Education and examination regulations for the Master's programme in Artificial Intelligence 2010-2011

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Section 1 General provisions

Article 1.1 Applicability of the regulations
1. These regulations apply to the education and examinations of the two-year ‘Master of Science’ degree programme in artificial intelligence (hereinafter called 'the programme'). This programme is offered by the educational institute of Psychology and Artificial Intelligence (hereinafter called 'the institute') of the faculty of Social Sciences of the Radboud University Nijmegen (hereinafter called 'the faculty').
2. Notwithstanding the stipulation in the first paragraph, for those courses offered by other degree programmes the regulations for individual components and interim examinations of the degree programme in question apply.
3. These regulations apply to students who were first enrolled in, or admitted to the programme of the Master’s degree programme in Artificial Intelligence in the academic year 2010-2011.

Article 1.2 Definitions
Insofar as they are also mentioned in the Higher Education and Research Act, the concepts used in these regulations will have the same meaning as in this Act.
In these regulations the following definitions apply:
b. (Degree) programme: the Master's degree programme as referred to in art. 7.3a, paragraph 1 sub b of the Act;
c. Student: anyone enrolled at Radboud University Nijmegen to take part in the programme and/or interim and final examinations of the programme;
d. Bachelor’s degree programme: programme as referred to in art. 7.3a of the Act;
e. Practical: a practical exercise as referred to in art. 7.13, paragraph 2 under d. of the Act, in one of the following forms:
   - writing a thesis;
   - writing a paper, developing software, or constructing an experimental design;
   - carrying out a design, programming or research assignment;
   - conducting a literature study;
   - combinations of the above mentioned activities;
   - doing an internship or acquiring other work experience;
   - taking part in fieldwork or an excursion;
   - carrying out tests and experiments;
   - taking part in another educational activity aimed at acquiring certain skills;
f. Interim examination: an examination testing the knowledge, understanding and skills of the candidate in relation to a certain unit of study as well as an assessment of the results of that test by at least one examiner designated by the Board of Examiners;
g. (Final) examination: a review of the student's academic achievements in which the Board of Examiners assesses whether or not all interim examinations of the units of study that are part of the Master's programme have been successfully completed, insofar as it has not been determined that the examination also includes an additional examination by the Board of Examiners, testing the knowledge, understanding and skills of the candidate as well as assessing the results of that test (in accordance with art. 7.10 of the Act);
h. Board of Examiners: the examining board of the programme set up in accordance with art. 7.12 of the Act;
i. Examiner: the person designated by the Board of Examiners in accordance with art. 7.12 of the Act, who administers the interim examinations;
j. Program degree committee: the program degree committee of the programme, as referred to in art. 9.18 of the Act;
k. Working day(s): Monday to Friday, except statutory holidays;
Article 1.3 Aims of the programme

1. The aims of the programme are:
   a. to impart to students advanced knowledge, skills and insight in the domain of artificial intelligence;
   b. to impart to students an advanced university education;
   c. to impart that which is described in par. 1 sub a and b, at a level that is attuned to the Bachelor’s degree programme in artificial intelligence;
   d. to educate students in such a way that after completing the programme they are able to perform independent research in the domain of artificial intelligence.

   These aims are specified further in appendix 1.

2. Specific aims for each programme component are included in the course descriptions of the study guide.

Article 1.4 Type of programme

The programme is offered as a full-time programme.

Article 1.5 Examinations of the programme

Students who pass the final examination of the programme obtain the degree of Master of Science (MSc).

Article 1.6 Study load

1. The study load is expressed in European Credit Transfer System units (ECTS).
2. One European Credit (EC) equals 28 hours of study.
3. The study load of the degree programme is 120 ECs.

Article 1.7 Language

1. The programme is offered in English; the interim and final examinations are administered in English.
2. An adequate command of English is required for participation in the programme and interim examinations of the programme. This requirement is met if the student can submit:
   a. an educational degree equivalent to a Dutch pre-university education (VWO) diploma; or
   b. a secondary education diploma of an English-language programme in the Netherlands or abroad; or
   c. a TOEFL test certificate or equivalent test certificate stating a minimum score of 550 (paper test), 213 (computer test), or 79 (internet-based test) plus an essay rating of at least 4.5, or a minimum score of 6.0 in the IELTS test, or a test equivalent thereto.
3. In all cases the Foreign Language Code of Conduct, as indicated in article 7.2 sub c of the Act, is applicable. The institution’s Code of Conduct can be found in appendix 2.

