wants to write the third year paper on a topic that is not included in the notebook, he or she must also arrange for a suitable supervisor before starting their paper.

Guidance in writing

The faculty member responsible for the evaluation of the third year paper also guides the writing of the paper. Given that instructors have very little time for the guidance of the writing of such a paper, it is recommended that clear agreements be made ahead of time.

Further requirements

Specific guidelines concerning writing a paper are specified in the 'Schrijfvaardigheidsonderwijs' (handbook for writing skills) manual.

On the title page, not only the title but also the following information should appear:

- the name of the author;
- the ID number;
- the name of the supervisor.

The third year paper must be written on an individual basis. It should be a minimum of 15 pages (written on one side only, spacing 1.5 and margins of 3 cm on all sides), excluding the title page, references, tables, appendices, etc. The maximum number

of pages is 25. Less than the minimum (15 pages) is simply not allowed. Exceeding the maximum must be justified in a foreword, and the length of the paper will be then be taken into consideration

Evaluation

The third year paper is evaluated with respect to aspects of both form and content (formulation of the problem, argumentation, specific subject matter, and elements of form). The different aspects are evaluated separately but weigh equally in the calculation of the final score, which is the scores for the different aspects summed and then averaged to obtain a total score.

Submission procedure

The student supplies two copies of the paper to the psychology education office. This office then sends the two copies of the third year paper and the evaluation for to the supervisor for comments. Within 20 working days, the supervisor returns it to the education office. One copy with comments will be returned to the student. Students can ask the supervisor for oral feedback.

Besides two hard copies, students also have to submit an electronic version of the paper. This has to be sent as an attachment by Email. It has to be sent to: werkstuk@psychology.unimaas.nl, subject needs to be: jaarwerkstuk3 IDxxxxx.doc.

3.7.4 Basic textbooks

Similar to the first and second year, the third year also uses a list of basic textbooks that should be purchased by the students. Provided one is a member of the faculty's student organization "Luna-tic," it is possible to purchase these books at a discount.

- Crocker, L. & Algina, J. (1986). *Introduction to classical and modern test theory*. Orlando: Harcourt Brace Javonovich College Publishers.
- Kerman, M.C. (2002). *Programming & Problem Solving with Delphi*. Boston: Addison Wesley.

Students in the biological major can choose one of the following three books:

- Bear, M.F., Connors B.W., & Paradiso, M.A. (2001). *Neuroscience. Exploring the brain* (2nd Ed.). Philadelphia: Lippincott, Williams & Wilkins.
- Gazzaniga, M.S., Irvy, R.B. & Mangun, C.R. (2002). *Cognitive neuroscience. The biology of the mind*. (2nd Ed.). New York: Norton.
- Kandel, E.R., Schwartz, J.H. & Jessel, T.M. (Eds) (2000). *Principles of Neural Sciences* (4th Ed.). New York: McGraw-Hill (expensive).
- Bremner, J.G. (1994). *Infancy*. Oxford UK: Blackwell.

Overview year 4

4.1 GENERAL

The final year of the psychology study consists of electives (in which students can not only broaden their program but also further specialize it) the conduct of a research practical, and a report on this research practical: the final thesis. For the first three course periods, the students can select courses from the elective program of the Faculty of Psychology. It is always possible to follow an elective course within a different faculty or university at one of the other Dutch universities or a university abroad. Permission must first be requested from the examination board, however.

4.2 ELECTIVE COURSES

Students follow three electives chosen from a collection of 17 options. In addition, a choice can be made from courses 3.1.a, 3.2.a, or 3.3.a for students studying the cognitive psychology major and from courses 3.1.b, 3.2.b, or 3.3.b for students studying in the biological psychology major. The students must have selected three electives by the end of their third study year.

When less than six students have enrolled for an elective the instructor may dispense with it. Elective options with insufficient interest may also be replaced in the following academic year. Incidentally, every student may also contribute his or her own topic as the theme for an elective course (as an independent study), provided that the student can find an instructor who is prepared to advise him or her in doing this.

During the electives, individual activity stands central. At the same time, however, the students run the risk of losing contact with each other and the university. The elective instruction committee attempts to minimize this possibility by organizing a number of lectures, excursions, seminars, and other activities in order to — among other things — introduce potential fields of employment. The elective course coordinators also see that the students spend a minimum of 6 hours a week on obligatory joint activities.

These joint activities can have very different forms. Examples:

1. A weekly seminar in which the student reports on how he or she is giving content to his or her choice of topic.
2. Reading groups. All of the students read an important piece on the elective topic.
3. A joint excursion.
4. A joint practical assignment or a workshop.

The elective course topics are typically contributed by the instructors. For each topic, a short description of the theme is provided in the "Electives" catalogue, which also contains information on the particular form of instruction. A brief overview of the elective options being offered in the periods 1 through 3 of the fourth study year (academic year 2002-2003) is presented below. All electives will be offered in English.

