

**Examination Regulations for the  
Master's Degree  
"Automation and Robotics"  
in the Faculty of Electrical Engineering and  
Information Technology  
at the University of Dortmund  
of ...**

The University of Dortmund has issued the following Examination Regulations as bylaws pursuant to section 2 (4) and section 86 (1) of the Universities Act for the land of North Rhine-Westphalia (Universities Act - UA) of 14<sup>th</sup> March 2000 (Gazette NRW, p. 190), lastly changed by act: of 28<sup>th</sup> January 2003 (Gazette NRW, p. 36, no official bulletin)

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## **I. General**

### **Art. 1 Purpose of the examination and goal of the degree course**

- (1) The master's examination forms the conclusion of the master's degree programme "Automation and Robotics" and is a vocational qualification. The aim of the master's examination is to show whether candidates are able to analyse technical problems from different areas out of automattion and robotics , to break them down into suitable part problems, to solve the latter by applying scientific knowledge and findings and in this way to arrive at a universal solution.
- (2) The goal of the degree course is to impart to candidates the necessary technical knowledge, skills and methods in the specialist field of robotics and automation , taking account of the demands of working life, in such a way that they are enabled to carry out and evaluate complex engineering activities independently and with responsibility. In addition, the degree course is to create the scientific basis for a possible subsequent doctorate.

### **Art. 2 Master's degree**

When a candidate passes the master's examinations the Faculty of Electrical Engineering and Information Technology confers on him or her the degree of Master of Science (M. Sc.), in Robotics and Automation.

### **Art. 3 Preconditions for admission**

- (1) Applicants of the Master's degree course "Automation and Robotics" must possess a relevant Bachelor's of Engineering degree or a Bachelor of Science degree. The relevant courses are specified in detail in the admissions regulations.
- (2) To verify their study capability, applicants have to verify scientific and technical precognitions as well as sufficient language skills in English. These requirements are constituted in detail in the admissions regulations.
- (3) The board of examiners defined in Art. 5 determines whether the preconditions in section 1 and 2 are fulfilled by means of a written decision. Based on the admission regulations the board of examiners can issue a temporary admission. The final admission depends on the fulfilment of conditions defined in the temporary admission.
- (4) In the event that the number of candidates fulfilling the preconditions for admission exceeds the number of available study places, the board of examiners defined in Art. 5 will make a choice of these candidates based on their study performance.

### **Art. 4 Standard number of semesters, development of the course and scope of teaching**

- (1) The standard number of semesters, including the examination semester, is four.
- (2) The courses for the degree are given over three semesters. The degree covers courses in the compulsory subjects and in the compulsory electives as well as in the students' own elective field (elective subjects). The total time required for the courses in both the compulsory and compulsory elective fields that is necessary for the successful completion of the degree shall not exceed 65 semester week hours. In addition, there is teaching in the elective subjects of 12 semester week hours. A semester week hour (SWH) shall be a teaching period of 45 minutes per week during the university's teaching semester.
- (3) The courses in the compulsory electives field are divided into modules. The modularisation of courses is specified in the study regulations.
- (4) A course shall not exceed a semester. The lecturers will provide detailed information on the process of a course before the start of the course by being posted up.
- (5) The teaching language for all courses in the first year of study shall be English. Upon request students may attend also courses in the compulsory electives field in other teaching languages provided that the course can be integrated into the master's degree course with respect to its content. The board of examiners defined in Art. 5 decides on this request.

### **Art. 5 Board of examiners**

- (1) The Faculty of Electrical Engineering and Information Technology shall form a board of examiners to organise the examinations and to carry out the tasks imposed under these examination regulations. The board of examiners shall

consist of a chair, a deputy chair and five other members. The chair, the deputy chair and two other members shall be elected from among the professors of departments participating at the master's degree programme, the appropriate group representatives in the faculty council of the faculty of Electrical Engineering and Information Technology shall elect one member from the academic staff of departments participating at the master's degree participating programme and two members from the master's degree students. A representative from the appropriate group may be elected from each of the three groups with the same procedure. The period of office shall be three years for the members representing the professors and the members representing the academic staff and one year for the student representatives. Members may be re-elected. In addition, the student counsellor according to Abs. 4 shall also be a member of the board of examiners but without voting rights. The dean of the faculty of Electrical Engineering and Information Technology shall notify the composition of the board of examiners.