Article 1.8 Communication with students

1. Notices that are intended for all students or for large groups of students are placed on the Blackboard Community of the Artificial Intelligence programme (“Opleiding Kunstmatige Intelligentie”).
2. Notices that are intended for students enrolled in a specific course are placed on the Blackboard web page of the relevant course.
3. Notices that are intended for individual students are sent to the email addresses that the university has assigned to each student (studentname@student.ru.nl). In special cases, communication will take place by regular mail. Letters sent by regular mail will be sent to the address the student has supplied as a mail address.

Article 1.9 Code of Conduct

The faculty has instituted a Code of Conduct that both students and employees are expected to follow. This Code of Conduct can be found in appendix 3 of these regulations.
Section 2 The Master's programme

Article 2.1 Composition of the programme
1. The Master's degree programme comprises the following components and study load (in ECs; 120 in total; N.B.: Course name details may be subject to change):
   a. compulsory general core courses:
      - trends in artificial intelligence ................................................................. 6
      - internship ................................................................................................. 30
      - Master’s thesis ....................................................................................... 18
   b. compulsory specialisation courses:
      b1 specialisation in cognitive artificial intelligence:
      - cognition and complexity ........................................................................ 6
      - Bayesian and decision models in AI ......................................................... 6
      - research methods OR advances in HCI .................................................. 6
      b2 specialisation in brain-computer interfacing:
      - signal processing for BCI ......................................................................... 6
      - BCI practical course ............................................................................... 6
      - research methods OR introduction to pattern recognition ..................... 6
   c. constrained elective components........................................................................ 36
   d. free elective components ............................................................................ 12
2. A detailed description of all components is included in the programme’s study guide.
3. No components that form part of a required Bachelor’s examination may be included in the Master’s examination as well. Should such a component be compulsory within the Master’s programme, the Board of Examiners will appoint a substitute component. This also applies to components of a required Bachelor’s examination that, in the opinion of the Board of Examiners, shows too much overlap with prospective components of the Master’s examination.
4. The constrained elective components mentioned in par. 1 sub c should be chosen from the list of constrained elective components for the relevant specialisation, as specified in appendix 4.
5. The free elective components mentioned in par. 1 sub d can be chosen freely, on the condition that the chosen component has an adequate level and is sufficiently relevant to the content of the programme. Assessments of level and relevance are made at the discretion of the Board of Examiners.
6. Notwithstanding the stipulation in the first paragraph, a student may, in accordance with art. 7 par. 3 sub 4 and 5 of the Act, submit a proposal to the Board of Examiners for a free variant of the Master’s examination in artificial intelligence. The Board of Examiners will assess whether the proposal complies with the conditions and criteria in force.

Article 2.2 Instructional methods
1. All components of the Master's programme, as mentioned in art. 2.1, involve education in the form of lectures, tutorials, and practicals. The specific instructional methods for each component are included in the study guide.
2. Attendance at tutorials and practicals may be deemed compulsory, provided that this is in accordance with the aims of the programme component.
3. For components that consist solely of a practical, attending the practical and achieving adequate results is equivalent to passing an interim examination.
4. The components ‘internship’ and ‘Master’s thesis’, as mentioned in art. 2.1, consist of a practical as referred to in art. 1.2 sub e. For these components, the “Rules and Regulations for MSc internships and theses” apply (see the Blackboard of the degree programme).

Section 3 Interim and final examinations

Article 3.1 Board of Examiners
The Board of Examiners establishes rules with respect to the procedures for interim examinations and the relevant measures. The Board of Examiners may provide the examiner with regulations and suggestions with respect to the assessment of those who take the interim examination and to the ascertainment of the result.
Article 3.2  Sequence of interim examinations  
1. The internship can only be started after a number of components equal to or exceeding 60 ECs has been completed in the programme. The Master’s thesis can only be started after the internship has been completed.  
2. Any particular component may have specific prior knowledge criteria, as specified in the programme’s study guide.  