4.2.1 Overview elective courses 2002-2003

Each elective equals 7 erts.

Period 4.1		Period 4.2		Period 4.3	
Adult neuropsychology	Child neuropsychology	Psychodiagnosics			
Jelle Jolles	Jelle Jolles	Anton de Vries			
Social perception	Social action	Behavioural change			
Carolien Martijn	Carolien Martijn	Pepijn van Empelen			
The psychology of addictive behaviours	Eating disorders	Psychology & law			
Reinout Wiers	Anita Jansen	Harald Merckelbach			
The neurocognition of language	Philosophy of consciousness	Eye movement registration and analysis			
Niels Schiller	Rob de Vries	Pieter Uthema			
Laboratory skills	Psycho-active drugs: Mechanisms of action and effects on human behaviour	Behavioural neuroscience			
Fren Smulders	Annemiek Vermeeren	Arjan Blokland			
Learning theory	Cognitive bias & emotional disorders				
Arjan Blokland	Ineke Wessel				
3.1.a Reasoning and decision making	3.2.a Propaganda	3.3.a Multimedia			
3.1.b Basic neuro science	3.2.b Biological psychology: research methods	3.3.b Biological psychology: theoretical perspectives			
Individual topic	Individual topic	Individual topic			
Research participation	Research participation	Research participation			

4.3 RESEARCH PRACTICAL AND MASTER THESIS

In the fourth year of study, four course periods are reserved for the research practical and writing of a thesis. To conclude the academic training of students, it is expected that they can independently design, conduct, evaluate, and report in the form of a thesis a well-circumscribed piece of research. The selected research practical should closely match the student's direction of study and major specialization. The research practical can also be undertaken abroad.

Depending on the major specialization and elective study of the student, the research practical may be undertaken either in education (school counseling service, school medical services, special institutions) or in private industry (pharmaceutical industry, industrial research labs, food and drug testing organizations, applied research organizations, etc.). Those students with the (mental) health major may undertake the research practical in public centers for mental health (RIAGGS), psychiatric and general hospitals, rehabilitation centers, nursing homes, etc. Other potential places for a research practical are alcohol and drug rehabilitation centers, medical day care centers, and related institutions.

The range of research practicals and thesis topics reflects the range of employment possibilities in the field. In the psychology education office, a notebook with a list of possible practical locations is also available. Per practical, the following information is provided: a short description of what the practical entails, the type of research to be done, the name of the institution, the name of the contact person from the Faculty of Psychology, and the name of the contact person at the institution. A manual describing the steps to be taken for the research practical and when is also available.

For more practical information on a research practical abroad, one should contact Ina Engelen, international relations officer of the Faculty of Psychology. For all remaining information and help with the choice of research practical and thesis topic, the student should first contact the coordinator of research practicals, Wijnand Raaijmakers (Neurocognition).

General information

5.1 EDUCATIONAL SUPPORT: OFFICE OF EDUCATIONAL ADMINISTRATION

The Office of Educational Administration (Bureau Onderwijs) provides logistic planning, educational administration, and course organization. The office also functions as a central information point for all educational and study matters, and it is responsible for the administration of examinations and provision of transcripts. The Office of Educational Administration is located at Universiteitssingel 40, ground floor (level 0) room 0.636a.

Office hours:

Monday through Thursday: 10 – 11 am and 3 – 4 pm.

Friday: 10 – 11 am

Course schedule

Each course has its own schedule for all of the tutorial group meetings, lectures, and practical meetings. At least one week prior to the start of each course, these schedules are posted on the bulletin boards opposite the Psychology mailboxes (Universiteitssingel 40, ground floor). Students have to take into account that teaching activities might take place during the evening.

Tutorial groups

The Office of Educational Administration assigns students to tutorial groups for each course period in a random manner. Due to the organizational complications involved, these assignments cannot be changed. Group assignments are posted on the bulletin boards opposite the Psychology mailboxes (Universiteitssingel 40, ground floor).

Sickness and Absence

In cases of sickness/absence lasting longer than ten consecutive days, students must inform the Education Office of the situation in writing. They should state their name, student ID number, address, and provide a brief description of the reason/cause of their illness and the expected duration of the absence. When the student returns, he or she must report to the Education Office during the first consultation hour after the day on which he or she has returned. Only when the above procedure is followed is it possible to include the sickness report in the student's file for use in connection with examination reviews and requests for reexamination. In certain cases, the examination board may require medical certification.

Access to Student Files

Under the privacy regulations of the Maastricht University, students have the right to inspect their own files. Appointments for this purpose can be made with one of the staff members from the Office of Educational Administration during regular office hours. The file contains registration forms and correspondence with respect

to the student. Copies of diplomas, figures on the duration of study, and so forth are kept at the Central Student Administration Office.

