



Universiteit Leiden

Faculty of Science

Course and Examination Regulations

Master's Programmes

2009-2010

These course and examination regulations have been drawn up in accordance with Section 7.13 of the Higher Education and Research Act [*Wet op het hoger onderwijs en wetenschappelijk onderzoek*] (WHW)¹ and additional quality marks as set out in the framework document Leiden University Register of Study Programmes [*Leids universitair register opleidingen*].

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Appendix: Master's Programmes of the Faculty of Science

1. The Dutch Higher Education and Research Act [*Wet op het hoger onderwijs en wetenschappelijk onderzoek*] came into effect on 1 September 1993. It is sometimes referred to by its acronym *WHW*.

Chapter 1 – General Provisions

Article 1.1 – Scope of the Regulations

These regulations apply to the teaching and examinations of the master's degree programmes

- a. Mathematics;
- b. Computer Science;
- c. ICT in Business;
- d. Media Technology;
- e. Astronomy;
- f. Physics;
- g. Chemistry
- h. Bio-Pharmaceutical Sciences;
- i. Biology;
- j. Life Science & Technology – Leiden;

The programmes are offered by the Faculty of Science of Leiden University, hereinafter referred to as: the faculty.

Article 1.2 – Definitions

In these regulations the following definitions apply:

- a. the Act: the Higher Education and Research Act [*Wet op het hoger onderwijs en wetenschappelijk onderzoek*] (WHW);
- b. Board of admissions: the committee that advises the faculty board about admission of students that want to follow a master's programme which is not their continuing master's programme;
- c. Board of examiners : the board of examiners of the programme, established in accordance with Section 7.12 of the Act;
- d. Code of Conduct on the language of instruction and examination [*Gedragscode voertaal*]²: The code as set down by the Executive Board for the language in which is taught;
- e. Component: a study unit of the programme as defined in Section 7.3 of the Act. The course load of each component is expressed as whole credits. Every component involves an examination;
- f. Curriculum: all the course components that belong to the education programme for an examination;
- g. Education calendar: manual in which all tasks and procedures are described which the faculty employs as a basis for monitoring the quality of the courses;
- h. European credit (EC): the unit expressing the course load of a course component pursuant to the Act. According to the European Credit Transfer System one EC equals 28 hours of studying;
- i. Examination [*tentamen*]³: an evaluation of the knowledge, understanding and skills of the student in respect of a particular component, and an assessment thereof by at least one examiner appointed to this purpose;
- j. Examiner: the person appointed by the board of examiners to conduct examinations; and examinations, in accordance with Section 7.12 of the Act;
- k. Final examination [*examen*]: evaluation whereby the board of examiners, in accordance with Section 7.10 of the Act, verifies whether the candidate (student) has successfully completed all components and other requirements of the master's degree programme;
- l. Leiden University Register of Study Programmes [*Leids universitair register opleidingen*]⁴: Register of the programmes offered by Leiden University, kept under supervision of the Executive Board;

2. The Code of Conduct on the language of instruction and examination [*Gedragscode voertaal*] has been adopted on July 11th, 2002 by the Executive Board and can be found on www.regulations.leiden.edu

3. The *examen* is actually a review of the student's academic achievements to decide whether or not (s)he has completed all requirements for graduation. The Dutch term used for a test of the student's knowledge or skills is '*tentamen*'.

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- m. Level: the level of a component according to the abstract structure as defined in the framework document of the Leiden University Register of Study Programmes;
- n. Practical: practical assignment as defined in section 7.13 (2) (d) of the Act, in one of the following forms:
 - the writing of a thesis;
 - the writing of a paper, the design and implementation of a project, or the creation of a technological design;
 - the implementation of a research assignment;
 - carrying out a literature study;
 - the participation in fieldwork or an excursion;
 - the completion of a traineeship;
 - carrying out tests and experiments;
 - the taking part in another educational activity aimed at acquiring particular skills.
- o. Programme: the master's programme as referred to in Article 7.3a, paragraph 1 under b of the Act;
- p. Rules and Regulations: Faculty document stating agreements regarding exams (tentamens, examens) and the teaching as set down by the examining boards;
- q. Student: a person registered with Leiden University for the purpose of taking courses, the sitting of examinations and the taking of examinations of the programme;
- r. Study guide: a document containing details and binding information on the programme;
- s. Working day: Monday to Friday, excluding public holidays.

Article 1.3 – Code of Conduct regarding ICT and Education

The Code of Conduct regarding ICT and Education [*Gedragscode ICT en Ouderwijs*]⁵ shall apply to the programme and its courses.

