

Education- and examination regulations Master's programme Artificial Intelligence 2017-2018

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Part 1 General provisions

Section 1 General provisions

Article 1.1 Applicability

1. The present education and examination regulations (hereinafter: the regulations) apply to the Master's degree programme Artificial Intelligence (hereinafter, the programme), that is offered by the Faculty of Social Sciences (hereinafter, the faculty). Part 2 of these regulations lists the provisions applicable to all Master's degree programmes. Part 3 specifies the provisions applicable to this particular degree programme.
2. The present regulations apply to all students enrolled in the programme in the academic year 2017-2018.
3. In order to prevent disadvantages to students as a result of regulatory alterations regarding the EER that was in place at the start of the programme, suitable arrangements are made. If no arrangements have been made students can apply for consideration of the hardship clause (article 12.1).

Article 1.2 Definitions

1. The terms used in these regulations, which are also used in the Higher Education and Research Act (*Wet op het hoger onderwijs en wetenschappelijk onderzoek*, hereinafter, 'the Act') will have the same meaning as these terms have in the Act.
2. Apart from the terms referred to in paragraph 1, the following terms will be understood to have the following meaning:
 - EC (European Credit): the course load entity in accordance with the European Credit Transfer System, in which 1 EC is equivalent to 28 hours of study.
 - Interim examination: umbrella term for all examination methods, as described in article 4.1.1.
 - Unit of study part of the degree programme (component) as referred to in article 7.3 of the Act.
 - Examination programme: the entirety of units of study, resulting in a Bachelor's or Master's degree certificate.
 - Extracurricular elective unit of study: component to be determined by the student, which is not part of the examination programme.
 - Free elective unit of study: component to be determined by the student, which is part of the examination programme.
 - Fraud: any act or omission by a student that makes forming an accurate opinion of his or her knowledge, understanding and skills partially or entirely impossible.
 - Scientific integrity: regarding research and education within the faculty, regulations are in place as formulated by the 'Notitie Wetenschappelijke integriteit' at the KNAW (<http://www.knaw.nl/nl/actueel/publicaties/notitie-wetenschappelijke-integriteit>) and elaborated by the 'Nederlandse Gedragscode Wetenschapsbeoefening' by the VSNU (<http://www.vsnul.nl/nederlandse-gedragscode-wetenschapsbeoefening>).
 - Final paper: final paper for the programme, also known as dissertation or thesis.

Part 2 General part

Section 2 Admission to the programme

Article 2.1 Admission and admission requirements

1. De Admission Board decides on the admission to the programme.
2. The admission requirements are laid down in the programme-specific part of these regulations.

Article 2.2 Entry requirements

Students who are registered for the programme may attend all units of study in that programme and may sit the relevant interim examinations, unless specific admission requirements apply as laid down in the programme-specific part of these regulations.

Section 3 Structure of the programme

Article 3.1 Final examination, degree and distinction

1. The programme will be concluded by the Master's final examination.
2. The student who has passed the examination of the Master's programme will be awarded the Master of Science (MSc) degree.
3. The Examination Board can award a distinction to a student who has successfully passed the final examination. The rules for awarding a distinction have been laid down in a university guideline. These guideline is attached as appendix 1 to these regulations.

Article 3.2 General learning outcomes

The programme has the intention that students:

- a. acquire knowledge, understanding and skills in the relevant area;
- b. become qualified to an academic level; and
- c. prepare for a future (study) career.

Article 3.3 Curriculum

1. The programme comprises the total of the units of study as described in the programme-specific part of these regulations, aimed at the realisation of well-defined objectives in the areas of the knowledge, insight and skills that those completing the course are deemed to possess.
2. In addition to the units of study referred to in the previous paragraph the student may add extra-curricular elective units of study to the programme.
3. In the context of the programme the student is required to write a final paper as an individual proof of competence, unless The Examination Board should decide this requirement is to be replaced by participation in a research project or by an internship which is subject to an individual report in accordance with applicable academic standards.

Article 3.4 Elective programme

1. The programme's Examination Board decides on a request for permission to attend a elective programme as meant in article 7.3d of the Act. The Examination Board will verify whether the programme fits within the degree programme's domain which the Examination Board is accountable to, if it is sufficiently coherent and if the level is adequate in the context of the programme's learning outcomes.
2. The request in question will have to be submitted at least two months prior to the start of the programme.

Article 3.5 Teaching periods and interim examinations

1. The programme will be offered in an annual schedule consisting of two semesters. The programme-specific part at least arranges in which semester the opportunity is provided to attend courses and to sit the interim examinations of the units of study.
2. In derogation of the provision in paragraph 1 of this article, the Master's programmes can adjust the semester schedule to fit educational needs.

Article 3.6 Form of education

1. The programme-specific part of these regulations establishes the form of education for each unit of study.
2. The language/languages in which units of study of the programme are taught is specified in the programme-specific part of these regulations.