Article 3.3  Time schedule and frequency of interim examinations  
1. In each academic year there will be at least two opportunities to take the interim examinations as mentioned in art. 2.1 and 3.1, according to a timetable determined in advance by the Board of Examiners.  
2. Notwithstanding the stipulation in the first paragraph, there will be only one opportunity to take an interim examination for a course that was not taught in that particular academic year.  
3. A student who fails an interim examination can retake the examination the/a following year, but this second examination will be based on the content of the component of that same year, or to the content of a substitute component designated by the Board of Examiners.  
4. The Board of Examiners may decide contrary to the above stipulations in par. 1 and 2 if, due to special circumstances, a student was unable to make use of the available opportunities to take an interim examination, to the serious detriment of his/her study progress. Before making such a decision the Board of Examiners will consult the student counsellor with regard to these circumstances and the impact on academic progress.  
5. If an interim examination is taken more than once, the last grade counts.  

Article 3.4  Requirements for interim examinations  
All requirements for interim examinations will be made known to the students in question before or at the start of the relevant component.  

Article 3.5  Form of interim examinations  
1. The interim examinations consist at least in part of written examinations and/or written assignments.  
2. The examiner may split up the interim examinations into several parts.  
3. For components that (also) comprise a practical and/or tutorial, attendance levels and levels of active participation may be included in the assessment.  
4. The examiner will make the form of the relevant interim examination known to the students in question before or at the start of the relevant component.  
5. At the student’s request, the Board of Examiners may allow an interim examination to be taken in another form than aforementioned.  
6. In the case of disabled students, allowances will be made in the administration of interim examinations to the utmost extent possible, ensuring that their individual disability will not prevent them from taking part in an interim examination. If necessary, the Board of Examiners will seek expert advice before taking a decision in such a matter.  

Article 3.6  Oral interim examinations  
1. An interim examination can be taken orally only at the substantiated request of the student and requires the permission of the Board of Examiners.  
2. No more than one person can take an oral examination at any one time, unless the Board of Examiners decides otherwise.  
3. In addition to the examiner, a second academic staff member shall be present at oral interim examinations in the role of auditor.  
4. The administration of oral interim examinations shall be public, unless the Board of Examiners or the examiner in question has decided otherwise, or if the student has made objections to this.  

Article 3.7  Registration for examinations and re-examinations  
1. Registration for the examination takes place through registering for the course. Students who wish to register after the start of the course must do so with the faculty’s Education Service Point (OSP). Registration for the examination occurs simultaneously’.
2. Registration for a re-examination takes place through KISS/TIS and is open once the examination results have been processed, with a minimum of three weeks prior to the date of the re-examination.
3. In the event of registration through KISS/TIS not being possible for technical reasons, students are required to present themselves to the faculty’s OSP for registration.
4. Once the registration term for re-examination has closed, it will no longer be possible to enter the re-examination. Any student who wishes to appeal to the so-called severity clause, must contact the head of the faculty’s OSP.
5. Candidates with special examination needs must apply for these arrangements to the faculty’s OSP no less than ten days prior to the examination by means of submitting either a digital or paper form presented to the candidate by the faculty’s OSP.
6. Withdrawal from an examination or re-examination. In the event of failure to withdraw from an examination/re-examination, the candidate will be awarded the mark ‘0’ for this examination.