4. The framework document *Leids universitair register opleidingen* [Leiden University Register of Study Programmes] can be found at the following website: www.bamainfo.leidenuniv.nl

5. The Code of Conduct for teachers and students in ICT supported education has been adopted by the Executive Board on May 26th, 2005 and can be found on www.regulations.leiden.edu

Chapter 2 – Description of the Programme

Article 2.1 – Objectives of the Programme

The programme has the following objectives:

To impart sufficient knowledge, understanding and skills as to enable the graduate to contribute independently, at an academic level and in an original manner to recognizing, coming up with and solving issues in an area of the natural sciences, to discuss this contribution with colleagues, to inform non-specialists in a clear and unambiguous manner on conclusions and considerations that form the foundation of the study, and to successfully follow a PhD programme within the discipline and its marginal areas.

In terms of structure, final qualifications and other quality marks the programme meets the provisions of “The Leiden University Register of Study Programmes”.

Article 2.2 – Specialisations

Each programme offers specialisations (tracks) as described in the appendix.

Article 2.3 – Achievement Levels

The Master of Science ensures the following skills and capacities:

- theoretical and/or practical skills in more than one specialist area of the discipline such that (s)he can carry out research under overall supervision;
- the ability to make an independent analysis of scientific problems, analysis of relevant specialist literature, formulate verifiable hypotheses, and set up and carry out research and critical reflection on one's own research and that of others;
- the ability to interrelate and integrate various areas of the discipline;
- the ability to present clearly, verbally as well as in writing, one's own research results, and the ability to communicate with colleagues and to present his/her research results as a contribution to a congress or as (part of) a scientific publication;
- sufficient understanding of the social role of the natural sciences to be able to reflect upon them and in part consequently to come to an ethically sound attitude and corresponding execution of one's professional duties.

Taking into account a shorter research education course, for the Master tracks Science Based Business, Communication and Education, the following final qualifications apply:

Science Based Business track:

- sufficient basic knowledge and understanding of strategic and marketing management, financial management, project management, organizational science, patents and quality management;
- experience in setting up and carrying out organizational research within a company, in connection with the research specialization.

Communication track:

- knowledge and understanding of modern information and communication technology;
- experience in science communication;
- knowledge of ethical, historical and social aspects in the area of the natural sciences.

Education track:

- all qualifications necessary for teaching all years of secondary education and technical and vocational training (for 16-18 year-olds);
- an approach to education/teaching taking into account the relationship between school and society and with respect for the moral values that are accepted in our multiform society.

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Article 2.4 – Structure of the Programme

The programme offers full-time tuition only.

Article 2.5 – Course Load

The course load of the programme is 120 EC.

Article 2.6 – Language of Instruction

In compliance with the Code of Conduct regarding Foreign Languages [*Gedragscode Voertaal*] (www.reglementen.leidenuniv.nl) the language of instruction and examination in the programmes is English, except for the tracks Education and Communication in which the language of instruction is Dutch.

Article 2.7 – Quality

The programmes comply with the applicable national and international quality requirements, and with the quality standards with regard to education set out in the framework document Leiden University Register of Study Programmes. The faculty education calendar describes all tasks and procedures that serve as a basis for monitoring the quality of the various courses.

Article 2.8 – Uniform Structure of the Academic Year

As with taught courses, the programme is based on the uniform structure of the academic year as much as possible, with the academic year being divided into semesters.

Chapter 3 – Curriculum

Article 3.1 – Compulsary Components

1. Every master's programme has a study programme that consists of compulsory components in addition to elective components. The appendix states the programmes suggested by the relevant board of examiners and set down by the faculty board and the electives that are eligible for all "tracks";
2. If the programme lists electives, then all these subjects taught at this university will be eligible, as well as – with the approval of the board of examiners – components provided by a Dutch or foreign university or funded or designated Dutch institute for technical and vocational training for over 18 year-olds;
3. The board of examiners is to approve if (part of) a research traineeship is carried out externally; the board of examiners will then also determine which lecturer will maintain contact with the work placement supervisor.

Article 3.2 – Level

1. The level is determined for each component; the standardization method of the Leiden University Register of Study Programmes is followed here.
2. A maximum of 12 EC of the entire curriculum may be used for course components with a level lower than 400.

Article 3.3– Registration for Courses

Participation in courses is in order of registration, with the provision that students who are registered in a programme are guaranteed access to obligatory courses of that programme. For elective components participation takes place on the basis of the conditions set down in the Rules and Guidelines.

Article 3.4– Practicals

1. A practical within the meaning of Article 1.2, paragraph n of these regulations that forms part of the curriculum of the programme is described in more detail in the prospectus of the programme.
2. Obtaining a pass result in a practical is regarded as successfully taking an exam [*tentamen*] within the meaning of Article 7.10 of the Act.