Transcripts

Transcripts can be issued by the Education Office following confirmation of the examination results by the Examination Board. Duplicates are not issued. In case of loss or theft, this must be reported in writing to the institution that issued the transcript (degree program/major and examination board). A declaration can then be issued stating the date on which the transcript was granted and the content of the degree program.

Mailboxes

All students have their own mailboxes. These are located on the ground floor of the Psychology building, Universiteitssingel 40. They are used by the Office of Educational Administration to distribute announcements and results, by students to communicate with each other, and by the faculty and staff to contact students directly. The mailboxes are arranged by student ID number.

5.2 STUDENT COUNSELLOR

The student counsellor is the primary contact person from the faculty for information and advice with regard to one's study and the psychology program. If necessary, the student counsellor may refer students to other members of the faculty or university. All talks with the counsellor are, of course, strictly confidential.

If students get bogged down or behind in their work for one reason or another, it is recommended that they contact the student counsellor without delay. The student counsellor can provide personal advice and supervision with regard to, for example, the choice of subjects, the planning of one's study, and — in situations where the student has fallen behind due to illness or other circumstances — a means for catching up. If required, the student counsellor can also mediate between students and faculty.

The student counsellor also monitors student progress and may, if necessary, call students in. The counsellor notes any bottlenecks in the instruction and examination programs (on the basis of information from the students, for example) and reports any such bottlenecks to the bodies concerned (for example, the instruction committee or examination board).

Students may come to the student counsellor for information and advice on such aspects of their study as:

- program content and structure;
- individual study programs;
- study options within and outside the faculty;
- selection of courses, major area of specialization, and electives;
- study planning;

- study methods.
- For advice with regard to situations that make it difficult to study, such as:
- motivation problems;
 - concentration problems;
 - psychological problems;
 - (physical) handicaps
 - long term-illness
- For questions and advice regarding (statutory) regulations, including:
- types of registration;
 - duration of study;
 - grants based on merit and study tempo;
 - (appeal) procedures.
- To obtain certifications for:
- language ability, study funds, etc.
- Appointments with one of the study counsellors, Monique Römken, Universiteitsingel 40, room 5.759, tel. 3881936 (for students whose last name starts from A to K inclusive) or Gerda Galenkamp, Universiteitsingel 40, room 5.747, tel. 3881888 (for names from L to Z inclusive), should be made via the secretariat for the Faculty of Psychology, tel.: 3881918.

5.3 UNIVERSITY LIBRARY

The University Library (universiteitsbibliotheek or UB) is open to all staff members and students from Maastricht University and also a number of individuals and institutions within the region. The mission of the UB is to support the main branches of the university in the fields of research, education, and social services. The services of the UB are regularly discussed by the different faculty library committees, which consist of representatives from the Library, different faculties, and students.

Collections and Locations

The modern collection at the UB is specialized in the following fields: knowledge technology (general sciences), arts and culture, economy and international business administration, law, medicine, health sciences, and psychology. In addition to these specialized topics, the UB also has a general university collection, which is interdisciplinary, non-specific, and includes the so-called Jesuit collection. The UB collection is housed at a number of different locations. The medical, health sciences, and psychology collections are located at the Randwyck Library and Learning Resources Center (Universiteitsingel 50); part of the psychiatry and psychology collection is located at the Vijverdal Library (Vijverdalseweg 1). Statistical data and government information on health care may be consulted at the Bonnefanten Library (Bonnefantenstraat 2), where the collections for the downtown faculties (general sciences, arts and culture, economy, international business administration, law) are also maintained.

All of these collections are freely accessible, and the vast majority of the books in the library collections can be borrowed under due observance of the relevant rules and regulations. A library card is required to borrow books and can be obtained from the lending administration at the Randwyck Library. Personal identification is required to obtain a card.

The most important lending rules are:

- the loan term is four weeks;
- the maximum number of books to be borrowed is 10;
- extension of the loan term is possible (via the library terminal, the lending desk, or telephone) unless the book has been reserved by another individual;
- books that have been borrowed can be reserved;
- journals cannot be borrowed (they can, however, be used for photocopying);
- books are to be returned to the location from which they were borrowed;
- books cannot be borrowed from the Learning Resources Center.

Library Information Desk

Learning Resources Center/Library
Universiteitsingel 50, tel.: 3881804.

Opening hours (subject to change):

Monday - Thursday 8:30 am - 10:00 pm

Friday 8:30 am - 9:00 pm

Saturday 10:00 am - 5:00 pm

Sunday 12:00 am - 5:00 pm

Every working day after 6 p.m. and on Saturdays and Sundays there is no service at the lending counter. Books cannot be borrowed during those hours.

