

# **Study and Examination Regulations**

**for the Master Programs  
of the**

**Hochschule Ravensburg-Weingarten – University of Applied Sciences**

dated June 27<sup>th</sup>, 2019

On July 2<sup>nd</sup>, 2015, pursuant to § 8 Sect. 5 in conjunction with § 30 Sect. 1 and § 32 Sect. 1 of the Baden-Württemberg Higher Education Act (Landeshochschulgesetz - LHG) of January 1<sup>st</sup>, 2005 (law gazette, page 1 ff) as amended from time to time, the Senate of the Hochschule Ravensburg-Weingarten – University of Applied Sciences enacted the following changes to the Study and Examination Regulations in compliance with § 19 Sect. 1 No. 9 LHG.

The Rector has approved the Study and Examination Regulations pursuant to § 32 Sect. 3 Sent. 1 LHG.

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## **§ 1 Scope of Application and Organisational Structure**

- (1) The present Study and Examination Regulations apply to the following Master programs of the Hochschule Ravensburg-Weingarten – University of Applied Sciences:
  1. Mechatronics (non-consecutive Master program)
  2. Social and Health Care Management (further education program)
  3. International Business Management (further education program)
  4. Environmental and Process Engineering (consecutive Master program)
  5. Computer Science (consecutive Master program)
  6. Business Informatics (consecutive Master program)
  7. Health Promotion Science (consecutive Master program)
  8. Product Development in Mechanical Engineering (consecutive Master program)
  9. Electrical Engineering and Embedded Systems (consecutive Master program)
  
- (2) The academic year is divided into semesters commencing on March 01<sup>st</sup> and September 01<sup>st</sup> respectively. The date on which the course of study can actually be commenced is laid down for each study program in the Admission Regulations.
  
- (3) The provisions as laid down in the General Part (A) shall apply unless otherwise stipulated in the Special Part of the present Study and Examination Regulations.

## A. General Part

### § 2 Objective of the Study, Purpose of the Examination, Academic Degree

- (1) The Master examination terminates the post-graduate Master program by conferring a further professional qualification degree. The Master examination is designed to establish if students are able to understand the contexts of their field of study, if they possess the ability to independently apply scientific methods and findings and to develop them further and if they have acquired the specialized knowledge necessary for academic work.
- (2) As a rule, the module-related examinations of the Master examination are course-related and will be taken during or at the end of the respective course.
- (3) The project work and the Master's thesis are generally not course-related.
- (4) Successful passing off the Master examination leads to the following degrees awarded by the Hochschule Ravensburg-Weingarten – University of Applied Sciences:
  - for the study program "Mechatronics", the degree of "Master of Science", abbreviated "M.Sc."
  - for the study program "Social and Health Care Management", the degree of "Master of Business Administration", abbreviated "MBA"
  - for the study program "International Business Management", the degree of "Master of Business Administration", abbreviated "MBA"
  - for the study program "Environmental and Process Engineering", the degree of "Master of Engineering", abbreviated "M.Eng."
  - for the study programs "Computer Science" and "Business Informatics", the degree of "Master of Science", abbreviated "M.Sc."
  - for the study program "Health Promotion Science", the degree of "Master of Arts", abbreviated "MA"
  - for the study program "Product Development in Mechanical Engineering", the degree of "Master of Science", abbreviated "M.Sc."
  - for the study program "Electrical Engineering and Embedded Systems", the degree of "Master of Engineering", abbreviated "M.Eng."
- (5) The Master's degree can only be conferred if the candidate has achieved 300 ECTS credit points, including the credits earned during the previous study.

### § 3 Official Length of Program, Organisation of Studies

- (1) The official length of program including the time provided for completing the Master's thesis and passing all examinations is laid down in the Special Part of the present Study and Examination Regulations.
- (2) At all stages, the study is structured modularly. A module designates an individual course or a group of courses which are interrelated in terms of topic and time and to which a certain number of credits are assigned depending on the expenditure of time required for the successful completion of the course. These credits are not awarded for mere attendance, but only if proof of a specific accredited

examination can be provided. Assignment of credits is effected in compliance with ECTS (European Credit Transfer System), with one credit point corresponding to the sixtieth part of the student's annual working time (30 hours).

- (3) The University shall ensure by the range of courses offered that examinations can be performed within the limits defined in the present Examination Regulations and that the courses can be offered to the extent necessary.
- (4) Upon decision by the responsible faculty council, courses may also be offered in the English language.
- (5) In particular cases and upon decision by the responsible faculty council, the sequence and the type of modules/courses and examinations as laid down in the Special Part hereof can be changed for one academic semester and for compelling reasons to ensure the smooth running of the study.

#### **§ 4 Type and Structure of the Examination**

- (1) The Master examination consists of tests in the various modules and the Master's thesis as well as the Master colloquium, if applicable, according to the Special Part hereof.
- (2) The Special Part hereof specifies for the Master examination which module examinations must be taken in the mandatory and the electives parts respectively.

#### **§ 5 Scope of the Examination, Deadlines**

- (1) To successfully complete the studies, it is necessary to earn a specific total of credits as defined in the Special Part hereof. Credits are awarded for passed module examinations or other accredited exams, the applicable number of credit points being defined in the Special Part hereof.
- (2) Students who have not obtained the required number of credits by the end of the official length of the program plus 3 semesters will lose their examination entitlement for the study program concerned unless they cannot be held responsible for their failure to observe the deadline. If the student is to be held responsible for exceeding the deadline will be determined by the Central Examination committee.