- (2) The board of examiners shall ensure that the provisions of the examination regulations are complied with and that examinations take place correctly. It shall in particular be responsible for resolutions on objections to decisions taken in examination procedures. In addition the board of examiners shall decide on the admission of candidates for the master's degree "Automations and Robotics" and on credits for examination achievements. The board of examiners shall also submit a report on the development of the examination and durations of courses to the faculty council of the Faculty of Electrical Engineering and Information Technology regularly but not less than once every year. It shall also disclose the distribution of the grades in different courses (Art. 7 (5)) and the overall grades (Art. 21). The board of examiners may transfer its tasks for all standard cases to the chair. This shall not apply to decisions on objections and the report to the faculty council.
- (3) The board of examiners shall have a quorum if not less than 4 members with voting rights are present including the chair or deputy chair and two other members from among the professors. Its decisions shall be taken with a simple majority. In the event of an equal division of votes the chair shall have the casting vote. The student members shall not participate in assessments of examination work and in nominations of examiners and advisory members.
- (4) The board of examiners shall appoint a member of the academic staff of departments participating at the master's degree programme as a student counsellor.
- (5) Members of the board of examiners may be present at examinations.
- (6) The board of examiners shall convene in private. The members of the board of examiners, including their representatives, and the examiners defined in Art. 10 and advisory members are subject to official secrecy. In the event that that they are not in state employment the chair of the board of examiners shall oblige them to secrecy.
- (7) Orders, dates and other notifications from the board of examiners that do not concern individuals only shall be published bindingly on the notice board of the central examination office taking account of the provisions governing data protection.
- (8) The central examination office of the University of Dortmund shall carry out the current business of the board of examiners.

**Art. 6 Acquisition of credit points, organisation of examinations and period for examinations**

- (1) The degree course is developed on the basis of the European Credit Transfer Systems (ECTS). About 30 credit points must be acquired per semester.
- (2) The number of credit points to be acquired per course is based on the mean time required for the course. This number is indicated in the master's degree regulations. For each course students can only acquire either this exact total or no points at all.
- (3) The number of gained credit points per module results from the sum of gained credit points of courses that belong to this module. One module is successfully terminated if the defined quorum of credit points is gained, which is defined in the degree regulations.
- (4) Credit points may be acquired through
  - (a) written examinations,
  - (b) oral examinations,
  - (c) certified practical work,
  - (d) written processing of assignments,
  - (e) talks based on written preparation,
  - (f) the thesis,
  - (g) or a combination of these methods.
- (5) These methods of acquiring points are referred to below as "examinations" and the performance as "examination performance".
- (6) The examination performance that is required to acquire credit points in a course and possible choices shall be fixed by the examiners by agreement with the board of examiners before the start of the appropriate event and posted up. The extent to which examination performance that has already been achieved is retained if individual examinations have to be repeated because a candidate has failed, or if a student was unable to sit the examination for a satisfactory reason, shall also be fixed.
- (7) Examinations will be held continuously parallel to the degree course.
- (8) The board of examiners shall stipulate those examinations that require registration (examinations subject to registration) and shall post them up.
- (9) Registration for an examination subject to registration is not possible if at the time of the registration it is possible to ascertain that the candidate cannot acquire the credit points for the respective course by sitting the examination.
- (10) Applications for admission to the master's degree examinations and registrations for those examinations that are subject to registration shall take the form of written applications to the board of examiners through the central examination office. The central examination office shall set the periods for submitting applications and for registrations pursuant to sentence 1 and post them up.
- (11) Registrations for the respective examinations subject to registration shall take effect one week before the date of the respective examination, unless the candidate has withdrawn the registration in writing by this date. If a student cancels an examination by withdrawal he or she shall be deemed not to have registered for it.

- (12) Subsequent to a course with an examination subject to registration two dates for examinations shall be offered so that a candidate who fails the examination on the first date may repeat the examination on the second date.
- (13) The chair of the board of examiners shall set the dates for the examinations. The dates for the examinations and the names of the examiners shall be published not less than four weeks before the examinations, or one week in the case of oral supplementary examinations (see Art. 22 (1)), by being posted up at the central examination office.
- (14) If a candidate shows satisfactorily by means of a medical certificate that he or she is unable to sit the examination wholly or partially in the prescribed form because of a longer period of or constant physical disability the chair of the board of examiners shall allow the candidate to provide equivalent examination performance in another form. Grades for practical work cannot be replaced by grades for theoretical work.
- (15) After a student's name is removed from the roll of students he or she shall be given a certificate listing the terminated modules and the acquired credit points within these modules. Examinations for which the student has registered before being removed from the roll of students must be sat unless the registration was cancelled in time in accordance with section 11. The certificate contains a rider stating that it is not for submission to another institute of higher education.
- (16) The statutory periods of protection in accordance with section 94 (3) of the UA (maternity periods and periods of parental leave) shall otherwise apply.
- (17) It should be possible to complete the whole of the master's degree examination including the thesis by the end of the fourth semester. The degree course is deemed to have been successfully concluded if a candidate has acquired 120 credit points in accordance with Art. 15 (1), of which not less than 90 were acquired at the University of Dortmund.