Article 3.7 Incorporation of units of study obtained outside the programme

1. At the request of the student the Examination Board will incorporate elective units of study from outside the programme.
2. The incorporation of units of study as meant in clause 1 is only allowed before the start of that unit.
3. In the event the units that express workload and study results of the units of study to be incorporated differ from those provided for in these regulations, conversion will take place. The Examination Board will decide on the conversion, with due observance of the Radboud University memo 'Conversion of workload and study results' (*Conversie van studiebelasting en studieresultaten*).

Article 3.8 Replacing units of study

In special cases a student may, with the permission of the Examination Board, replace an obligatory unit of study of the programme by a unit of study of another programme. In that event article 3.7 paragraph 2 will apply equally.

Article 3.9 Exemptions

1. At the request of a student and having heard the examiner involved, the Examination Board may exempt the student either partially or fully from sitting an interim examination, if this student:
 - a. has either completed a relevant unit of study of a university or higher professional programme that is similar both regarding contents and level; or
 - b. demonstrates - after successfully passing an assessment as requested by the examiner - having adequate knowledge and skills regarding the unit of study in question as a result of relevant work experience or professional experience.
2. Exemptions must be requested before the start of the unit of study.
3. The percentage of exemptions will never be more than 50% of the programme credits.
4. No exemption as referred to in paragraph 1 will be granted for the final paper.
5. In so far as the programme has general exemptions, these are listed in the programme-specific part of these regulations.
6. The Examination Board does not grant exemptions on the basis of results obtained in the period in which the student was barred from sitting interim examinations as referred to in article 7.12b paragraph 2 of the act.

Section 4 Final examinations and interim examinations

More detailed provisions regarding the assessment of the units of study are outlined in the Rules and Regulations of the Examination Board (see: <http://www.ru.nl/fsw/onderwijs/oer-eer-rr-2017-2018>).

Article 4.1 Structure and requirements of the interim examinations

1. Each unit of study of the degree programme will be completed by an interim examination. Interim examinations may comprise more than one modular interim examination and can be taken either in writing, online or orally. Apart from written or oral examinations, practical or computer assignments, take home examinations, theses, assignments, reports, internships, presentations or a combination of any of these is possible.
2. In addition to the provisions set forth in section 1 of this article for units of study that also comprise a practical and/or work group, attendance levels and levels of active participation may be included in final grading.
3. In principle, oral interim examinations are administered in public and these examinations consist of an individual test in which, in principle, not more than one person is tested at the same time.
4. Oral interim examinations are administered in the presence of at least a second examiner or an observer appointed by the Examination Board. Otherwise the interim examination is to be recorded. In the case that a presentation is part of the examination, the same rules apply. The same applies to presentations that count for more than 40% of the final examination. This provision does not refer to practical assignments.
5. The Examination Board may allow students with an impairment to take the interim examinations in a form adapted to their individual impairment. Prior to taking a decision in this matter, the Examination Board may seek expert advice.
6. Prior to the commencement of an academic year information will be provided for each individual unit of study on the way in which the interim examinations will be administered.
7. Representative sample questions, both in form and content, will be made available on the electronic learning environment to the students at least one week prior to the examination.
8. The course manual must be published at least one week in advance of the interim examination on the electronic learning environment. The course manual includes materials for the interim examination preparation, examination methods and weighting of various interim examination parts in the determination of the final grade. For all students assessment criteria have to be available for final assignments, theses, assignments, reports and presentations.

9. Interim examination dates must be announced no later than one month before the start of a semester.
10. If an interim examination is spread over more than one exam sitting, at least one working day must be scheduled between the last class session covering relevant new materials for the interim examination and the interim examination. If there is only one exam sitting, at least three working days must be scheduled between the last class session and the interim examination.
11. If a unit of study starts on the first day of an academic period set by the Executive Board, no requirements may be imposed on students regarding literature having been studied or assignments having been completed for that unit of study on that day. Necessary preparatory actions - such as reading course manuals or looking for an internship - are permitted.
12. If there are legitimate grounds, the Examination Board may decide that an interim examination is taken in another form than described in the study guide.

Article 4.2 *Frequency of interim examinations*

1. Without prejudice to the provision of paragraph 2 students are allowed to participate in interim examinations twice per unit of study in an academic year.
2. Contrary to the stipulation in the first paragraph, there will be only one opportunity to take an interim examination for a unit of study that was not taught in that particular academic year. The examiner can decide otherwise.

Article 4.3 *Registration for interim exams*

1. Students who register through OSIRIS for unit of study of the programme for which they have registered are also registered for the first following interim examination in the relevant academic year.
2. If a student should not want to sit the interim examination, he or she will have to deregister through OSIRIS, no later than five working days before the interim examination date. If the student fails to deregister in due time, non-appearance will be considered as a used opportunity to sit the interim examination. This might have consequences for granting a distinction.
3. In the case of force majeure students are allowed to deregister later. The Examination Board will decide whether this is the case.