**Article 3.8 Assessment and announcement of interim examination results**

1. The result of an interim examination is determined by the examiner in the form of a grade from 0 (= lowest attainable grade) to 10 (= highest attainable grade), where only whole and half grade points may be awarded, and a grade point of 5.5 may not be awarded. Passing grades are from 6 points upwards.
2. Immediately after having administered an oral interim examination the examiner will determine and substantiate the result and will subsequently provide the student with a written confirmation of this result.
3. The examiner shall determine the result of a written interim examination within fifteen working days from the day on which it was taken, and shall within that period provide the OSP with the necessary information required for issuing written proof of the results to the student. For open question examinations with more than 100 participants a grading period of twenty working days applies.
4. For interim examinations other than oral or written, the Board of Examiners will decide in advance how and when the student receive a written statement of the results. The term for grading a paper or project will be agreed upon on the date on which the paper or project is to be submitted. This term will not exceed fifteen working days or twenty working days in the case of more than 100 students. If a paper or project is made up of several versions this rule applies to each version separately.
5. A minimum period of two weeks must be upheld between the date of the announcement of the result and the date of the resit.
6. The Board of Examiners may, with due regard of the stipulation in art. 5, extend the period within which the results of interim examinations have to be announced based on a motivated request thereto by the course coordinator issued at least fifteen working days before the date of the interim examination. The course coordinator will inform the students of the new date at which the results shall be announced through Blackboard and possibly Ad Valvas.
7. If, by a situation of force majeure, the course coordinator is unable to comply with the stipulations in art. 3 through 6, he or she will inform the Board of Examiners of this as soon as possible. The course coordinator will inform the students of the new date at which the results shall be announced – established in consultation with the Board of Examiners – through Blackboard and possibly Ad Valvas.
8. Before the examination, the examiner announces the period in which the examination will be evaluated, as well as the period for the right of inspection (see art. 3.10).
9. In the case of written partial interim examinations the examiner shall announce the result of a partial examination at least five working days before the date of the next partial examination (with the exception of the last partial examination).
10. The interim examination form informs students that they have a right of inspection, as referred to in article 3.10, and furthermore that they may appeal to the Examination Appeals Board. The period for appeal is four weeks after the announcement of the result.
11. In case of suspected fraud during the interim examination, the anti-fraud provisions, as described in appendix 5 of these regulations, will apply. These provisions are also applicable in case of a suspicion of plagiarism.

**Article 3.9 Period of validity**

1. Completed programme components are valid for an unlimited period.
2. In derogation of the provision in par. 1, and with respect to a component that has been completed more than four years previously, the Board of Examiners may impose a supplementing or substitute interim examination that must be passed before the student is admitted to the final examination. A supplementary or replacement interim examination of this sort does not yield extra ECs.

3. The interim examination papers will be retained for a period of two years; the MSc thesis will be retained for a period of ten years.

Article 3.10 Right of inspection

1. Concurrent with the results of an interim examination, the examiner of an interim examination will announce on Blackboard, and possibly on the faculty bulletin board, when and where the written examination may be inspected, and how any registration for the inspection and the inspection itself are arranged.

2. The examiner will appoint the time and date of the inspection, provided that the inspection takes place within four weeks after the announcement of the results of a written interim examination, and, if relevant, at least one week before the resit.

3. If an examinee demonstrates that he/she is or was unable to attend at the appointed place and time due to circumstances beyond his or her control, he/she shall be offered another opportunity, if possible within the period stipulated in par. 2.

4. At the inspection, the examinee, at his/her own request and under supervision of a staff member, has a right to inspect the examination questions and his/her own assessed answers, as well as receive an explanation of the formal assessment criteria.

5. In addition, at his/her own request and at cost price, he or she will be provided with a copy of the assessed work (the answers, but not the questions). This facility does not apply in the case of multiple choice examinations.

Article 3.11 Review

1. A student or group of students may ask the examiner for a review of the written interim examination. A review consists of a clarification of the written examination and the grading criteria. The examiner decides on how the review is arranged.

2. A possible review will take place within four weeks after the announcement of the examination results, and if applicable at least one week before the resit. The time and place of the review will be announced on the course’s Blackboard web page.

Article 3.12 Objection procedure

A student may object to the assessment of his or her work by appealing to the Board of Examiners. The procedure to be followed in the case of an objection is provided in appendix 6.

Article 3.13 Exemption

1. At the request of a student, and after having consulted the examiner in question, the Board of Examiners may exempt the student from taking an interim examination or practical, if the student either:
   a. has completed a component of a university or higher education programme that is equivalent to the examination or practical in terms of content and level; in order to judge content, level and study load, a certified description of the component in question must be enclosed with the request;
   b. submits proof of performed activities that correspond to the component in question with respect to content, level and time expenditure.