## **Art. 7 Assessment of examination performance**

- (1) The following grading system is used as a benchmark to evaluate examination performance:
 

(a)	1 = Very good	=	Excellent results
(b)	2 = Good	=	Results that are considerably above average requirements
(c)	3 = Satisfactory	=	Results corresponding to average requirements
(d)	4 = Sufficient	=	Results that still satisfy the requirements in spite of their deficiencies
(e)	5 = Insufficient	=	Results that do not satisfy the requirements because of considerable deficiencies

Intermediate values for a differentiated assessment can be formed by raising or lowering individual grades by 0.3. Grades of 0.7, 4.3, 4.7 and 5.3 are ruled out here.

- (2) Along with the assessment under section 1 examination performance is also assessed in the ECTS grades system. The following benchmark applies:

- A = usually approx. 10% of the successful candidates in a year (in comparison excellent results);
- B = usually approx. 25% of the successful candidates in a year (in comparison above-average results);
- C = usually approx. 30% of the successful candidates in a year (in comparison average results);
- D = usually approx. 25% of the successful candidates in a year (in comparison below-average results);
- E = usually approx. 10% of the successful candidates in a year (in comparison very much below average but still adequate results);
- F = the minimum criteria were not achieved.

(3) Following agreement with the board of examiners the examination performance in examinations that are not subject to registration may be assessed using either the grades benchmark in accordance with sections 1 and 2 or with the following simplified standard:

- (a) Pass = Results satisfy the requirements at a minimum.
- (b) Fail = Results no longer satisfy the requirements because of considerable deficiencies

(4) Students acquire the credit points for a course (Art. 6 (2)) if the complete examination performance required for the acquisition is graded at least "Sufficient" or "Pass".

(5) The board of examiners shall stipulate by agreement with the examiners how the grade to be assessed in accordance with sections 1 and 2 for each course is to be formed from the assessments of the individual examination performance. This stipulation shall be posted up before the start of each series of lectures.

(6) If a candidate fails an examination the chair of the board of examiners shall inform him or her in writing. The written notification shall contain information on appeals.

## **Art. 8 Written examinations**

(1) In the written examinations candidates must show that they are able to recognise a problem in their subject, find ways to a solution and work out a solution in a limited period of time and with a limited number of aids with the usual methods obtaining in their subject.

(2) Each written examination shall be evaluated by not less than two examiners in accordance with either Art. 7, Section 1 or Art. 7, Section 3. In well-founded cases the board of examiners may also permit an examination to be evaluated by a single examiner. The reasons must be enclosed in the files. The grade for the written examination that is to be determined in accordance with the benchmark stipulated in Art. 7, Section 1 results from the arithmetical average of the individual grades. Where necessary, the grade shall be rounded to the next value or intermediate value in accordance with Art. 7, Section 1. However, the grade for the written examination can only be "Sufficient" or higher or "Pass" if both examiners

have set the individual grade "Sufficient" or "Pass" as a minimum. In the case of the grade for the written examination that is to be set in accordance with the benchmark stipulated in Art. 7, Section 2, the grade for the written examination determined in accordance with Art. 7, Section 1 is to be converted in accordance with the criteria of Art. 7, Section 2.

- (3) The questions for the written examination must be written in the teaching language for the appropriate lectures in accordance with Art. 4, Section 4. The written examination must also be written in this language.
- (4) Written examinations shall last not less than 90 minutes and not more than four hours. The board of examiners shall stipulate the duration of the examination after consultation with the examiners and notify candidates of this not less than four weeks before the examination by posting the information up.
- (5) Written examinations shall take place under the supervision of invigilators and are not public.
- (6) The aids that are permitted for use in written examinations shall be notified to candidates not less than four weeks before the examination by posting up at the examiners' offices.
- (7) The results of written examinations shall be published by posting up at the examiners' offices not later than four weeks after date of the examinations and not later than three weeks before the date of a possible repeat examination; the data protection provisions must be complied with.
- (8) The written examination may be inspected after publication of the results of the examination. The examiners shall fix the time and place for the inspection and notify candidates of this not later than the date of the examination by posting up at the examiners' offices.