#### **§ 6 Repeatability of Examinations**

- (1) Failed examinations can be repeated once. It is not possible to repeat a passed exam. Failures in the same study program at other German universities will be taken into account.
- (2) Failed compulsory exams and compulsory exams deemed failed (in modules or in parts thereof) must be retaken. A failed Master's thesis can be repeated once.
- (3) The resit must be completed in the framework of the examination dates of the following semester at the latest. Failure to observe the deadline for resitting the examination will lead to expiry of the examination entitlement, unless the examination candidate cannot be held responsible for the failure, the decision being made by the Central Examination Committee.
- (4) The Examination Committee can allow a second resit of a failed examination if it can be expected from the student's previous academic performance as a whole that he/she is in the position to successfully complete his/her studies and if evidence has been given to show that a special hardship exists resulting from an extraordinary impairment of the first resit. Section (3) will apply accordingly.

## **§ 7 Forms of Examination**

- (1) In compliance with the Special Part hereof, accredited examinations can have the following forms:
  1. oral examination and
  2. written examination or any other written paper (e.g. term paper, report)
  3. seminar paper
  4. laboratory work
  5. designs and
  6. practical work or
  7. team work
  8. portfolio
- (2) As a rule, the examinations shall be taken during the examination weeks outside the lecture period of the academic semester.

## **§ 8 Oral Examinations**

- (1) By taking oral examinations, students shall prove their ability to understand the contexts of the field to be tested and to deal with specific issues in the light of these contexts. Furthermore, it shall be determined if the student has a broad basic knowledge.
- (2) As a rule, oral examinations shall be taken before at least two examiners or before one examiner and one competent assessor as a group or individual examination. Before determining the grade pursuant to § 11, each examiner will hear the other examiners who attended the exam or the competent assessor.
- (3) Oral examinations shall have a duration of at least 20 minutes for each candidate and course, up to a maximum of 30 minutes.
- (4) The major contents and the results of the oral examinations must be laid down in the minutes. The tested candidate must be informed of the result subsequent to the examination.
- (5) Students wishing to take the same examination on an examination date later than the ongoing examination period shall be admitted as listeners unless the tested candidate disagrees. However, such admission will not include consultation and announcement of the examination results.

## **§ 9 Written Examinations and other Written Papers**

- (1) Through the written examinations and the other written papers, students shall prove their ability to solve problems and work on topics within a limited period of time and with limited auxiliary means, thereby using the established methods of their subject. Moreover, the written examination aims to verify if the student possesses the required basic knowledge.
- (2) The assessment procedure shall not exceed four weeks.
- (3) The duration of the written examinations and the other written papers are defined in the Special Part hereof.

## **§ 10 Master's thesis**

- (1) The Master's thesis is an accredited examination which shall prove the candidate's ability to solve problems and work on a topic from the subject-matter of the subject chosen from the Master

program, within a specified period of time using scientific methods. Credits are earned for the Master's thesis according to the Special Part hereof.

- (2) The Master's thesis will be issued by a professor. The supervision will be done by a professor and an other professor. Wherein one of the professors have to be out of the circle of the study program supporting professors.
- (3) It is the responsibility of the Examination Committee to issue the Master's thesis. Topic, day and time must be officially recorded. Students have the possibility to express preferences as to the topic of their thesis. Upon request, the Examination Committee will arrange for the timely issuance of the Master's thesis.
- (4) It is possible to complete the Master's thesis in the form of group work provided that the contribution of each student involved can be clearly identified and assessed, through indication of paragraphs, page numbers or other objective criteria permitting a clear delimitation, and provided that the requirements under section (1) are met.
- (5) The time allowed for completing the Master's thesis is six months. If required in order to ensure equal examination conditions or on grounds for which the candidate cannot be held responsible, the Examination Committee can decide to extend the completion time for a maximum of three months, the decision being taken on the basis of a statement to be made by the supervisor. The supervisor shall limit topic, task assignment and scope of the Master's thesis in such way that the student is able to observe the deadline for completion of the thesis.
- (6) Two copies of the Master's thesis must be submitted to the Examination Committee in due time. The time of handing in the paper must be officially recorded. On submittal, the student will be required to assure that he has written the work presented in this thesis independently and that he did not use any sources or auxiliary means other than those referenced. In the case of group work, this shall apply accordingly to his adequately identified parts of the paper.
- (7) As a rule, the Master's thesis will be graded by two examiners to be appointed by the Examination Committee. Usually, one of the examiners will be the supervisor of the Master's thesis. The evaluation procedure shall not exceed four weeks.
- (8) In order to pass their Master's thesis, candidates will need an overall grade of at least "fair" (4.0). It is possible to repeat it once, a second repetition being excluded. A new topic for the Master's thesis must be applied for in writing with the chairperson of the Examination Committee within a period of two months after notification of the failure. Failure to observe the application deadline will result in the student losing his entitlement to take the exam unless the person to be tested cannot be held responsible for the non-observance.

## § 11 Evaluation of Examinations

- (1) The grades for the different examinations will be determined by the examiners involved. The following grades must be used for the assessment of the exams:

1 = very good	An excellent performance
2 = good	A performance well above average requirements
3 = satisfactory	A performance which fulfils all normal requirements
4 = fair	A performance which meets the requirements despite some weaknesses



5 = fail	A performance which due to considerable weaknesses does not meet the requirements
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To differentiate the evaluation of the examinations, it is possible to use decimal grades in 1/10 intervals with 1.0 being the best and 5.0 the worst grade.