Article 4.4 *Re-sit of interim examinations*

1. Interim examinations may be retaken once within the same academic year, even when the result is a pass.
2. Students will have to register for a re-sit no later than five working days before the interim examination date in conformity with the provisions laid down to that purpose by or on behalf of the Examination Board.
3. If feedback has been provided within a reasonable time period, successfully passed examinations (essays, assignments, report etc.) cannot be retaken, unless stated otherwise in the course manual. A final paper for a programme that receives a passing grade may only be redone in the sense that an entirely new paper is written.
4. If a student re-sits an interim examination, in all cases the most recent mark will determine the final result.
5. The course manual contains provisions on retaking modular interim examinations for the different units of study of the programme.
6. Each interim examination must be passed within the academic year that students take the relevant unit of study. If students do not pass the interim examination within the academic year they must retake the entire unit of study the following academic year, unless the examiner decides otherwise.

Article 4.5 *Validity term of interim examinations*

1. The validity term of any interim examination that has been passed will in principle be indefinite, unless indicated otherwise in the programme-specific part of these regulations and with due observance of the stipulations on this matter laid down in the Act.
2. In the case of a limited validity, the Examination Board is entitled to extend the validity term of specific interim examinations that have been passed.

Article 4.6 *Determination of results*

1. The final grade of an examination will be rounded to the nearest whole and half grade points, as follows: 1; 1.5; 2; 2.5; 3; 3.5; 4; 4.5; 5; 6; 6.5; 7; 7.5; 8; 8.5; 9; 9.5; 10, unless the grade is not expressed in a figure.
2. As determined in paragraph 1, the results of an interim examination will not be set at 5.5. For arithmetical scores between 5 and 6, a score lower than 5.50 will be rounded to 5 and a score equal to or higher than 5.50 will be rounded to 6. The degree programme's study guide contains provisions on rounding scores of modular interim examinations for the different units of study.
3. If the result of an interim examination equals or is greater than 6.0 points, the interim examination is deemed to have been passed. If the result of the interim examination equals or is less than 5.0 points, the student will be deemed to have failed the interim examination.

Article 4.7 *Publication of results*

1. The examiner will determine the results of a written interim examination as soon as possible and will provide the student administration office with the data required for the publication of the results.
2. In case of an oral interim examination the examiner will determine the result immediately or within five days after the interim examination was administered. In case of written or online interim examinations the grading period is no longer than fifteen working days after the day the examination was administered. The last regulation also applies to written examinations divided into parts. For open-ended questions examinations with more than 100 participants a grading period of twenty working days applies. With respect to written assignments/papers the rule of assessment within fifteen working days applies. If there are more than 100 papers to be marked a period of twenty working days applies.
3. By way of exception the Examination Board may - in consultation with the examiner - extend the period referred to in the second paragraph of the present article or reduce this period.
4. The grading period is mentioned at the examination form or the digital learning environment.
5. A minimum period of ten working days must be maintained between the date of the announcement of the result and the date of the re-sit.
6. When the results are published, the student will be informed about the right to inspect his or her marked work as referred to in article 4.8 and about the possibility of appealing at the Examinations Appeals Board as well as of the option of reassessment within the period for appeal applicable. A request for reassessment must be lodged with the Examination Board and shall not defer the submission term for lodging an appeal.
7. During completion of the programme's final project an independent second reader will be consulted as well as a thesis supervisor.
8. In the case of suspected fraud or plagiarism, the provisions contained in the Rules and Guidelines of the Examination Board must be followed.

Article 4.8 *The right to inspect the interim examinations*

1. For a period of a maximum of twenty working days following the publication of the results of a written interim examination the student will be allowed to inspect the questions and the work marked, as well as receive an explanation of the formal assessment criteria.
2. The inspection will take place under supervision of at least an examiner and/or another person with substantive knowledge regarding the course.
3. If deemed necessary, the Examination Board can, after consultation with the examiner, extend or shorten the period of twenty working days as mentioned in clause 1 of this article.
4. The examiner may decide that inspection will take place for all students at the same time, on a date and at a time and place set prior to the start of the unit of study.
5. Time, date and - preferably - place of the inspection referred to in paragraph 4 will be announced at least five working days in advance.
6. If a student is unable to attend the inspection referred to in paragraph 4 due to demonstrable circumstances beyond his or her control a separate inspection can be arranged, upon his or her request, preferably within the period of time referred to in the first paragraph of the present article.

7. In all events, inspection will take place no later than five working days before the re-sit of the interim examination in question is administered.

Article 4.9 Determination of final examination results

1. When students have completed all interim examinations successfully, they must apply for the final exam themselves.
2. The Examination Board will determine the results of the final examination as soon as the student has passed the interim examinations forming part of either the units of study of the degree programme in question or of the phase of the degree programme in question and has submitted proof thereof.
3. Prior to determining the results of the final examination, the Examination Board itself may conduct an inquiry into the student's knowledge with respect to one or more units of study or aspects of the degree programme. If this is the case, this will be elaborated upon in the programme-specific part of these regulations.