2. The Board of Examiners may, at the individual written request of a student in possession of documentation as described in term 1, replace components of the degree programme by components of another academic programme in the Netherlands or abroad, or of a higher education programme in the Netherlands, provided that this replacement is approved before the date of the first interim examination of the component for which replacement is requested.

Article 3.14 Final examination

1. A student can take the Master’s degree examination after he or she has achieved a grade of 6 or more for each component of the Master’s degree programme.
2. Taking the Master’s degree examination is formalised. This means that when the Board of Examiners establishes that the student in question has passed all components of the Master’s degree programme, the Master’s degree diploma will be issued by the institution. On that occasion no separate study accomplishments are required of the student.

**Article 3.15 Result of the final examination**

1. The Board of Examiners will determine the result of the final examination as soon as the student has submitted sufficient proof of the interim examinations that he or she has passed and thus that the corresponding university education has been received.

2. Before determining the result of the examination, the Board of Examiners may set up an investigation of its own into the knowledge and skills of the student with respect to one or more components of the programme, if and inasmuch as the results of the interim examinations in question give cause to do so.

3. The following judicia are awarded for the result of the Master’s examination. For each judicium, the weighing factor of each interim examination is its extent, expressed in EC. In cases where more than one judicium is applicable, the highest judicium is valid.
   a. *Passed*: a grade of 6.0 or higher for all interim examinations.
   b. *Bene meritum*: a weighted grade point average for all interim examinations of 7.5 or higher, and a grade of 7.5 or higher for the Master’s thesis.
   c. *Cum laude*: a weighted grade point average for all interim examinations of 8.0 or higher, and a grade of 8.0 or higher for the Master’s thesis.
   d. *Summa cum laude*: a weighted grade point average for all interim examinations of 9.0 or higher, and a grade of 9.0 or higher for the Master’s thesis.

The weighting factor of components is the respective number of ECs.

4. Exceptions are not valid in determining the judicium.

5. A judicium other than “passed” cannot be awarded, if:
   a. the number of exemptions is equal to or in excess of 60 ECs;
   b. there have been two or more resits for one or more interim examinations.

6. The Board of Examiners may deviate from the requirements set forth in terms 2 to 4 if it deems it justified that a higher qualification be awarded than the one given on the basis of the provisions in terms 2 to 4.

**Article 3.16 Degree**

1. Those who have passed the final examination will obtain the degree of 'Master of Science' (MSc).

2. The degree obtained will be stated on the examination certificate.

**Section 4 Prior education**

**Article 4.1 Admission requirements for the programme**

1. Those who meet the following criteria will be admitted to the programme:
   a. those who have passed the final examination of the Bachelor's programme in artificial intelligence at the institution or at another Dutch university, and have fulfilled the requirements for English language proficiency as formulated in article 1.7 term 2;
   b. those who are in possession of a certificate of admission issued by the institution’s Executive Board for the academic year in question (see art. 4.2).

**Article 4.2 Certificate of admission**

1. A certificate of admission is issued to those who, in the opinion of the Board of Examiners:
   a. are in the possession of a testimonial that is at least equivalent to a testimonial as stipulated in art. 4.1 sub a;
   b. have otherwise demonstrated suitability for participation in the programme;

2. The Board of Examiners may decide that a candidate needs to successfully complete additional courses offered at the faculty before being admitted to the programme.
**Article 4.3 Flexible admission to the programme**

1. A student who is registered for the Bachelor’s programme in artificial intelligence (‘kunstmatige intelligentie’) at the institution may be granted admission to the Master’s programme, before he or she has succeeded for the final examination of that Bachelor’s programme.

2. Admission as intended in par. 1 is only granted if the student has both:
   - achieved passing grades for or has been exempted from components within the Bachelor’s programme with a total study load of at least 160 EC; and
   - achieved a passing grade for his or her Bachelor’s thesis.

3. Admission as intended in par. 1 is limited to a maximum of 30 ECs.

4. The Master’s internship and Master’s thesis are exempt from the stipulation in art. 1.

5. The Board of Examiners may decide to deviate from the stipulations in art. 3 and 4 in individual cases.

6. The interim examination results achieved by a student who is admitted to the Master’s programme by virtue of this article will receive formal legitimacy only after the student has passed the final examination of the Bachelor’s programme as intended in par. 1 and has been formally registered for the Master’s programme.