- (1) If an examination is evaluated by more than one examiner (each examiner evaluates the entire examination), the grade shall be calculated from the average of the grades fixed by each examiner. To determine the grade of an examination, where several examiners assess different parts of the examination, the grade shall be determined on the basis of the total number of points to be achieved. If a course achievement/examination consists of several tests, the grade for that course achievement/examination is calculated on the basis of the average grades of the individual tests weighted according to the number of ECTS credits. The following grades shall be used:
 

for an average up to 1.5	= very good;
for an average from 1.6 to 2.5	= good;
for an average from 2.6 to 3.5	= satisfactory;
for an average from 3.6 to 4.0	= fair;
for an average of 4.1 or worse	= fail.
- (2) When fixing the grades only the first decimal will be taken into account; all other decimals will be dropped without rounding.
- (3) The overall Master grade is calculated on the basis of the module grades achieved during the basic and main study periods weighted according to the number of ECTS credits (weighted arithmetic mean) as laid down in the Special Part hereof and the grade for the Master's thesis weighted according to the Special Part hereof. Ungraded partial tests of a module will not be taken into account for the calculation of the module grades. However, as the weight of these grades contributes to the weight of the entire module, they will affect the calculation of the overall Master grade.
- (4) For outstanding performances (overall grade 1.3 or better), the overall assessment "pass with distinction" (*"mit Auszeichnung bestanden"*) will be awarded.
- (5) The final grade as documented in the Diploma Supplement will be awarded as relative grade according to the following table:
 

A	the best 10 % of the graduates
B	the next 25 % of the graduates
C	the next 30 % of the graduates
D	the next 25 % of the graduates
E	the next 10 % of the graduates

This relative grading system is used if the number of graduates of the past three semesters is at least 30. Otherwise no relative grade will be awarded; instead the grades are determined as follows:

- |   |                                |
|---|--------------------------------|
| A | for an average of up to 1.5    |
| B | for an average from 1.6 to 2.0 |
| C | for an average from 2.1 to 2.5 |
| D | for an average from 2.6 to 3.5 |
| E | for an average from 3.6 to 4.0 |

- (6) Recognition and conversion into the German grading system of examinations taken abroad and stated as ECTS grades are based on the following table:
 

A	=	1.2
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B =	1.8
C =	2.3
D =	3.0
E =	3.8
F =	4.5

## § 12 Withdrawal, Default, Deceit, Breach of Regulations

- (1) An examination will be graded with "fail" (5.0) if the candidate fails to attend the examination or if he withdraws his registration for the examination without convincing cause. This applies accordingly if a written examination is not completed within the prescribed length of time.
- (2) The good reason brought forward for the withdrawal or default must be immediately notified to the chairperson of the Examination Committee in writing and evidence must be furnished. In cases of illness, a certificate of incapacity to sit the examination, completed by a doctor, will be required and must be submitted within 14 days. In case of doubt, such attestation can be requested from a doctor named by the University. Should the reason given be accepted, a new examination date will be fixed with the examination results already obtained being taken into account.
- (3) Should the candidate try to influence examination results through deceit or use of auxiliary means other than those referenced, the examination concerned will be graded with "fail" (5.0). Whoever disturbs the orderly course of the examination can be excluded from continuing the examination by the responsible examiner or supervisor, in which case the examination will be graded with "fail" (5.0). In severe cases, the Examination Committee can exclude the candidate from taking further examinations.
- (4) The person concerned by the decision may, within a period of one month, request the decision taken under section (4), sentences 1 and 2 to be reviewed by the Examination Committee. Decisions to their disadvantage must be notified to the candidate without delay and in writing stating the reasons and providing information on the legal remedies available.

## § 13 Passing of Examinations

- (1) An accredited examination is deemed to be passed if it has been graded with "fair" (4.0) or better.
- (2) The Master's examination is deemed to be passed if the Master's thesis and all the required module examinations have been passed, subject to the ancillary conditions specified in the Special Part hereof.

## § 14 Definite Failure of the Master Examination

- (1) The Master examination is deemed definitely failed if
  - the candidate's second attempt at passing the Master's thesis was unsuccessful or deemed unsuccessful
  - the second repetition of module examinations or related accredited exams has failed
  - the candidate has forfeited his examination entitlement for reason of non-observance of the deadlines.
- (2) The candidate will be notified in writing about his definite failure in the examination and informed about the legal remedies available.

## § 15 Recognition of Study Periods, Course Achievements and Examinations

- (1) Periods of study, course achievements and accredited examinations will be transferred without verification of equivalency if the same have been completed at another German institution of higher education of the same type and in the same study program.
- (2) Periods of study, course achievements and accredited examinations in study programs not covered by section 1 will be accredited in compliance with the statutes on the recognition of courses and examinations (*Satzung über die Anrechnung von Studien- und Prüfungsleistungen*) at the University of Applied Sciences Ravensburg-Weingarten as applicable from time to time, if the competencies acquired do not differ significantly from the course achievements/examinations to be replaced.

## § 16 Examination Committee

- (1) An examination committee shall be set up for each study program to organise the Master examinations and to complete the tasks assigned through these Study and Examination Regulations. As a rule, the Examination Committee comprises seven members usually appointed for a term of four years.
- (2) The chairperson (Head of study program), his deputy, the other members of the Examination Committee and their deputies shall be appointed by the faculty to which the study program belongs from the ranks of the corresponding faculty's professors as well as from the ranks of the professors of other faculties holding lectures in that study program on a regular basis. The internship supervisor shall ex officio be member of the Examination Committee. It is possible to call upon the Head of the Central Examination Office, other professors, contract instructors and teachers for special assignments to obtain their opinion. As a rule, the chairperson will be responsible for the day-to-day business of the Examination Committee.
- (3) For the Master program in Mechatronics, the Examination Committee will consist of two representatives of each of the faculties "Mechanical Engineering", "Technology and Management", and "Electrical Engineering and Computer Science", as well as the head of the study program. It is possible to call upon the head of the Central Examination Committee, other professors, contract instructors and teachers for special assignments to obtain their opinion. As a rule, the chairperson will be responsible for the day-to-day business of the Examination Committee.
- (4) The Examination Committee shall ensure that the provisions of the Study and Examination Regulations be adhered to. It will make suggestions for the reform of the syllabus or the study and examination regulations. The Examination Committee can entrust the chairperson with some of its tasks.
- (5) The members of the Examination Committee have the right to attend examinations.
- (6) The members of the Examination Committee and their deputies are bound to professional discretion. Insofar as they are not employed in the public sector, they will be committed to confidentiality by the chairperson.
- (7) A Central Examination Committee will be created to support the Examination Committee. Academic advice will be provided by the Vice-Rector for Student Affairs and Quality Management.
- (8) The Central Examination Committee consists of the Vice-Rector for Student Affairs and Quality Management as chairperson, the Vice-Rector for Teaching, Further Education & Student Affairs and Wellbeing and the deans. The Head of Student Administration Office will attend the meetings of the Central Examination Committee in an advisory capacity. It is possible, in individual cases, to call upon contract instructors or other professors to obtain their opinion. The Central Examination Committee