Section 5 Study progress, student counselling and course advice

Article 5.1 Study progress and student counselling

1. The dean is responsible for the registration of the study results in such a way that every student can obtain an overview of the results registered in the system OSIRIS at that moment.
2. The dean is responsible for providing adequate student counselling.

Section 6 Teaching evaluation

Article 6.1 Teaching evaluation method

With due observance of the quality assurance system of the university, as laid down in the Handbook Quality Assurance System Degree Programmes Radboud University (*Handboek Kwaliteitszorg Onderwijs Radboud Universiteit*), the dean sees to it that the units of study taught in the programmes will be systematically evaluated.

Section 7 Miscellaneous stipulations

Article 7.1 Code of conduct

The faculty has instituted a Code of conduct that both students and employees are expected to follow. This Code of conduct is attached in appendix 3 of these regulations.

Part 3 Programme-specific regulations

Section 8 Access to the degree programme and education

Article 8.1 Entering the programme

1. The degree programme has the following entering moments. Interim registration is not possible:
 - a. September 1;
 - b. February 1.
2. Enrolment for the degree programme is only possible if the graduation date for the prior education degree on which the enrolment is based precedes the enrolment date.

Article 8.2 Admission requirements

1. Admission to the programme will be granted to:
 - a. those who have obtained a Bachelor's degree in Artificial Intelligence at Radboud University;
 - b. those who have obtained a Bachelor's degree in either:
 - Computing Science with a minor "transition package for Artificial Intelligence" at Radboud University;
 - Information Science with a minor "transition package for Artificial Intelligence" at Radboud University;
 - Artificial Intelligence at another Dutch university;

- c. those who have obtained the certificate of admission for the academic year in question as provided by the Executive Board on the basis of a degree certificate that is at least equivalent to any of the diplomas mentioned earlier in this paragraph.
2. Admission to the programme will also be granted to students who have demonstrated, in the opinion of the Admission Board, their suitability to take the degree programme and who have provided proof that they have an adequate command of the English language, as stipulated in article 8.3.
3. The Admission Board may decide that a candidate is admitted to the MSc programme in spite of deficits but may require the candidate to replace some or all of the free-choice elective units of study with one or both of the courses Homologation 1 and/or Homologation 2 within the Master's degree programme Artificial Intelligence.
4. The Examination Board decides on an individual basis upon the content and examination of the courses Homologation 1 and Homologation 2, as mentioned in paragraph 3.

Article 8.3 *Language requirements*

1. An adequate command of English is required for participation in the programme and interim examinations of the programme.
2. This requirement is met if the student can supply:
 - a Dutch pre-university education (VWO) diploma; or
 - a secondary or higher education diploma of an English-language programme; or
 - one of the following language certificates:
 - a. a Test of English as a Foreign Language (TOEFL) certificate stating a minimum score of 575 (paper test), 232 (computer test), or 90 (internet-based test);
 - b. an International English Language Testing System (IELTS) certificate stating a minimum score of 6.5;
 - c. a Cambridge Certificate of Advanced English or a Cambridge Certificate of Proficiency in English stating a minimum score of C.

Article 8.4 *Programme- specific entry requirements*

1. Contrary to the provisions in the general part of these regulations, students may not participate in the courses and the interim examinations of the units of study before they have met the following entry requirements.
2. The Internship, the Research Project and the Extended Research Project can only be started if the student has completed at least 48 EC of the Master's programme.
3. Any particular unit of study may have specific prerequisites, as indicated in the programme's prospectus.

Section 9 *Programme structure and design*

Article 9.1 *Applicability of this section*

1. Article 9.6 of this section applies to students, first enrolled in the Master's programme in 2017-2018.
2. For students who were first enrolled in the programme prior to 2017-2018, the programme in principle applies as described in the EER for the year in which they started the programme.

Article 9.2 *Specific learning outcomes*

1. Supplementary to the broad learning outcomes referred to in the general part of these regulations, the aim is that upon completion of the Master's degree programme in Artificial Intelligence:
 - a. the student possesses advanced knowledge, skills and understanding in the domain of artificial intelligence;
 - b. the student has received an advanced university education;
 - c. the student has acquired that described in paragraph 1 sub. a and b, at a level that is attuned to the Bachelor's degree programme in Artificial Intelligence;
 - d. the student is able to conduct independent research in the domain of artificial intelligence.
2. These objectives are specified further in Appendix 4.

3. Specific objectives for each unit of study are included in the course descriptions in the most recent study guide.

Article 9.3 Study load of the programme

The programme will have a study load of 120 EC.

Article 9.4 Structure of the programme

The programme will be offered exclusively as a full-time programme.

Article 9.5 Language of instruction

The programme will be conducted in the English language.