Article 3.5– Master's Thesis

The appendix states the size and study load of the final research project and the master's thesis. Furthermore, said The prospectus of the programme states the criteria with which the thesis or the traineeship report must comply, as well as the relevant procedures, including the way in which the supervisor and the second referee are appointed and a substitution is made if a supervisor is no longer able to perform his/her tasks as such.

Chapter 4 – Examinations and Final Examination

Article 4.1 – Frequency of Examinations

1. For each component, examinations will be held at least two times per academic year.
2. If the student needs an extra opportunity in order to avoid a delay in completing the degree, a request to do so to the board of examiners can be submitted to the supervisor.
3. In a year in which the programme is not taught, there is at least one opportunity to sit the examination [*tentamen*] of a component that has a cycle of more than one year (e.g. an elective).

Article 4.2 – Methods of Assessment and Examination Formats

1. The study guide states whether assessment may take place by means of either a written or an oral examination or a skills test.
2. In special cases, on request of the student, the board of examiners may allow the student to take the examination in a manner that deviates from the one prescribed in the study guide.
3. Students with a disability may take examinations in a manner that has been adjusted to their particular disability, in order to accommodate their disability as much as possible. If necessary, the board of examiners will seek expert advice before reaching a decision.
4. All examinations shall comply with the code of conduct on the language of instruction and examination [*Gedragcode voertaal*].
5. Students will be assessed on an individual basis if a component involves presentations, research, reports or other course activities that require students to work in groups.

Article 4.3 – Oral Examinations

1. An oral examination may involve only one student at a time, unless the board of examiners has provided otherwise.
2. Notwithstanding the provisions of paragraph 1, the oral examinations of the components listed in the prospectus will be conducted with two or more students.
3. Oral examinations are public, unless the board of examiners or the examiner concerned has decided otherwise, owing to special circumstances, or unless the student objects.
4. At the request of the student a second examiner will attend the oral exam [*tentamen*].

Article 4.4 – Academic Fraud

Fraud is understood to mean the actions of a student that aim to make it partially or completely impossible to form a correct evaluation of his or her knowledge, understanding and skills or that of other students. The procedural rules in the event of fraud in accordance with Article 7.12 paragraph 4 of the Act are stated in the Rules and Regulations.

Article 4.5 – Assessment

1. Immediately after the oral examination, the examiner shall inform students of their result and hand them a written notification of that result.
2. Within fifteen working days after the date of the examination, the examiner shall mark any written or other test and provide the administration office of the faculty with the information necessary to present the student with a written notification of the result of the examination.
3. If the examiner is unable to comply with section 4.5.2, which provides that results must be submitted to the department's administration within fifteen working days, the student shall be notified thereof within said time limit. The student shall also be informed of the relevant procedure in such cases. If necessary the date for the retake will be rescheduled in order to give the student sufficient preparation time.
4. The examiner will evaluate a practical as referred to in Article 1.2, paragraph n of these regulations within fifteen working days of the day on which the student took part in the final component or that he/she submitted a report of the work to the examiner.

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5. The written or electronic notification of the examination result shall inform students of their right to view their marked examination scripts – referred to in Article 4.8 below which provides for the access of students to examination scripts – and of appeals procedure.

Article 4.6 – Assessment of the Master's Thesis

The assessment of a thesis will be carried out by at least 2 examiners at least one of whom has not been involved directly with the supervision of the student. The report will be presented publicly as is customary within the programme.

Article 4.7 – Period of Validity of Results

Each examination result is valid for 5 years. The board of examiners may prolong the period of validity or oblige students to take an additional or a substitute test for examinations that were passed more than 5 years ago.

Article 4.8 – Access to Marked Examination Scripts and Evaluation

1. Students have the right to view their marked examination script, at their request, for a period of at least thirty days following the publication of the results of the written examination. In addition, upon request a copy of that work is made available at cost price.
2. During the period referred to in the first paragraph, the examination questions and assignments, as well as – if possible – the marking criteria may be inspected.
3. The marked test will be evaluated with the examiner if the student so requests.
4. The board of examiners determines where and when the evaluation will take place.
5. Students who, due to circumstances beyond their control, are unable to attend the evaluation shall be granted another opportunity.

Article 4.9 – Exemption from examinations and/or practicals

At the student's request and after consultation with the examiner involved, the board of examiners may grant the student exemption from one or more examinations or practicals under the following conditions:

- The student has successfully completed, at a university or an institute of higher professional education, one of a programme's components that is similar in content and level to the component for which the student requests exemption;
- The student has demonstrated, through relevant work or professional experience, sufficient skills and knowledge in relation to the component.