## **Art. 9 Oral examinations**

- (1) In the oral examinations candidates shall show that they are able to recognise the correlations of the examination field and to allocate particular questions to these correlations.
- (2) Oral examinations shall be held in the teaching language used for the appropriate lectures in accordance with Art. 4, Section 4.
- (3) Oral examinations shall last for not less than 15 and not more than 40 minutes.
- (4) Oral examinations shall take place before either a single examiner in the presence of an expert advisor or before two examiners and shall be either examinations of a single candidate or of not more than three candidates as a group examination.
- (5) If an oral examination is held before a single examiner he or she shall consult the advisor before fixing the grade in accordance with Art. 7, Section 1 and 2. If an oral examination is held before two examiners, each examiner shall fix a grade for the oral examination in accordance with Art. 7, Section 1. The grades for the oral examination shall be calculated from the arithmetical average of the two grades in accordance with Art. 8, Section 2.

- (6) Minutes shall be kept of the process of an oral examinations and of the material results. Candidates shall be informed of the results of the examination immediately following the examination.
- (7) Students who wish to sit the same examination may be permitted to attend as listeners depending on the size and situation of the examination room and if the candidate agrees. This permission shall not cover the discussion and notification of the examination performance.
- (8) If a listener attempts to influence or disrupt an examination the examiner may exclude him or her as a listener.

#### **Art. 10 Examiners and advisory members**

- (1) The board of examiners shall appoint the examiners and advisers. It may delegate the power of appointment to the chair. To be eligible for appointment, examiners must have a Doctor's degree ("Dr." or "Ph.D.") and, unless compelling reasons demand otherwise, must have taught the corresponding or related examination topics at the University of Dortmund within the two years preceding the examination. Advisory members must have at least one appropriate degree ("Diplom") or master's degree or have passed comparable examinations.
- (2) Examiners shall carry out their activities as examiners independently.
- (3) Candidates may propose an examiner for the thesis and for the oral examination. Where possible, the proposals made by candidates shall be taken into account. However, proposals shall not create any rights.
- (4) The names of the examiners shall be notified to the candidates not less than four weeks before the date for the examinations. Notification may take the form of being posted up subject to data protection provisions.

#### **Art. 11 Crediting credit points**

- (1) Since the degree course is based on credit points, acceptance of a single examination performance is generally not feasible.
- (2) Credit points for courses that do not belong to a terminated module may only be accepted if an integration in a module of this degree course is feasible and if the respective module would be terminated with the accepted credit points. The board of examiners decides on the existence of the requirements for integration.
- (3) Credit points for terminated modules in the same degree course at a university or equivalent institute of higher education in the Federal Republic of Germany shall be credited without a check of their equivalence.
- (4) Credit points in other degree courses or from institutes of higher education in the Federal Republic of Germany shall be credited in so far as their equivalence has been established. Credit points that were obtained at institutes of higher education outside the Federal Republic of Germany shall be credited on application in so far as their equivalence is established.

- (5) Because a Bachelor's of Engineering degree or a Bachelor's of Science degree is a precondition for admission to the master's degree credit points from a bachelor's degree cannot be credited. Exceptions to this regulation are only possible if at least 210 credit points had to be acquired for the bachelor's degree or if it is for additional courses which the candidate did not require to be admitted to the bachelor's degree. The board of examiners decides on such exceptions.
- (6) Equivalence shall be established if the modules or courses concerned and the appropriate examinations correspond essentially to the modules and courses and examinations in these examination regulations in content, scope and requirements. An overall observation and an overall evaluation shall be carried out rather than a schematic comparison. The competent subject representatives shall be heard before the equivalence is established. In the case of credit points from foreign universities the equivalency agreements approved by the conference of ministers of education and by the conference of rectors of institutes of higher education, and agreements in the framework of partnerships between institutes of higher education, shall be observed. In cases of doubt with regard to equivalence the Zentralstelle für ausländisches Bildungswesen ("Central Agency for Foreign Education Systems") may be consulted. Credit points acquired in the framework of ECTS shall be credited without a further test of the equivalence subject to the following conditions: before the student leaves for abroad a written agreement must be concluded between the student, an appointee of the board of examiners and a representative of the teaching staff at the host institute of higher education that regulates the type and scope of the credit points scheduled for credits.
- (7) The number of credit points that are to be credited on the basis of the rules in sections 2 to 6 has a maximum limit of 30 credit points.
- (8) Sections 3 and 4 shall apply analogously to credit points obtained in state recognised distance education.
- (9) Credit points can not be credited if credit points have been acquired for an equivalent module in accordance with Art. 6
- (10) If examination performance is credited the grades, in so far as the grading systems are comparable, shall be taken over and included in the calculation of the overall grade in accordance with Art. 19. In the case of non-comparable grading systems the note "Passed" shall be recorded. Marking the recognition in the examination certificate is permitted.
- (11) On the existence of the conditions of sections 3 to 7 students shall have a legal right to credits. Credit points that are gained in the Federal Republic of Germany shall be credited ex officio. Students must submit the documents required for the credits.
- (12)