can appoint a representative who will be in charge of the organizational and academic coordination of the examinations.

- (9) For the Master program in Environmental and Process Engineering, two examination committees shall be set up as defined in the cooperation agreement and in compliance with §34 UG (*German University Act*). It will consist of five members, who, as a rule, are appointed for a term of office of three years. The members are recruited from the universities involved in the cooperation and will be appointed by the faculties/departments concerned (Hochschule RV-Wgt: 2; FH Konstanz: 2; ZHW: 1). The chairperson and his/her deputy will be elected by the members of the Examination Committee.

## **§ 17 Examiners and Assessors**

- (1) As a rule, only professors are entitled to conduct examinations which are not directly course-related. Contract instructors and teachers for special assignments may be appointed as examiners, if no professor is available as examiner. It is likewise possible to appoint experienced persons who have the necessary academic and professional qualifications to conduct the examination and who possess at least the same (or an equivalent) qualification as the one to be determined through the examination.
- (2) The examiners' names shall be disclosed to the candidate in due time.
- (3) To be appointed assessor, it is necessary to possess at least the same or an equivalent qualification as the one to be determined through the examination.
- (4) § 16 Sect. 6 shall apply accordingly to examiners and assessors.

## § 18 Responsibilities

- (1) The tasks of the Central Study Committee are as follows:
  1. Recommendations concerning the development of the individual study programs with regard to the guidelines of the Standing Conference of the Ministers for Education and Cultural Affairs (*Kultusministerkonferenz*) and the Accreditation Council.
  2. Coordination to ensure a uniform implementation of the Study and Examination Regulations.
  3. Preparation of the resolutions by the Senate on the Study and Examination Regulations if cross-faculty issues are concerned. The preparation of the resolutions lies primarily with the deans represented in the Committee (cf. § 26 (4) Baden-Württemberg Higher Education Act – LHG). Members of the Central Study Committee are: the dean of each faculty (cf. § 24 (5) S. 4 Baden-Württemberg Higher Education Act – LHG), Vice-Rector for Teaching, Further Education & Student Affairs and Wellbeing, the Vice-Rector for Student Affairs and Quality Management (chairperson) as well as the Head of Student Administration Office in an advisory capacity.
- (2) The tasks of the Central Examination Committee are as follows:
  1. Coordination of the organization and the conduct of the module examinations and other accredited examinations.
  2. Decision on study and examination issues in cases of objection.
  3. Recommendations on the further development of examination regulations with regard to number, type and structure of examinations.
- (3) The tasks of the examination committees of the individual study programs are as follows:
  1. Decision on the consequences of breaches of examination regulations (§ 12)
  2. Decision on pass and fail (§ 12 and § 13)
  3. Decision on a second repetition (§ 6 Sect. 4)
  4. Decision on the appointment of examiners and observers (§ 17)
  5. Decision on the organization and conduct of examinations and course achievements
  6. Decision on the withdrawal from examinations (§ 12)
  7. Approval of the training institution/company for internship and practical semester in cases of doubt
  9. Decision on the admission to examinations and course achievements in cases of doubt
  10. Decision on the transfer of course achievements and examinations
  11. Decision on the recognition of other periods of study
  12. Decision on the issue of Master's theses and the extension of the completion time
  13. Decision on the invalidity of the Master's examination
  14. Comment on study and examination issues in cases of objection
  15. Comment with regard to the compatibility of deviating courses of studies according to § 27.
- (4) The tasks of the Central Examination Office are as follows:
  1. Management of all examination-related documents
  2. Admission to course achievements and other examinations
  3. Preparation and issue of examination-related notifications, attestations, certificates and other documents
  4. Proceedings concerning examination deadlines and official lengths of program
  5. Support of the examination committees

## **§ 19 Organisation of Examinations**

- (1) The decision on the university-wide examination period as well as the related periods of time provided for exam registration and cancellation of an exam registration lies with the Senate. As a rule, the university-wide examination period, for each semester, will commence at the beginning of the lecture-free period. The period provided for exam registration and cancellation of an exam registration is published on the University homepage, under "University calendar". It is the students' responsibility to inform themselves about the periods of time stated. Exam registration and cancellation of an exam registration is effected electronically via "My Campus (LSF)". In exceptional cases, it is possible to register for an examination or cancel an examination registration in writing, within the deadlines provided. Reasons for such exception must be given by the students and evidence must be provided.
- (2) Students will be notified of the place and time of the individual examinations taking place during the university-wide examination period in the form defined by the Examination Office.
- (3) Examinations organized by the examiner himself/herself shall be held during or at the end of the lecture period.
- (4) For cooperation programs, exam registration and cancellation of the exam registration must be effected at the university where the student is enrolled.