**Section 5 Student counselling**

**Article 5.1 Monitoring of student progress**

The faculty records the students’ individual study results.

**Article 5.2 Student counselling**

1. The faculty sees to it that students enrolled in the programme are introduced to university life and will provide counselling to the latter, also for the purpose of acquainting them with the study opportunities within and outside the programme.

2. Students who underachieve are invited for an interview with the student counsellor to discuss the continuation or termination of their education. If a student's results remain inadequate, the student counsellor will consult the Board of Examiners about issuing a strong recommendation for termination of the student's participation in the degree programme.

**Section 6 Transitional and final provisions**

**Article 6.1 Adoption and amendments**

1. These regulations and any amendments to these regulations will be enacted by separate order of the Dean, after consultation with the director of the educational institute and having acquired the approval of the Joint Student-Staff Council.

2. In addition to the stipulation in art. 1, the director of the educational institute will consider the advice of the Program Degree Committee and of the Advisory Board of the educational institute.

3. An amendment pertaining to the current academic year shall only be implemented if this is in all fairness not to the detriment of the student.

4. Moreover, an amendment may not influence any other decision taken by the Board of Examiners on the basis of these regulations if this is to the detriment of the student.

**Article 6.2 Promulgation**

1. The Dean of the faculty is responsible for promulgating these regulations, the regulations and guidelines laid down by the Board of Examiners and any amendments to these documents in an appropriate manner.

2. Anyone interested may consult the EER on the faculty’s website.

**Article 6.3 Commencement date**

These regulations are in effect as of September 1, 2010. This Education and Examination Regulation is a translation of the Dutch original version (Onderwijs- en examenregeling masteropleiding kunstmatige intelligentie 2010-2011) as confirmed by the Dean on June 24, 2010, which, should any doubts arise concerning the interpretation of the English version, is the legally valid text.
Appendices to the EER for the Master's programme in Artificial Intelligence 2010-2011

Appendix 1  Objectives and final qualifications of the programme
The objectives and final qualifications of the MSc degree programme in artificial intelligence are based on the corresponding BSc degree programme, and extended with the aspects of practical research experience and deepening of knowledge through literature study in a specific research area of artificial intelligence.

Appendix 1a  General objectives
The Master’s programme aims to educate students to be freethinking scientific professionals capable of formally analysing and modelling aspects of natural and artificial cognition, and of solving related problems through computational means. Depending on the chosen specialisation, the focus may be on:
– designing and/or explaining cognitive functionality by means of computational modelling;
– designing effective brain-computer interface systems.
Graduates are able to function as junior researchers as part of an AI research team and, as such, contribute to the international state of the art of AI. They are also able to perform successfully as AI professionals within companies and institutions.

Appendix 1b  Graduate profile
1. Cognitive Artificial Intelligence (CAI)
A CAI researcher is able to conduct autonomous fundamental and/or applied scientific research into cognitive functions (such as action planning, perception, memory or language processing), by means of developing, analysing and testing computational models. To this end he/she has gained experience in conceptual and complexity analysis, and the development of formal models. Moreover, a CAI researcher has gained experience in designing and executing experimental cognitive research and/or designing and evaluating systems that enable user-friendly human-computer interaction.

2. Brain-Computer Interfacing (BCI)
A BCI researcher is able to conduct autonomous fundamental and/or applied scientific research into the design of effective BCI systems, by means of developing cognitive tasks and/or designing algorithms that can be used in the context of a BCI system. To this end he/she has gained experience in signal processing techniques and algorithms for converting brain data into machine instructions. Moreover, the BCI researcher has gained experience in designing and executing experimental research into techniques for pattern recognition and/or experience in the mathematical foundations for those techniques.