## **Art. 12 Non-attendance, withdrawal, deception and infringement**

- (1) An examination shall be deemed to receive the grade "Insufficient " (5.0) or "Fail" if the candidate does not appear on the date for the examination without good cause, if he or she withdraws from the examination after the start without good cause or if he or she does not submit written examination work in time.

- (2) The reasons given for the withdrawal or non-attendance shall be notified in writing to the board of examiners without delay (usually within 7 days) and substantiated. In the case of illness candidates shall submit a medical certificate showing the facts of the medical findings which verify the inability to sit the examination in a generally understandable form. If the board of examiners does not accept the reasons it shall inform the candidate of this in writing.
- (3) If the candidate attempts to influence the results of the examination by deception, e.g. by using unauthorised items, the relevant examination shall be awarded the grade "Insufficient " (5.0) or "Fail". A candidate who disrupts the correct running of the examination may be excluded by the examiner or invigilator from continuing the examination, usually after a warning. In these cases the relevant examination shall be awarded the grade "Insufficient " (5.0) or "Fail". The reasons for the application of sentences 1 and 2 shall be placed on record. In cases subject to sentences 1 and 2 candidates may request that the board of examiners review the decision within 14 days of the examination.
- (4) The board of examiners shall inform the candidate without delay in writing of decisions that are to his or her disadvantage and shall give reasons. Candidates shall be given an opportunity for a legal hearing before a decision is taken.

## **II. Master's examination**

### **Art. 13 Admission to and registration for the master's degree**

- (1) To be admitted to the examinations for the master's degree students must be enrolled in the University of Dortmund to study for the master's degree in "Automation and Robotics" or admitted to this degree course as a "Zweithörer" (i.e. a student matriculated at an institute of higher education who is permitted to attend lectures and in some cases sit examinations at another university).
- (2) The application for admission to the master's degree examinations must be submitted in writing to the chair of the board of examiners via the central examination office together with the registration for the first examination for the master's degree that is subject to registration. The application must be accompanied by the following:
  - (a) A declaration as to whether the candidate has previously failed or finally failed master's degree examinations or first degree examinations in one of the degree courses information technology, electrical engineering, mechanical engineering, chemical engineering, vocation training in electrical engineering or applied informatics, a state examination in a teaching degree course for a vocational subject in electrical engineering, or whether he or she is taking part in other examinations;
  - (b) Where applicable, a declaration as to whether the candidate agrees to students being present at the examinations pursuant to Art. 9, Section 7. This declaration may be submitted later.

## **Art. 14 Admission procedure for the master's degree**

- (1) The board of examiners shall decide on admissions.
- (2) The admission may only be refused if
  - (a) The preconditions referred to in Art. 13 are not fulfilled, or
  - (b) The candidate has finally failed the master's degree or first degree examinations in one of the degree courses information technology, electrical engineering, mechanical engineering, chemical engineering, vocation training in electrical engineering or applied informatics, a state examination in a teaching degree course for a vocational subject in electrical engineering at a university or equivalent institute of higher education in the Federal Republic of Germany, or
  - (c) The candidate is currently sitting examinations in one of the degree courses information technology, electrical engineering, mechanical engineering, chemical engineering, vocation training in electrical engineering or applied informatics, a state examination in a teaching degree course for a vocational subject in electrical engineering.

The reason for refusal referred to under letter (b) shall not apply if the examination in one of the related/comparable degree courses listed there which the student finally failed is an examination which does not have to be taken under these examination regulations.

## **Art. 15 Scope of the master's degree**

- (1) The master's degree examinations cover the acquisition (in accordance with Art. 6 and Art. 11) of a minimum of 120 credit points according to the following list:

(a) Compulsory studies	30 credit points
(b) Advanced specialist studies	not less than 36 credit points
(c) General studies	not less than 6 credit points
(d) One practical work	not less than 6 credit points
(e) Project seminar	12 credit points
(f) Master thesis	30 credit points

The partitioning of the advanced specialist studies into modules, the number of credit points that are at least to be acquired in the respective module and the assignment of courses to compulsory subjects, to general studies and to the module of the advanced specialist studies are given in the degree regulations.