## **§ 20 Admission to Examinations**

- (1) Students enrolled for the corresponding study program who have not forfeited their examination entitlement in this or a related study program will be permitted to take examinations under the present Examination Regulations. Prerequisites for admission to module examinations or other accredited examinations or to the Master's thesis as may be specified in the Special Part hereof must be fulfilled.
- (2) Students who have already passed the final examination of the corresponding study program will not be admitted.
- (3) Students shall be notified of their admission or non-admission in the form defined by the examination office.
- (4) The examination entitlement will expire six weeks after the end of the semester in which the removal from the register of students has occurred.

## **§ 21 Information about Examination Results**

- (1) The examiner will inform the Examination Office of the examination results according to the modalities defined for the various examination types within the scheduled time frame.
- (2) The Examination Office will inform the candidates of the examination results according to the modalities defined for the various examination types.
- (3) After passing an examination, the student's account will be credited with the corresponding ECTS credits. Provided that it is feasible from an organizational point of view, students can inspect their accounts at any time.

## **§ 22 Certificates, Master Diploma**

- (1) The student will receive a certificate of the passed Master examination without delay, if possible within four week. The certificate shall state the major field of study chosen and shall include the modules with the corresponding grades, the topic and the grade of the Master's thesis as well as the overall grade. The certificate shall bear the date of the day on which the last examination was taken and must be signed by the rector, the vice-rector and the dean of the graduate's faculty. For cooperation programs, the certificate will be signed by the rector of the university at which the student is enrolled.
- (2) Together with the certificate, the graduate will receive the Master diploma showing the date of the certificate and certifying the award of the Master degree pursuant to § 2 Sect. 4. The Master diploma will be signed by the rector and the faculty dean and bear the official university seal. For cooperation programs, the Master diploma will be signed by the rector of the university at which the student is enrolled.
- (3) In addition, the graduate will receive a "Diploma Supplement" in English and German containing a detailed uniform description of higher education degrees. This provides information on course contents, the study process and the academic and professional qualifications acquired with the degree. The Diploma Supplement will be signed by the chairperson of the Examination Committee.
- (4) Upon request, the candidate will receive attestations on passed examinations prior to the delivery of the certificate.
- (5) The Master certificate will only be delivered on the condition that an attestation of discharge from administration exists. For cooperation programs, attestations of discharge from the universities concerned must be submitted.

## **§ 23 Invalidity of the Master Examination**

- (1) In the event that a candidate has cheated in an examination and should this fact be disclosed only after delivery of the certificate, the grade of the corresponding examination can be rectified pursuant to § 15 Sect. 4. This may include the particular examination to be declared as "fail" (5.0) and the Master examination as failed. The same applies accordingly to the Master's thesis.
- (2) In the event that the prerequisites for admission to the examination have not been fulfilled without any attempt by the candidate to cheat and should this fact be disclosed only after delivery of the certificate, then this error will be remedied by successful passing of the examination. If the student has deliberately wrongfully obtained admission to the examination, the examination may be declared as "fail" (5.0) and the Master examination as failed.
- (3) Before a decision is taken, the person concerned shall be given the opportunity to comment.
- (4) The incorrect examination certificate shall be withdrawn and, if applicable, a new one issued. The Master diploma shall also be withdrawn together with the incorrect examination certificate, if the examination was declared "failed" due to the deceit. A decision under section (1) and section (2), sentence 2 is excluded after a period of 5 years from the date of the examination certificate.

## **§ 24 Inspection of Examination Records**

- (1) Upon request, the candidate will be granted inspection of his written examinations, the relating examiners' evaluations and the minutes of the examination within six months after completion of the examination procedure.
- (2) The application for inspection shall be filed with the chairperson of the Examination Committee who will fix the time and place of the inspection.

## § 25 Special Provisions for Students with Family Care Responsibilities

- (1) Students using their right to paternal leave under § 15 Sections 1 to 3 of the German Federal Law on Parental Benefit and Parental Leave (*Bundeseltern- und Elternzeitgesetz*) and students in charge of nursing a close relative within the meaning of § 7 Sect. 3 of the German Home Care Leave Act (*Pflegezeitgesetz*) are entitled to take advantage of the special provisions as laid down in sections 2 to 5 hereof. The entitlement will commence at the beginning and expire at the end of the semester in which the conditions as mentioned in sentence 1 are given or do not apply any more. Beneficiaries must provide evidence thereof and are obligated to notify the Examination Office without delay of any occurrence, changes or non-applicability of the conditions as mentioned in sentence 1 hereof. Any notifications shall be addressed exclusively to the Examination Committee.

In derogation from the provisions of the Federal Law on Parental Benefit and Parental Leave, the entitlement persists until the child receiving care has reached the age of nine. The need for nursing care is governed by §§ 14 and 15 of Volume 11 of the German Social Security Statutes (*Elftes Buch Sozialgesetzbuch*).

- (2) Students belonging to the group of people as defined in section 1 shall be entitled to take individual examinations at a time later than the deadlines laid down in Part B hereof; the same applies accordingly to the deadlines for completing course achievements. The following regulations shall apply:
- (3) Students who, before the final thesis has been issued to them, furnish evidence of the fact that their family obligations will extend beyond the length of time provided for the completion of the thesis, can apply for the issue of a final thesis for which the completion time can be extended by 50 % (fifty per cent). In the event that the care obligations occur after the commencement of the completion time of the thesis, the student can file an application with the Examination Office for the remaining completion time to be extended by 50 % (fifty percent), calculated from the time of commencement of the care obligation until the time of handing in the thesis. Alternatively, upon request by the student, the thesis will be deemed as not issued. The student will receive a new topic after expiration of the care period.
- (4) Insofar as the observance of deadlines for the first examination registration, the repetition of examinations and the reasons for default on examinations already registered for is concerned, any illness of the student shall be deemed equivalent to an illness of a child under their care.
- (5) Students belonging to the group of people as mentioned in section 1 are entitled to attend courses, sit examinations and use University institutions during a semester off, if the leave of absence has a causal link with their duty of care.