Article 9.6 Composition of the programme

1. In accordance with the relevant provisions in the general part of these regulations, the Master's degree programme comprises the following units of study with reference to the corresponding semester (x) and corresponding study load (in EC; 120 in total):
(Note: Course name details may be subject to change)
 - a. Compulsory general core courses:
 - Trends in Artificial Intelligence (1)6
 - Advanced Research Methods for MSc AI (1)3
 - Academic Writing and Reviewing (2)3
 - Choice of philosophical unit of study:3
either: Theoretical Cognitive Science 2: Science and Society (2);
or: Evolution and the Mind (1);
or: Upgrading the Human (2);
or: Philosophy and Ethics for Computing and Information Science (1);
or: any other philosophical unit of study approved by the Examination Board.
 - Choice of:45
 - *either:*
 - Internship 15 *plus*
 - Master Research Project 30
 - *or:*
 - Extended Master Research Project 45
 - b. Expansion of knowledge in one of the three graduation specialisations of the programme:
 - b1 Graduation specialisation in Web and Language Interaction:
 - Cognitive Computational Modelling of Language and Web Interaction (2)6
 - App-lab: Intelligent Mobile Apps (2).....6
 - Text Mining (1).....6
 - Limited elective units of study within the specialisation18
 - b2 Graduation specialisation in Robot Cognition:
 - Developmental Robotics (2)6
 - Theoretical Foundations for Cognitive Agents (2)6
 - Robotlab Practical (1)3
 - Social Robotics (1).....3
 - Limited elective units of study within the specialisation18
 - b3 Graduation specialisation in Computation in Neural and Artificial Systems:
 - Computational Cognitive Neuroscience (1).....6
 - Cognition and Complexity (2)6
 - Brain-computer Interfacing Practical (1)6
 - Limited elective units of study within the specialisation18
 - c. General limited elective units of study12
 - d. Free-choice elective units of study12
2. A detailed description of the units of study outlined in paragraph 1, including contact hours, (a summary of) learning objectives and instructional and examination methods included, is provided in the programme's prospectus.

3. No units of study that form part of a required Bachelor's final examination may be included in the Master's final examination as well. Should such an unit of study be compulsory within the Master's programme, the Examination Board will appoint a substitute unit of study. This also applies to units of study of a required Bachelor's final examination that, in the opinion of the Examination Board, shows too much overlap with prospective units of study of the Master's final examination.
4. The limited elective units of study in the graduation specialisations mentioned in paragraph 1 sub. b should be chosen from the list of limited elective units of study for the graduation specialisation, which is published on the degree programme's Blackboard before the start of the academic year.
5. The general limited elective units of study mentioned in paragraph 1 sub. c can be chosen from:
 - either a compulsory unit of study of one of the other graduation specialisations; or
 - one of the lists of limited elective units of study of the graduation specialisations as mentioned in paragraph 4; or
 - the list of limited elective units of study outside a graduation specialisation as posted on the degree programme's Blackboard at the start of the academic year.
6. The free elective units of study mentioned in paragraph 1 sub. d can be chosen freely, on the condition that the chosen unit of study 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 Examination Board.

Article 9.7 Participation in education

1. Unless otherwise indicated in the prospectus, the following rules apply to participation in education:
 - a. participation in practicals is mandatory, unless the practical is meant to provide assistance with doing assignments that have to be handed in;
 - b. participation in lectures and question & answer lectures is optional;
 - c. participation in work groups is optional.
2. Mandatory participation and possible penalties for not participating must be stated in the course manual for the unit of study concerned.
3. If the provisions stipulated in the previous paragraph are not fulfilled, mandatory participation may not be imposed.

Article 9.8 Standard exemptions

The Examination Board does not grant any standard exemptions based on previously-taken educational programmes.

Section 10 Examinations

Article 10.1 Restricted period of validity of credits earned

With regard to units of study for which the exam was passed more than six years ago, notwithstanding the provisions in Article 4.5, the Examination Board may, for valid content-related or educational reasons, decide that the student must take a supplementary or replacement exam before being allowed to take the final Master's examination. A supplementary or replacement interim examination of this sort does not yield extra EC.

Article 10.2 Participation in interim examinations

Anyone studying for the Master's final examination who does not pass certain units of study in a specific academic year can retake the interim examination the following year, but this second examination will be based on the content of the unit of study of that same year, or on the content of a substitute unit of study designated by the Examination Board.

Part 4 Transitional and final provisions**Section 11 Transitional provisions****Article 11.1 Transitional provision for distinctions**

For students who have been continuously registered for the Master's degree programme, the rules of distinction stipulated in the EER of their starting year will remain in force for three years thereafter.

Section 12 Final provisions**Article 12.1 Safety net scheme and hardship clause**

1. The dean will make decisions in individual cases not covered or insufficiently covered by these regulations.
2. In individual cases of extreme unfairness, the Examination Board or the dean is authorised to make an exception to the provisions of these regulations in favour of a student.

Article 12.2 Adoption and amendments

1. Notwithstanding the provisions in article 7 of the Structure Regulations of Radboud University, these regulations are drawn up or amended by the dean after receiving advice from the programme committee and after having obtained the approval of the faculties' general assembly (*facultaire gezamenlijke vergadering*).
2. In special cases, an amendment made to these regulations can take effect in the present academic year, only if this does not disproportionately compromise the interests of the students.