Appendix 1c  Operationalisation of the objectives into final qualifications
The 'Dublin descriptors' describe internationally accepted academic criteria for Master’s degree programmes in a domain-independent way. They are grouped in the categories of (1) knowledge and insight, (2) applying knowledge and insight, (3) judgement formation, (4) communication and (5) learning skills. Based on these descriptors, the objectives of the degree programme are described in the following final qualifications (the numbers between brackets refer to the categories above):
A Master in Artificial Intelligence (AI):
1. has demonstrated knowledge and understanding in the field of AI, founded upon the knowledge and understanding typically associated with a Bachelor’s level, that extends and/or enhances the latter, and paves the way for an original contribution in developing and/or applying ideas, often within a research context (1);
2. has obtained relevant knowledge and understanding in the fields of psychology, computer science, mathematics, logic, linguistics, philosophy and neuroscience, at a level at which he/she can actively relate AI to those fields, and is able to incorporate the contributions of scientists in different fields into AI projects (1);
3. has obtained relevant knowledge and understanding of several human cognitive functions and skills, such as problem solving, perception, language processing and motor behaviour, at a level that enables an original contribution to the computational modelling of such a functionality (1);
4. has obtained knowledge and understanding of the similarities and differences in architecture and working between different model types, such as the classical-symbolic, the connectionist and the more recent dynamic model types. He/she also has an understanding of the theoretical implications thereof, and of the relevance of different model types for different application domains (1);
5. is able to make an independent analysis of an abstract problem that is complex and underspecified, in such a way that a solution can be sought by means of a working computer programme, and, if relevant, a theoretical generalisation can be made. In addition, he/she has the ability to translate a theory into an algorithm or a computational model, deduce model predictions, and test those predictions (2);
6. is able to independently design, execute and analyse empirical research in a methodologically correct way (2);
7. is able to think and act in a practicable way, and to translate complex and/or extensive practical requirements (for instance those of a user group) into a work plan for developing, improving or extending a computer programme (2);
8. has an eye for the philosophical foundations and implications of the influential paradigms and model types in AI, as well as for the social and ethical implications of developments in the field (3);
9. has a critical, scientific attitude towards research in general and AI in particular, and is able to form a well-founded opinion about the latest developments in several areas of AI (3);
10. is able to express him/herself in writing according to the accepted norms for scientific AI publications (both formally, e.g., IEEE (Institute of Electrical and Electronics Engineers) Computer Society, APA (American Psychology Association), and in terms of content), and to effectively digest articles in relevant journals. In addition, he/she has obtained oral skills that enable him/her to report on performed research, and to communicate on an equal basis with specialists in AI and the fields mentioned in the second point, as well as with non-specialists (4);
11. has obtained the necessary learning skills to enable further learning in an independent self-directed manner (5).

Appendix 2 Foreign language Code of Conduct
At Radboud University Nijmegen, the Foreign language Code of Conduct as stipulated below applies. This code of conduct is based on article 7.2 sub c of the Act.

Article 1
At Radboud University Nijmegen, education and examination may take place in another language than Dutch if the specific nature, organisation or quality of the education and/or the origin of the students necessitates it.

Article 2
The decision to use a foreign language is taken by the Dean of the respective faculty after having consulted the Degree Programme Committee. The Dean will consider the following principles:
– the need for the use of another language than Dutch must be established;
– interim and final examinations of English-language degree programmes are taken in English; interim examinations of English-taught courses are taken in English, unless the Board of Examiners decides otherwise;
– the education in a foreign language meets the same quality requirements as the education in Dutch.

Article 3
The Education and examination regulations of the degree programme describe the Dean’s decision.

Article 4
The Dean reports annually to the Executive Board of the institution on the decisions he/she has made.

Appendix 3 Rules of conduct
The Faculty of Social Sciences seeks to offer an environment that lets employees and students work or study in a motivated, fulfilled and effective way. To facilitate this, the faculty has adopted a number of rules governing conduct in the faculty. These rules of conduct are taken to form the foundation for a motivating
and inspiring work environment. It is the mutual responsibility of employees and students to comply with these rules.

**Points of reference**
The faculty seeks to provide an atmosphere characterized by:
- mutual respect and personal development;
- openness and trust;
- cooperation and responsibility.