- (2) The restrictions for the selection of the courses of the master's degree examinations and the practical course result out of the assignment and the selection of the major field of study according to Art. 17 (1). The assignment and restrictions are also given in the degree regulations.
- (3) The subjects of the subject group of specialists studies, elective subjects and practical work are assigned to modules. Due to the assignment and due to the choice of the major field of study according to Art. 17, Section 1 restrictions result in the choice of the subjects of master's degree examinations.
- (4) Credit points can only be acquired on the basis of examination performance in accordance with Art. 6, Section 3, if there are no credit points from the same lectures gained in an earlier semester or for an associated credited examination performance. for the bachelor's degree that is a precondition for admission under

Art. 3, Section 1, or from an earlier semester or for examination performances for which credits have been given. The board of examiners shall stipulate the lectures or examination performances that are the same for the purposes of sentence 1.

#### **Art. 16 Project seminar and practical courses**

- (1) The project seminar is done in form of a team work. During the project seminar the student should demonstrate that he or she is able to work through a problem with scientific methods within a group of engineers and within a fixed period. Particular importance is attached to the collaboration within the group. The topic of the project seminar should be selected as multidisciplinary as possible. Besides Art. 18 (2) applies for the project seminar correspondingly. However multiple supervisors from different faculties concerned with the degree program are feasible. The conceptual formulation of the project seminar has to be adjusted in view of the amount of work each group member has to contribute, i.e. ca. 360 hours.
- (2) A practical course shall consist of several practical experiments. The subjects of the practical experiments will be stipulated by a lecturer who works in this master's degree course as a researcher and a lecturer. The time required for the total practical course corresponds to 4 semester week hours. Practical courses may also be offered as block practical courses in the vacations.
- (3) Within the project seminar the candidate should work up a scientific topic in view of a presentation in front of an audience of experts. This topic should then be presented in front of and discussed with the audience of experts. Furthermore the candidate should participate at discussions about other presentations given in the same session. The topics should be selected in a way that the total expenditure of time does not exceed 90 hours per participant. For the seminar Art. 18 (2) holds correspondingly.

#### **Art. 17 Major field of study**

- (1) Before registration for the first examination in a course of the advanced specialist studies the student has to decide on a major field of study. The choice is between:
  - (a) Robotics
  - (b) Process Automation
- (2) The major field of study affects which modules of the advanced specialist studies and which practical course have to be taken, see Art. 15, Section 3. Details can be found in the Degree Regulations.
- (3) The major field of study will be shown on the master's degree certificate and on the Diploma Supplement.

#### **Art. 18 Thesis**

- (1) The thesis should demonstrate that the candidate is able to work through a problem in the field automation or robotic within a fixed period independently and with scientific methods.

- (2) All lecturers who are employed on this master's degree course in research and lecturing may stipulate subjects for theses and supervise candidates. Upon application by a candidate the board of examiners may permit thesis subjects to be issued and supervised by lecturers from other departments or external institutes. Members of the academic staff may assist in supervising.
- (3) Subjects for theses are issued through the chair of the board of examiners upon application by candidates. Before a subject for a thesis is issued the candidate must have acquired not less than 90 credit points in accordance with Art. 20, Section 1 and where applicable have fulfilled the conditions pursuant to Art. 3, Section 3. Verification of compliance with these preconditions must be enclosed with the application. The date of the issue shall be filed. The candidate may make suggestions in the application with regard to a supervisor and the subject. If the candidate waives his or her right to make suggestions the chair of the board of examiners shall arrange for a subject and a supervisor for the thesis.
- (4) A thesis may also be permitted in the form of group work if the contribution of individual candidates that is to be evaluated as their examination performance can be clearly differentiated and evaluated because sections, page numbers or other objective criteria are indicated that enable a clear demarcation, and if the requirements of Section 1 are fulfilled.
- (5) The time allowed for the thesis shall not exceed six months. The subject and the problem must be of a nature that the thesis can be concluded within this period. The subject may be returned once only and this must take place in the first two months. Following a substantiated application by the candidate the board of examiners can in exceptional cases grant an extension not exceeding six weeks.
- (6) When submitting the thesis candidates must provide a written assurance that they wrote the work, or the appropriately marked part of a group thesis, without assistance, did not use any sources and aids other than those indicated and have identified all quotations. The bibliography must also contain unpublished articles.
- (7) The benchmark for the length of the written thesis is 60 A4 pages, where necessary plus an annex. The master's thesis may be written in either German or English.