## § 26 Special Protection during Pregnancy

- (1) Students are entitled to periods of protection according to § 3 Section 1, § 6 Section 1 of the German Maternity Protection Act (*Mutterschutzgesetz*). To this effect, notification must be given to the Examination Office and a doctor's certification must be provided. With respect to the study progress, this shall be deemed equivalent to a leave of absence. During such times, students are entitled to attend courses, sit examinations and use University institutions.
- (2) In the framework of work completed in laboratories or studios, the protective provisions of § 4 of the Maternity Protection Act shall apply. Notification of the pregnancy must be given to the person in charge of the laboratory or the studio.



## **§ 27 Students with Disabilities or Chronic Illness**

- (1) In the case that a student is handicapped by a permanent disability or a chronic illness specially aggravating the completion of courses or examinations within the time limits as defined in § 9, the Central Examination Committee may, upon written request, declare an individual study plan to be binding. The individual study plan must comprise at least two course achievements in each subject-related semester.
- (2) Should the examination candidate be handicapped by a permanent or temporary disability or chronic illness aggravating the completion of an examination in the prescribed form, then the competent examination committee may, upon written request, take appropriate measures to compensate for the handicap or – insofar as proof can be given that equivalent examination objectives can also be achieved through a different examination form – permit the completion of the examination in a different form. Production of proof that the skills relating to the performance level of the examination have been acquired must not be waived.
- (3) Any application under section 1 must be addressed to the Central Examination Committee. Applications under Section 2 must be addressed to the examination committee of the study program concerned. The following evidence must be provided:
  1. In the case of a disability a copy of the valid certificate of disability must be enclosed.
  2. A doctor's certificate including the necessary findings and stating the handicaps and their impact on the study or the individual examinations. The form for requesting a compensation for disadvantages made available by the University, must be used to this effect. In addition, the Examination Committee may request an attestation by a doctor named by the Committee.
  3. When filing an application under section 1, the student must additionally submit a draft of the individual study plan signed by the head of the study program.

## **§ 28 Special Provisions for Elected Student Members in Statutory Bodies and Organs of the University or the Student Services**

- (1) An activity as elected member in statutory bodies or organs of the University or the Student Services during at least one year can be taken into account for the calculation of the examination deadlines pursuant to § 32 (6) LHG, however this will be limited to one year. The decision lies with the Rector upon the student's request.
- (2) Through their active participation in bodies and organs as mentioned in section 1, the students will acquire core competencies, which can be accredited as partial course achievement in the framework of a module aiming at conveying such competencies, and up to five ECTS credits can be granted for this. The decision lies with the Rector upon the student's request.
- (3) The special provisions as laid down in section (1) and (2) may only be used alternatively.

## **B. Special Part**

## **§ 29 Master Study Program Mechatronics**

### **(1) Non-consecutive study program**

The non-consecutive study program of Mechatronics comprises three semesters and has been designed for graduates of technical or scientific programs possessing at least a Bachelor or a Diploma degree.

#### **Individual timetable**

Before commencing their studies, each student will receive an individual timetable composed by the responsible examination committee and selected from the tables 1 and 2. The courses will be selected so as to ensure a subject-related complement of the students' varying previous qualifications and educational backgrounds on the one hand and the achievement of at least 30 credits on the other hand.

The individualized timetable will be set up to include the courses from table 1 provided these have not already been completed previously. Students have to specialise in the semester MM2 they have to choose courses from table 2 (Special Modules) totalling at least 6 Credits. If, due to the recognition of previously passed accredited examinations as required as per table 1 and 2, the number of remaining courses is not sufficient to achieve the required number of credits, courses preferably from table 3 will be added. Furthermore, upon consent of the chairperson of the examination committee (Master Mechatronics) further courses can be chosen from the University's range of Mastercourse offerings.

Students are required to perform a scientific project work (Scientific Project) in one of the University's laboratories. The project must be completed by the end of semester MM2 and must be carried out alongside the lecture period or in the lecture-free period. This project shall include a part from the field of engineering science, in which the student will work on an interdisciplinary issue. In an introductory part, aspects of project management and intercultural co-operation shall be presented and tested. The scientific project shall be graded by two professors and close with a report summarizing the results achieved. The results shall be presented in a talk open to all members of the university. Before the commencement of semester MM3, the report must be submitted to the chairperson of the responsible examination committee for approval.

The third curricular semester shall be primarily dedicated to the completion of the Master's thesis. However, mandatory or elective modules may also be scheduled alongside the Master's thesis.

#### **Credits**

Courses as well as related course achievements and accredited examinations corresponding to at least 90 credits are required for successful graduation from the non-consecutive study program. Credits are earned according to tables 1 and 2.

Graduates of Bachelor degree programs, the study includes only 180 credits must prove additional courses from the fields of mechatronics worth 30 credits or provide during the master's program, which must be approved by the Examination Committee. These 30 credits are included in the Diploma Supplement, but do not go into the overall grade for the master's degree.

### **(2) Language of instruction**

Courses must be offered in the English language.