Basic textbooks

The basic textbooks consist of those books that the psychology instructors think students should have in their possession. In the selection of basic textbooks, the following criteria play a role: relevance, scientific content, didactic quality, presumed "half-life," topicality, and price. In composing the list of basic textbooks, the amount reserved for the purchase of books by students (approx. € 400 per year) is also taken into account.

Function of the Learning Resources Center

It is mistaken to assume that the purchase of the basic textbooks is simply not necessary because sufficient copies of the books available at the Learning Resources Center (studieaandenschap) is not only impossible to purchase sufficient copies of a book for the large number of students needing it but also not the primary purpose of the Learning Resources Center. The main purpose of the Learning Resources Center is to enable students to search for information relevant to their learning objectives in a collection of varied sources.

The books used for problem-based learning are categorized in the following manner.

- Core texts covering a significant part of a given field.
- Core reading. In most scientific fields, a substantial number of introductions, compilations, and surveys dealing with more or less the same topics are available, although each book may discuss the topics in a slightly different manner (different theoretical perspective; different examples, illustrations, style, organization of the subject matter, etc.).
- Thematic books dealing with a restricted theme relevant to one or more of the assignments within a given course.
- Reference works, primarily dictionaries and atlases.
- Specialized books containing information more or less remote from the subject matter required to achieve the formulated learning objectives.

The core of the book collection in the Learning Resources Center is thus not formed by the basic textbooks but by the core reading, thematic books, and reference works (with specialized books located in the Library).

In most educational systems, the instructors determine the learning objectives for the students. Via classes, practical training, lecture notes, book lists, etc., the subject matter that the student must master for examination is made known to them. The instructor has precisely delineated the learning activities to be carried out by the student. The students learn what they are assigned to learn and systematically work through the relevant literature. In problem-based learning, in contrast, the subject matter is centered around assignments. Generally speaking, the assignments and learning objectives are intended to lead students to explore different approaches and sources of information. In their pursuit of the learning objectives, students may tend to limit themselves to only the basic textbooks and any other required reading. In such cases, there is a great risk that the discussion and reporting within the educational meetings may come to a standstill because "everyone has read the same thing". The students have all consulted the same materials and are very likely to experience the educational meetings as less effective and interesting than meetings in which information from a variety of sources is presented.

For meaningful and enriching discussions within the educational meetings, different students must investigate different explanations, examples, problem presentations, descriptions of standpoints, and so forth. In other words, the quality of the discussions and reports in the educational meetings is very closely related to the extent to which the group members are engaged in exploratory study. And exploratory learning is a prerequisite for assimilative learning. That is, assimilative learning takes place when the student has selected and compiled information from a variety of sources and is in a position to explore and assimilate the most relevant and important information.

The Learning Resources Center is primarily intended to stimulate exploratory study. Assimilative study usually occurs at home, and it is therefore necessary to have the basic textbooks in one's possession.

5.4 PROGRAM EVALUATION

Program evaluation is an instrument to assess and explore the changes that may be necessary in instruction. Program evaluation provides information on specific educational/didactic problems and also suggestions for improvement. Program evaluation thus forms the basis for the exchange of information and consultation with those directly involved in the program and also serves as the point of departure for the implementation of concrete measures with regard to the curriculum. The current program evaluation is confined to the extensive course-based instruction and consists of the following four steps:

- Global screening of all instruction courses with the help of a questionnaire in which the objectives, working methods, and educational media are operationalized. The aim of this screening is to find out where problems have arisen and gain greater insight into the nature of the problems.
- If necessary, in-depth evaluation based on the information obtained in step 1 may be undertaken for a course where bottlenecks have been detected.
- The results of steps 1 and 2 are then made known to all concerned in the form of a short report in which the evaluator states his or her findings with regard to the information assembled, examination of the relevant course book, own observations, and other additional information.
- If there is reason to do so, concrete measures to improve the instruction may then be undertaken on the basis of the information that has become available. Such an initiative may come from any of the parties involved: the educational administrator, the educational committee, the program director, the planning group, or the students themselves.

The program evaluation results are reported to the students via the bulletin boards near the Office of Educational Administration (Bureau Onderwijs).

5.5 COMPUTERIZED INFORMATION SYSTEM

In light of the fact that it takes a few days for the study results reported by the course coordinator to be entered into the student information system (ISS), the results are also posted on the bulletin boards near the counter in the Office of Educational Administration as soon as they are known. Once the data have been entered into the computer, the posted lists are removed and the students can view and/or print their results via the ISS.

Access to the student information system can be obtained via the website of the faculty: www.psychology.unimaas.nl.

Along with their student registration card, students receive a user name plus password, a four-figure code. This user name plus password are necessary to access various network services, such as e-mail, Internet, and the ISS.