Article 12.3 Entry into force

These regulations will enter into effect on 1 September 2017

Any Education and Examination Regulations laid down previously for the degree programme will cease to apply from that date onwards.

As established by the dean on June 22, 2017

Article 12.4 Publication

1. The dean will be responsible for suitable publication of these regulations and of possible amendments to these.
2. Any interested party may consult the EER on the faculty's website.

These Education and Examination Regulations are a translation of the Dutch original version (Onderwijs- en examenregeling masteropleiding Artificial Intelligence 2017-2018) as drawn up by the dean, June 22, 2017, which, should any doubts arise concerning the interpretation of the English version, is the legally valid text.

Appendices

Appendix 1 Distinctions

1. With due observance of the provisions set out in this article, the board of examiners will determine whether a distinction will be awarded and if so, which distinction will be awarded.
2. The distinction:
 - a. 'cum laude' will be awarded if the weighted average result of the final assessment of the units of study referred to in paragraph 3 equals or is higher than 8.0; or
 - b. 'summa cum laude' will be awarded if the weighted average result of the final assessment of the units of study referred to in paragraph 3 equals or is higher than 9.0.
3. The distinction will be calculated on the basis of all units of study of the examination programme for which a mark has been awarded on a scale ranging between 1 and 10, excepting extra-curricular units of study.
4. The number of EC of the units of study referred to in paragraph 3 will serve as the weighting ratio for the calculation of the weighted average result, unless provided otherwise in the programme-specific part of these regulations.
5. The distinction will not be awarded if more than 10 per cent of the total study load of the examination programme (being one or more units of study) has been resat *or* if interim examinations have been resat more than once, notwithstanding the authority of the Examination Board to decide otherwise, stating reasons therefore.
6. The distinction will not be awarded if fraud was established in one of the entire examination programme's units of study.

Appendix 2 Fraud and plagiarism

1. Notwithstanding the provisions in article 1.2 of the EER fraud during a written examination with multiple-choice and/or open-ended questions may consist of:
 - a. copying from others or a cheat sheet;
 - b. using study aids (e.g. dictionaries, calculators, mobile telephone and cameras) during an interim examination without permission;
 - c. exchanging information inside or outside the examination room during the examination;
 - d. impersonating someone else during an interim examination or allowing someone else to represent oneself during an interim examination;
 - e. being in possession of the assignments for an interim examination before that interim examination is held;
 - f. taking or duplicating the examination papers of an interim examination during the examination or inspection or distributing these without permission of the examiner.The above list is not exhaustive.
2. Fraud during other exam formats may consist of the fabrication of data and/or falsifying of data and/or plagiarism. Fabrication is defined as inventing or otherwise fabricating research data. Falsification is defined as manipulating or falsely presenting research data and results. Plagiarism is defined as:
 - a. copying texts, thoughts and/or reasoning of others and presenting these as one's own;
 - b. submitting previously submitted or similar texts for assignments from other units of study without acknowledging the source;
 - c. submitting papers obtained from a commercial organisation or written by someone else - whether in return for payment or not.The above list is not exhaustive.
3. In addition to the perpetrator, accomplices may also be punished in cases of fraud and plagiarism. If the work copied from a fellow student was copied with the permission and/or assistance of that fellow student, he/she will in any case be considered an accomplice as defined in the previous sentence.
4. Suspicions of fraud or plagiarism may be determined before, during or after an interim examination.

5. If the proctor believes he/she has discovered a student committing fraud during a written interim examination, the proctor will immediately make note of this on the exam protocol. The proctor will also make note of this on the answer sheet of the participant suspected of fraud, either at the time the fraud is discovered or when the participant submits the examination papers. After the interim examination, the proctor will make a written report of the detected fraud. The examinee will be given the opportunity to add a written comment to the report. The written report and any comments will be handed to the relevant examiner, who is then required to contact the Examination Board for further handling.
6. An examiner may use a plagiarism detection program to investigate plagiarism.
7. If the examiner or any other party involved thinks they may have discovered fraud or plagiarism before, during or after the assessment of other exam formats, he/she must report this to the Examination Board and submit a file with evidence to prove the fraud or plagiarism.
8. The Examination Board will determine whether fraud has been committed after investigating the matter.
9. If an examinee is found guilty of fraud, the Examination Board may exclude him/her from further participation in the interim examination in question, as well as from participation in other interim examinations for up to one year after the fraud is discovered.
10. In the event of serious fraud, the Examination Board may recommend that the student's enrolment for the degree programme be terminated.

Appendix 3 Code of conduct

The Faculty of Social Sciences seeks to offer a work environment where employees and students work and study with effort, joyfully, and aimed towards results. 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 of a motivating and inspiring work environment. It is the mutual responsibility of employees and students to take care of them.