Article 4.10 – The Final Examination

1. The board of examiners (or an authorized committee to that end) determines the result of the final examination when the student provides sufficient proof that all tests have been passed. Furthermore, the student must have earned a bachelor's degree as referred to in Article 5.1, or possess proof of admission as referred to in Article 5.2.
2. Before determining the result of the final examination, the board of examiners (or an authorized committee to that end) may itself conduct an examination to establish whether the student has achieved the programme's attainment level.
3. The final examination will be held at least two times per academic year.
4. The board of examiners sets out rules indicating the conditions under which they will exercise the power granted to them in Section 7.10 (3) of the Act to determine the result of the final examination notwithstanding the fact that not all tests have been passed, and/or the conditions under which results of subtests may compensate one another.

Article 4.11 – The Master's Degree

1. The degree of Master of Science is awarded to those who have passed the final examination.
2. The degree certificate states the degree awarded.
3. A supplement complying with the guidelines of the Act and of the Leiden University Register of Study Programmes [*Leids universitair register opleidingen*] is attached to the degree certificate.
4. Persons awarded a master's degree are eligible to pursue a doctorate .

Chapter 5 – Admission to the Master's Programme

Article 5.1 – Direct Admission

Requirements for direct admission to a master's programme are a bachelor's degree as mentioned in the appendix.

Article 5.2 – Proof of Admission

1. The faculty board can provide proof of admission to a MSc programme to those who have completed an education that is at least equivalent to the bachelor's programme as referred to in Article 5.1, to be assessed by the board of admissions for the relevant programme, if necessary on the advice of the specialist of the enrolment department of the university.
2. The board of admissions sets the requirements as stated in the appendix.
3. Students who have a bachelor's degree but who must complete 15 EC of extra education in order to meet the admission requirements, may be admitted to the programme. These students may take the examination of the master's programme only once the board of admissions is satisfied that the deficiency has been resolved.
4. Students who are admitted on the basis of paragraph 3 can not include those examinations that still have to be taken as part of the curriculum of the master's programme in order to meet the admission requirements.
5. The proof of admission as referred to in the first paragraph is valid until 31 August of the next entire academic year after the date of the admission decision being granted.

Article 5.3 – Admission Procedure

In order to obtain proof of admission as referred to in Article 5.2 the student must report to the the Graduate School Office.

Chapter 6 – Student Counselling

Article 6.1 – Student Progress Report

1. The department keeps records of the results of individual students.
2. The department provides each student with a copy of the results obtained at any time.
3. If the department concludes that a student is experiencing a significant delay in comparison to the nominal study progress, it shall inform the student of the support available for drawing up an individual study plan.

Article 6.2 – Introduction and Student Counselling

The department takes care of the student's introduction to the programme and student counselling.

Article 6.3 – Contact person

For every track within a master's programme the board of examiners appoints a lecturer as a contact person

Article 6.4 – Supervision of the Master's Thesis

The student draws up a graduation plan together with the supervisor referred to in Article 3.5. This plan is based on the study load laid down in the appendix. The plan includes details on the frequency of sessions with the thesis supervisor and the manner of supervision.

Article 6.5 – Professional Sports

Students who play sports at a professional level are offered the opportunity to adjust their study programmes to their sporting activities wherever possible. The department follows the guidelines drawn up by the Executive Board to determine who fits into this category.

Article 6.6 – Other cultural or social activities

Students who contribute to cultural or social activities which in the opinion of the faculty board are similar to the activities as referred to in Article 6.5, are offered the opportunity to adjust their study programmes to their activities wherever possible.

Article 6.7 – Permanent Disabilities

Where possible, students with a disability or chronic illness are offered the opportunity to adjust their study programmes in accordance with the limitations resulting from their disability or illness.

Article 6.8 – Residence abroad and traineeship

For students who experience a demonstrable delay in comparison to the normal study progress as a result of study residence abroad approved by the board of examiners or an approved traineeship, arrangements are made to minimize the delay.

Chapter 7 – Final Provisions

Article 7.1 – Amendments

1. Amendments to these regulations are implemented by a separate order of the faculty board with the prior consent of the faculty council.
2. Amendments to these regulations which also apply to a particular academic year shall be implemented before the beginning of that year and published in the prescribed manner, unless earlier implementation of an amendment to the regulations is strictly necessary and in all reasonableness does not harm students' interests.
3. Furthermore, amendments to the regulations may not adversely affect any prior decision pertaining to students taken by the board of examiners on the basis of these regulations.

Article 7.2 – Publication

The department takes care of the appropriate publication of these regulations, of the rules and guidelines set by the board of examiners, and of any amendment to these articles.

Article 7.3 – Exceptions

In cases in which these regulations do not provide a definite answer, the board of examiners decides.

Article 7.4 – Entry into Force

These regulations will enter into force on 31 August 2009.