#### **Art. 19 Acceptance and evaluation of the master's thesis**

- (1) The original and one copy of the master's thesis must be submitted on time to the board of examiners via the Dean of the Faculty of Electrical Engineering and Information Technology and the date of receipt must be filed. If the thesis is sent by post that date of the postmark shall apply. If a thesis is not delivered on time it shall be graded "Insufficient" (5.0).
- (2) The master's thesis will be assessed and evaluated by two examiners. One of the examiners shall be the lecturer who assigned the work (first assessor). The chair of the board of examiners will nominate the second examiner (second assessor).
- (3) Evaluations shall be carried out in accordance with Art. 7, Sections 1 and 2 and reasons given in writing. In the event that the two examiners do not agree on the evaluation, in the German marking system the mark for the master's thesis will be formed from the arithmetical average of the two individual marks in so far as the difference does not exceed 2.0. If the difference is greater than 2.0 the board of

examiners shall appoint a third examiner to evaluate the master's thesis. In this case the mark for the master's thesis shall be formed from the arithmetical average of the two best marks analogously to Art. 8, Section 2. However, a master's thesis can only be evaluated as "Sufficient" (4.0) or better if at least two marks are "Sufficient" (4.0) or better.

- (4) The candidate shall be informed of the evaluation of the master's thesis not more than 4 weeks after submission.

## **Art. 20 Additional subjects**

- (1) Candidates may sit examinations in courses (additional courses) other than the prescribed compulsory and compulsory elective courses. Examination courses in other degree courses at the University of Dortmund and examination courses from other universities may be selected as additional subjects.
- (2) At the request of the candidate the results of the examinations in these courses will be included in the examination certificate but they will not be included in the formation of the overall grade.
- (3) Candidates may only sit an examination in an additional subject if they have not yet passed the master's degree examinations.

## **Art. 21 Passing the master's degree examinations and forming the overall grade**

- (1) Candidates have passed the master's degree examinations when they acquire 120 credit points in accordance with Art. 15, Section 1.
- (2) The overall grade in the German marking system is formed from the arithmetical average of the marks weighted with credit points for courses in accordance with Art. 7 (5) with examinations subject to registration and for the master's thesis.
- (3) The overall grade is shown below for an average value
- |                          |   |              |
|--------------------------|---|--------------|
| (a) To 1.5               | = | Very good    |
| (b) Above 1.5 and to 2.5 | = | Good         |
| (c) Above 2.5 and to 3.5 | = | Satisfactory |
| (d) Above 3.5 and to 4.0 | = | Sufficient.  |

When the overall grade is formed only the first decimal place after the decimal point is taken into account. All other places are deleted without being rounded. The overall grade in accordance with ECTS is formed using the evaluation standard in accordance with Art. 7, Section 2 on the basis of the overall grade in the German marking system.

- (4) Instead of the overall grade "Very good" in accordance with Section 3 the grade "Excellent" will be awarded if the master's thesis is marked 1.0 and the arithmetical average of the marks weighted with credit points for courses in accordance with Art. 15 with examinations subject to registration is not above 1.2.

## **Art. 22 Repeating the master's degree examinations and the master's thesis**

- (1) A passed exam subject to registration can not be repeated.
- (2) An examination subject to registration in courses of the master's degree examinations in which the candidate failed one or two times or was deemed to have failed may be repeated. Failures in these examinations in this or an equivalent course in another degree course at this university or in this or another degree course at other institutes of higher education will be included. If they fail the first repeat of a written examination in any compulsory course with written examinations subject to registration candidates must sit an oral supplementary examination. The candidates affected will be notified of the dates for the oral supplementary examinations not less than one week before the exact date of the examination by means of the notice board at the central examination office. Candidates will sit oral supplementary examinations in the form of individual examinations in accordance with Art. 9. If the candidate passes the oral supplementary examination the grade will be set at "Sufficient".
- (3) The master's thesis may be repeated once. However, a return of the subject for the master's thesis in the period stipulated in Art. 17, Section 5 is only permitted if the candidate did not make use of this possibility for the first master's thesis.
- (4) Examinations that are not subject to registration can be repeated any number of times.
- (5) A candidate shall be deemed to have finally failed the master's degree examinations if he or she can no longer acquire credit points in one of the courses with an examination subject to registration or with the master's thesis.