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 should be treated with respect, without being offensive or hurtful. Treat others as you want to be treated by others. This goes for all forms of communication including verbal, written, e-mail, blackboard, chat-rooms, course evaluations, contacts with secretary and supporting staff;
- everyone makes sure to familiarize themselves with and act according to the rules in the various regulations (e.g. EER, student-act, regulation on academic integrity, users' regulation RU-network and Surf-net) as well as the agreements made with respect to attendance, deadlines, review period, completing assignments, among others;
- one sticks to an agreement once made;
- students and lecturers are jointly responsible for the successful functioning of the educational process. They can and may appeal to their responsibility;
- one assumes good intentions of each other and one does not adhere to prejudicial judgements;
- everyone makes sure to be familiar with relevant information and last minute changes in the educational organisation and content, for instance via Blackboard;
- everyone respects each other's properties and takes care of locations and materials used.

Basically, this all boils down to the same thing: treat each other with respect. The faculty trusts that students and employees will act accordingly.

Appendix 4 Further specification of objectives and final qualifications of the programme

For both BSc/MSc-programmes, the integration of knowledge and skills, as well as imparting a critical and academic stance are central goals. The intended learning outcomes reflect the Nijmegen AI

profile. They can be operationalized in terms of five AI learning objectives that fully adhere to the five Dublin descriptors, which describe the level of bachelor and master's programmes.

The five AI learning objectives are implemented through ten final qualifications for the bachelor and eleven for the master. Both the learning objectives and final qualifications fit the description of the KION domain-specific frame of reference (KION-FoR), while doing justice to the AI profile in Nijmegen. The final qualifications form an excellent means to enforce the five objectives on the one hand, and to provide solid requirements for the implementation of the educational learning environment on the other hand. As illustrated in figure 1, it is through the specification, assessment and evaluation of the learning goals of each individual course that the BSc/MSc-programmes implement a high-quality educational learning environment, which adheres to academic standards as well as to the KION-FoR.

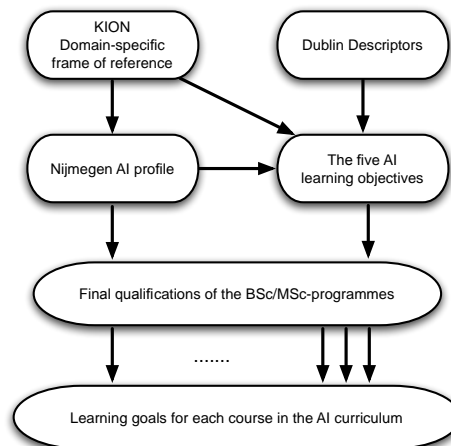


Figure 1. Implementation scheme for the intended learning outcomes of the BSc/MSc-programmes: profile, objectives, final qualifications and course goals.

Objectives for the MSc-programme

MSc students are trained at a level of academic and scientific competence that extends and builds on those competences developed in an academic BSc-programme, in terms of independence, critical judgment and the ability to systematically apply their knowledge, skills, understanding, and problem solving abilities in new or unfamiliar environments within a multidisciplinary context related to their field of study. MSc-students obtain advanced competences, knowledge and understanding of the field of AI that is founded upon and extends and/or enhances that typically associated with a BSc-level training, and that provides a basis or opportunity for originality in developing and/or applying ideas in a specific subdomain of AI, e.g. Linguistic web interaction, Robot Cognition and Neural Computation. The focus on scientific research and research methods constitutes one of the main principles in the educational programme. As such, the final qualifications of the MSc-programme reflect a decidedly scientific orientation. Graduated MSc students are fully capable to work in professional research environments or at academic research institutes, e.g. as junior researchers pursuing their PhD.

Objective 1 Acquisition of knowledge and understanding

Students acquire up-to-date and in-depth knowledge and understanding on AI informed by current scholarship and research that covers the breadth of the field of specialisation. This involves core concepts and theories, as well as research techniques and methods in the subject area.

Objective 2 Application of knowledge and understanding

Students are able to apply acquired knowledge, skills and insight to theoretical and applied problems in AI. They are independently capable of formalising a given AI research question and producing an answer, solution or application in creative and innovative ways to the question, typically by computational means.

Objective 3 Critical judgment

Students are able to reason in a critical, academic manner enabling them to go beyond the state of the art and contribute to the forefront of their research field. This entails that students have a critical awareness of current research and advanced scholarship in the discipline. They are capable of

evaluating methodologies and develop critiques of them and, where appropriate, proposing new hypotheses. Students are conscious of presuppositions and societal consequences of research and are able to reflect critically on their own professional actions.

Objective 4 Communication

Students are able to adequately express their knowledge, insights and findings, both orally and in writing. They are trained in presenting, understanding, and judging research findings, allowing them to communicate effectively to specialist and non-specialist audiences in a variety of media and for a variety of purposes (scientific publication, general public information, initiating/maintaining collaboration, acquiring funding).