### (3) Accredited examinations

The accredited examinations provided for semesters MM1, MM2 and MM3 are specified in tables 1 and 2. The type of examination and coursework required for the courses accompanying the studies as well as their scope is determined as follows:

Type of course	VL	Lecture
	Ü	Laboratory / practical course / Exercise
	SP	Seminar / tutorial held / Project
Type of exam	K (xx)	Written test with a duration of xx minutes
	M	Oral examination
	R	Seminar paper
	PA	Practical work (lab, term paper, exercise or seminar paper)
	PR	Project work
	MT	Master-thesis
Scope of exam	SWS	Semester hours
	CP	Credit points in compliance with the European Credit Transfer System

For tutorials held by the student, the corresponding credits earned may not exceed a total of 5 points. In case of doubt the responsible examination committee will decide upon the number of credits to be granted.

### (4) Master's thesis

The Master's thesis can only be commenced if all courses and coursework required for semesters MM1 and MM2 have been completed corresponding to a minimum of 55 credit points.

The Master's thesis should not be conducted in the home country of the student. This means that German students, as a rule, must perform their Master's thesis at selected partner universities. Exceptions require the approval of the chairperson of the Examination Committee. Graduates of a foreign university will as a rule complete their Master's thesis at the Hochschule Ravensburg-Weingarten – University of Applied Sciences. In both cases the Master's thesis may be performed in cooperation with a company.

The Master's thesis must be presented in the English language. Should the Master's thesis be completed at a partner university, it will be supervised and graded jointly by a professor of the Hochschule Ravensburg-Weingarten – University of Applied Sciences and a professor from the partner university. If the Master's thesis is completed at neither a partner university nor the Hochschule Ravensburg-Weingarten, it will be evaluated by two professors of the Hochschule Ravensburg-Weingarten. After completion, the results of the Master's thesis will be presented publicly at the Hochschule Ravensburg-Weingarten.

### (5) Master certificate

The Master certificate will be issued in the English language. The certificate will show all module examinations passed as per tables 1 to 3, as well as the Master's thesis. Upon application,

additional modules can be included in the Master certificate, however without being taken into account for the calculation of the overall grade.

**(6) Overall grade**

The module examinations passed as well as the Master's thesis will be entered into the calculation of the average grade, weighted according to the credit points earned.

**Table 1: Modules for curricular semesters MM1 to MM3**

Modul	Lehrveranstaltung	Art	Zugeordnetes Fachsemester						Prüfungsleistung	
			MM1		MM2		MM3			
			SWS	CP	SWS	CP	SWS	CP		
Mathematics	Advanced Mathematics for Engineers	V	4	10					PF	
	Advanced Mathematics for Engineers - Lab	L	4							
Electrical Drives	Electrical Drives	V	4	5					K90	
Power Electronics	Power Electronics	V	4	5					K90	
Engineering Design and Materials	Engineering Design and Materials	V+Ü	6	6					K90	
Engineering Mechanics	Engineering Mechanics	V	6	6					K90	
Integration of Mechatronic Systems	Integration of Mechatronic Systems	V			4	5			K90	
Process Interface Equipment	Process Interface Equipment	V			4	8			K90	
	Laboratory on Process Interface Equipment	L			2					
Simulation of Mechatronic Systems	Simulation of Mechatronic Systems	V	4	5					K90	
Scientific Project	Working in International Scientific Project Teams	S			1	6			PR	
	Scientific Project	P			4					
Advanced Control Systems	Digital Control	V			2	5			K60	
	Digital Control Lab	L			2					
Automation	Automation	V			4	5			K90	
Embedded Computing	Embedded Computing	V	4			10			PF	
	Embedded Computing Lab	L			2					
	Embedded Project	P			3					
Special Module	Tab. 2				6	8				
Optional Module	Tab. 3						4	5		
Master-Thesis	Master-Thesis incl. Colloquium							25	MT	
Summen			361)	(X) <sup>1</sup>	341)	(X) <sup>1</sup>	4	30		

(X) depending on the individual timetable, only part of the modules must be enrolled for (cp. § 29 Section 1)

**Table 2: Special Modules**

Modul	Lehrveranstaltung	Art	Zugeordnetes Fachsemester						Prüfungsleistung
			MM1		MM2		MM3		
			SWS	CP	SWS	CP	SWS	CP	
Robotics	Robotics	V			4				K90
	Lab on Robotics	L			2	8			

**Table 3: Optional Modules**

Modul	Art der Veranstaltung	Art der Prüfungsleistung	SWS	Credits
Industrial Project	P	PR	4	5
Research Project	P	PR	4	5
PLC Programming	P	PR	4	5
Systems Analysis and Simulation with LabView	V	PF	4	5

## **§ 30 Master Study Program Electrical Engineering and Embedded Systems**

### **(1) Consecutive study**

The consecutive Master program of Electrical Engineering and Embedded Systems comprises three semesters and has been designed especially for graduates of electrical engineering and computer science programs having at least a Bachelor or a Diploma degree.

The curriculum for the Master program Electrical Engineering and Embedded Systems is shown in tables 1 and 2.

One elective course has been scheduled for the second semester (EMM2). At the beginning of the lecture period (no later than three weeks after lecture start), the examination committee will publish the permissible elective subjects with a notice on the bulletin board.

There are two course specialization possible: Autonomous Driving and IoT (Internet of Things). The students have to choose one of both.

Students are required to complete a scientific project work (engineering project) in one of the university's laboratories. The project must be finished by the end of the second semester (EMM2) and must be performed alongside the lectures or in the lecture-free period. The project shall comprise a part from the field of engineering science, i.e. the student shall work on an issue related to electrical engineering. In an introductory part, aspects of project management shall be presented and tested. The engineering projects shall close with a report summarizing the results achieved. The results shall be presented in a talk open to all members of the university.

The third semester (EMM3) shall be dedicated primarily to the completion of the Master's thesis.

#### Credits

Courses as well as related course achievements and accredited examinations corresponding to at least 90 credits are required for successful graduation from the non-consecutive study program. Credits are earned according to tables 1 and 2.