## **Art. 23 Certificate and Diploma Supplement**

- (1) Candidates who pass the master's degree examinations will be given a certificate showing the results where possible within four weeks after the evaluation of the master thesis. The dean of the Faculty of Electrical Engineering and Information Technology and the chair of the board of examiners will sign the certificate and the faculty seal will be affixed.
- (2) The certificate will show:
  - (a) The major field of study in accordance with Art. 17, Section 1,
  - (b) All subjects and practical courses in accordance with Art. 15, Section 1 where credit points have been acquired together with the acquired credit points,
  - (c) In addition, for the subjects with examinations subject to registration the corresponding grades according to Art. 7 (5) in both marking systems and the names of the competent examiners,
  - (d) The subject of the master's thesis, the grade awarded to the thesis and the names of the examiners,
  - (e) The overall grade in both marking systems.
- (3) The following can be included in the certificate upon application by the candidate:
  - (a) The names of the additional subjects in which the candidate passed examinations,
  - (b) The examination results for the additional subjects,
  - (c) The duration of the period of specialist study required to completion of the master's degree examinations.

- (4) The certificate shows that date on which the candidate sat the last examination.
- (5) The certificate will be written in German and English.
- (6) Beside the certificate the candidate receive a Diploma Supplement according to the "Diploma Supplements Model" of the European Union/Council of Europe/UNESCO. As illustration of the national educational system in section 8 of the Diploma Supplement a text in its relevant version, that is coordinated between the conference of the minister of education and the association of universities and other higher education institutions in Germany.
- (7) If a candidate is deemed to have finally failed the master's degree the chair of the board of examiners will notify him or her of this in writing. This notification must be accompanied by information on appeals.

#### **Art. 24 Master's degree certificate**

- (1) Together with the above examination certificate candidates will be given a master's degree certificate in German and an English translation of this certificate. The master's degree certificate shows the date of the examination certificate. The master's degree certificate documents the conferment of the university degree in accordance with Art. 2.
- (2) The dean and the chair of the board of examiners of the Faculty of Electrical Engineering and Information Technology will sign the master's degree certificate and the faculty seal will be affixed.

### **III. Concluding provisions**

#### **Art. 25 Invalidity of the master's degree examinations**

- (1) If a candidate cheats in an examination and if this fact does not become known until after the examination certificate has been handed over, the board of examiners can subsequently correct the grades that the candidate was awarded for performances in examinations in which he or she cheated and declare that the candidate has failed the examination in whole or in part.
- (2) If the preconditions for admission to an examination were not fulfilled without the candidate wanting to mislead in this regard and if this fact does not become known until after the examination certificate has been handed over, this defect is remedied by the candidate passing the examination. If the candidate intentionally brought about the admission wrongfully the board of examiners shall decide on the legal consequences in compliance with the Administrative Procedure Act for the land North Rhine-Westphalia.
- (3) The person concerned shall be given an opportunity to make a statement before a decision is taken.
- (4) The incorrect examination certificate shall be called in and where applicable a new one issued. The master's degree certificate and the Diploma Supplement shall

also be called in with the incorrect examination certificate if the candidate is deemed to have failed because of cheating. A decision under section 1 and section 2, sentence 2 is statute-barred after a period of five years after the examination certificate is issued.

#### **Art. 26 Inspections of examination files**

- (1) After completion of the examination procedure candidates may apply to inspect their written examination work, the reports on this from the examiners and the minutes of the examination.
- (2) Applications must be submitted within one month of the handing over of the examination certificate to the chair of the board of examiners who shall stipulate the place and time for the inspection.

#### **Art. 27 Deprivation of the master's degree**

Deprivation of the university degree in accordance with Art. 2 shall be based on the statutory provisions. The Faculty of Electrical Engineering and Information Technology is responsible for the proceedings.

#### **Art. 28 Temporary provisions**

- (1) These Examination Regulations applies to students that are enrolled in the Master's degree course "Automation and Robotics" at the University of Dortmund the first time in winter term 2004/ 2005.
- (2) The Examination Regulations of 9 / 27 / 2004 is ultimately applicable in summer term 2006. After expiration of this time limit these new Examination Regulations apply exclusively. If the examination procedures are continued after the expiration date the examination performances that are brought according to the Examination Regulations of 2002 are credited ex officio. The board of examiners decides In case of doubt.
- (3) The re-examinations are taken according to the Examination Regulations that applied to the initial examination.

#### **Art. 29 Effective date and publication**

- (1) These master's degree regulations shall come into force on .
- (2) These master's degree regulations shall be published in the official gazette of the University of Dortmund.

Done in accordance with the resolutions of the faculty council of the Faculty of Electrical Engineering and Information Technology and the Rector of the University of Dortmund of .

Dortmund,

Rector of the University of Dortmund

Professor Dr. Eberhard Becker