Objective 5 Learning skills

Students take initiative and take responsibility for their own education and are able to steer their own learning process, enabling them to continue to learn independently and to develop professionally, including the ability to pursue further research, e.g. as a PhD student at a research or professional institute.

Final qualifications of the MSc-programme

Compared to the BSc-programme, the MSc-programme develops higher levels of self-management, independence and critical self-reflection, and allows students to specialise in advanced, state-of-the-art themes in AI. Each individual course contributes to the training of, in total, eleven final qualifications for the MSc-programme. This is the case for the specialisation Web and language interaction, the Robot Cognition and Computation in Neural and artificial Systems. As illustrated in figure 1, the eleven final qualifications implement the five AI learning objectives, which operationalize the five Dublin objectives with respect to the AI profile in Nijmegen:

1. *Relevant level*: the master student has demonstrated knowledge and understanding in the field of AI, founded upon the knowledge and understanding associated with a bachelor's level qualification, 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. The level of the MSc-programme exceeds that of the BSc-programme in that it uses more advanced course material (such as scientific papers), work forms (such as the design of innovative interaction platforms) and amount of independence and responsibilities for, e.g., designing/performing experiments and for scientific communication, both orally and in writing.
2. *Relevant disciplines*: the master student has obtained relevant knowledge and understanding in the fields of psychology, computer science, mathematics, logic, linguistics, philosophy and neuroscience, at a level at which s/he can actively relate AI to those fields, and is able to incorporate the contributions of scientists in different fields into AI projects.
3. *Cognition*: the master student 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 modeling of such a functionality.
4. *Paradigms*: the master student 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 and probabilistic model types. The master also has an understanding of the theoretical implications thereof, and of the relevance of different model types for different application domains.
5. *Analytical skills*: the master student 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, (s)he has the ability to translate a theory into an algorithm or a computational model, deduce model predictions, and test those predictions.
6. *Research*: the master is able to independently design, execute and analyse empirical research in a methodologically correct way.
7. *Practical application*: the master is able to think and act in a rational 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.

8. *Philosophy*: the master 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.
9. *Critical attitude*: the master 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.
10. *Communication*: the master 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, the master has obtained oral skills that enable reporting on performed research, and communicating on an equal basis with specialists in AI and the fields mentioned in the second point, as well as with non-specialists.
11. *Independent learning skills*: the master has obtained the necessary learning skills to enable further learning in an independent self-directed manner.

Table M1. Correspondence between the five AI learning objectives and eleven final qualifications (FQ) of the MSc-programme. A marked cell represents the FQ that covers the corresponding objective most significantly.

	1 Levl.	2 Disc.	3 Cogn.	4 Para.	5 Ana.	6 Res.	7 Pract.	8 Phil.	9 Crit.	10 Com.	11 Ind.
1. Acquisition K/U	x	x	x	x							
2. Application K/U	x	x	x	x	x	x	x		x		
3. Critical Judgment		x			x	x	x	x	x	x	x
4. Communication			x				x		x	x	
5. Learning skills							x	x	x		x

K/U represents Knowledge and Understanding.

Appendix 5 Scientific integrity

Scientific integrity has been an ongoing topic of attention in the world of research. In 2012, a severe breach of scientific integrity has shocked the national and international research communities. As a result, in 2012 and early 2013, several reports have been published on this topic (e.g., by the Executive Board, KNAW (commission Schuyt) and FSW). The commission Schuyt has identified three categories where the breaching of scientific integrity is evident:

- Fabrication: fraud with research data; to make up, fabricate, or fabricate research data.
- Falsification: to manipulate or falsely present research data and findings, e.g. by leaving out outcomes that negatively influence the research outcomes.
- Plagiarism: the practice of taking someone else's work or ideas and passing them off as one's own, without appropriately referring to the source of the work or ideas.

Scientific integrity is not just a matter for researchers, students and teaching staff must obey and promote internationally recognized principles of scientific integrity as well. Pending detailed instructions from the CvB and FSW, the following rules of conduct should be obeyed in any research project, be it for the graduation thesis or any other course assignment. These hold for both the student performing the research and the supervisor(s) guiding the student:

- Strictly avoid the three categories of breaching scientific integrity listed above.
- When using work from others, make the use clear by proper referencing. Never claim credit for work from others (software/ideas/text), neither implicitly (not mentioning the original author) nor explicitly (claiming authorship yourself).
- Respect each other and your peers.
- In case of questionable practices, or cases where it is unknown which procedure to follow, consult the Examination Board.
- Each research report must contain (a reference to) a detailed justification of methods and data used in the research, unless such justification is obvious.
- After performing the research, the student must hand over all data, source code and results that the supervisor deems relevant, in a format as required by the supervisor. The supervisor must take care

of proper archiving of these materials, following the standards and guidelines of the Master programme in AI.

Please note that these rules of conduct are not exhaustive. A careful and professional attitude is expected from the supervisors. Furthermore, it is expected that students have acquired this attitude already during the Bachelor and Master programmes and that they will further develop an appropriate level of scientific integrity during the project.