**This implies that**
- everyone is treated with respect, and no one is offensive or hurtful. Treat others as you want to be treated by them. This applies to all forms of communication including verbal, written or email communication, on blackboard, in chat-rooms, during course evaluations and when in contact with secretary and support staff;
- everyone familiarises themselves with and acts in accordance with the rules in the various regulations (e.g. EER, Student Act, Regulation on Academic Integrity, RU network Users’ Regulation and Surf-net) as well as the agreements made with respect to attendance, deadlines, review period, completion of assignments, and more;
- an agreement that has been made is never broken;
- students and educators are jointly responsible for the successful functioning of the educational process. They can and may appeal to this responsibility;
- one always assumes that the other has good intentions and does not adhere to prejudicial judgements;
- everyone familiarises themselves with relevant information and last-minute changes in educational organisation and content, for instance via Blackboard;
- everyone respects each other’s property and takes care of locations and materials used. Basically, this can be summarised in the following phrase: treat each other with respect. The faculty trusts that students and employees will act accordingly.

**Appendix 4 Constrained elective courses**
The constrained elective courses within the Master’s degree programme (art. 2.1, par. 1 sub c) must be chosen from the following list of components, with the reservation that a component that is compulsory for a specialisation cannot also be chosen as an elective course for that specialisation.

- **Action 1: Motor control** ............................................................. 6 EC
- **Advances in Human-computer interaction** ................................ 6 EC
- **Bayesian and decision models in AI** ........................................ 6 EC
- **Practical Course in BCI (*)** .................................................. 6 EC
- **Bio-inspired algorithms** ......................................................... 3 EC
- **Bio-informatics** ..................................................................... 3 EC
- **Business rules** ......................................................................... 6 EC
- **Capita Selecta MSc AI** ......................................................... 3 or 6 EC
- **Cognition and Complexity** ..................................................... 6 EC
- **Cognition and Representation** ............................................... 6 EC
- **Cognitive aspects of Multilingualism** .................................... 6 EC
- **Computational Neuroscience** ................................................ 6 EC
- **Computer Assisted Language Learning** .................................. 5 EC
- **EEG Research in Behavioural Science (*)** ............................. 6 EC
- **Embodied Cognition** ............................................................. 6 EC
- **Evolutionary Algorithms** ....................................................... 6 EC
- **Information Retrieval** ............................................................ 6 EC
- **Introduction to Language and Speech technology** ............... 6 or 10 EC
- **Introduction to Pattern Recognition** ....................................... 6 EC
- **Neuroimaging 2: electrophysiological methods** .................. 6 EC
- **Neurophilosophy** ................................................................. 6 EC
Appendix 5 Fraud

Article 1
If during an examination, the supervisor suspects fraud, he/she will make note of this at the available protocol. He/she also makes a note on the student’s response form, either at that moment or when the exam paper is handed in. After the examination, the supervisor makes a short written report about the possible fraud. This is then handed over to the examiner of that specific course. The student will be informed and is given the opportunity to add a written commentary to this report. The examiner is obliged to inform the chairperson of the Board of Examiners, which may then take appropriate action.

Article 2
The chairperson of the Board of Examiners meets with both the student and the examiner, and will discuss his/her judgement of that meeting and related consequences with the other members of the Board of Examiners. When the Board has confirmed the occurrence of fraud, it may decide to exclude the student from that specific course as well as from other courses for a maximum of one year. The Board informs the student, the examiner of the course, as well as the director of the educational institute. The Board of Examiners may also give mandate to its chairperson in this matter, who will then give account arrear.

Article 3
Articles 1 and 2 are equally applicable in case of a suspicion of plagiarism and/or other forms of fraud in written assignments, thesis and papers.

Article 4
Students may file an objection to the institution’s Examination Appeals Board against a decision by the Board of Examiners, within four weeks after the announcement of the decision.

Appendix 6 Objection procedure for interim examinations
1. A student who disagrees with the assessment of an interim examination may present this objection to the examiner during or after the inspection or review.
2. If and when the student has not reached an agreement with the examiner about the assessment, he or she can file an appeal with the Board of Appeals for Examinations. The appeal has to be filed within a period of four weeks after the announcement of the examination results. If the examiner has not reacted to the student’s objection within that period, the student can file a so-called pro forma appeal with the Board of Appeals for Examinations, in which he/she requests postponement of the appeal.