### **(2) Language of instruction**

Courses are offered in the English language.

### **(3) Accredited examinations**

The accredited examinations provided for semesters EMM1, EMM2 and EMM3 are specified in tables 1 and 2. The type of examination and coursework required for the courses accompanying the studies as well as their scope is determined as follows:

Type of course	V	Lecture
	L	Laboratory / practical course
	Ü	Exercise
	S	Seminar / tutorial held
	P	Project



Type of exam	MT	Master's Thesis
	K (xx)	Written test with a duration of xx minutes
	M	Oral examination
	S	Seminar paper
	PA	Practical work (lab, term paper, exercise or seminar paper)
	PR	Project work
	PF	Portfolio
Scope of exam	SWS	Semester hours
	CP	Credit points in compliance with the European Credit Transfer System

For tutorials held by the student, the corresponding credits earned may not exceed a total of 5 points. In case of doubt the responsible examination committee will decide upon the number of credits to be granted.

#### **(4) Master's thesis**

The Master's thesis can only be commenced if all courses and related coursework required for semesters EMM1 and EMM2 have been completed, corresponding to at least 50 credit points.

The Master's thesis shall have a duration of 6 months. It will be assessed and graded by two professors one of whom shall be lecturing at the Hochschule Ravensburg-Weingarten – University of Applied Sciences. After completion of the Master's thesis the results shall be presented at the Hochschule Ravensburg-Weingarten – University of Applied Sciences in an event open to all members of the university.

#### **(5) Master certificate**

The Master certificate will be issued in the English language. The certificate will show all module examinations passed as per tables 1 and 2, as well as the Master's thesis. Upon application, additional modules can be included in the Master certificate, however without being taken into account for the calculation of the overall grade.

#### **(6) Overall grade**

The module examinations passed as well as the Master's thesis will be entered into the calculation of the average grade, weighted according to the credit points earned.

**Table 1: Master Program Electrical Engineering and Embedded Systems**

Module	Course	Typ/ SW S	Curricular semester assigned			Accredited examination
			1	2	3	
Mathematics	Advanced Mathematics for Engineers	V/4	10			PF
	Advanced Mathematics for Engineers - Lab	L/4				
Communication 1	Wireless Communication	V/4		5		K90
Communication 2	Nearfield Communication	V+ P/4		5		K90
Circuit & Systems 1	System-on-Chip	V+ P/4	5			PF
Profile 1	Profile 1	s.M	5			see Modules
Signalprocessing 1	Signalprocessing 1	V/2	5			K90
	Signalprocessing 1 Lab	L/2				
Profile 2	Profile 2	s.M.		5		see Modules
Advanced Control Systems	Digital Control	V/2		5		K60
	Digital Control Lab.	L/2				
Embedded Control	Embedded Control Seminar	R/2			5	PF
	Embedded Control Lab.	L/2				
Embedded Computing	Embedded Computing	V/4	5	5		PF
	Embedded Computing Lab	L/2				
	Embedded Project	P/3				
Optional Module	Elective	s.M.		5		see Modules
Master Thesis	Master-Thesis incl. Colloquium				25	MT
<b>Summen</b>			<b>30</b>	<b>30</b>	<b>30</b>	

**Table 2: Profile - Autonomous Driving**

Module	Course	Typ/ SWS	SS or WS		Accredited examination
			ECTS	ECTS	
			SS	WS	
Computer Vision	Computer Vision	V+P/ 4	5		PA
Lidar and Radar Systems	Lidar and Radar Systems	V+P/ 4		5	PA
<b>Summen</b>			<b>5</b>	<b>5</b>	

**Table 3: Profile – IoT**

Module	Course	Typ/ SWS	SS or WS		Accredited examination
			ECTS	ECTS	
			SS	WS	
SW-HW-Design	SW-HW-Design	V+P/ 4		5	PF
Computer Architecture	Computer Architecture	V+P/ 4	5		K90
<b>Summen</b>			<b>5</b>	<b>5</b>	

## **§ 31 Master Study Program Technology Management and Optimization**

### **(1) Consecutive Study**

The consecutive Master's program Technology Management and Optimization has been designed for a duration of three semesters and builds on the Bachelor's programs Industrial Engineering and Management (Technology Management) as well as Technology Management resp. Technology Development. Admission is also possible for students with a Bachelor's or Diploma degree in Industrial Engineering and Management or related fields with technical background, awarded by a university (Universität), a university of applied sciences (Hochschule) or a university of cooperative education (Berufsakademie). Further details are regulated by the admission regulations of the University of Applied Sciences Ravensburg-Weingarten (HRW) for the Master's program "Technology Management and Optimization" in its current version.

### ECTS Credits

Courses as well as the related coursework and examinations corresponding to 90 credit points are required for successful completion of the consecutive study program. Credits are earned according to tables 1 to 3.

Graduates of Bachelor's programs comprising only 180 credits must provide evidence of the missing credits by registration for the Master's thesis at the latest in accordance with § 4 of the admission regulations of the University of Applied Sciences Ravensburg-Weingarten (HRW) for the Master's program "Technology Management and Optimization" in its current version.

### **(2) Language of Instruction**

The courses are offered in German or English language. The basic language of instruction is given in tables 1 to 3 for each subject. The language for individual subjects can be changed by faculty council decision in compliance with § 3 (4) of the Study and Examination Regulations.

Examinations will usually be performed in English language.

### **(3) Course of the Studies**

Within the Master's program Technology Management and Optimization (TM&O), students can opt between three profiles:

- A profile with technical orientation (TM&O Business Optimization) (UO)
- A profile with research and development orientation (TM&O Research & Development) (RD)
- A profile with international orientation (TM&O International and Entrepreneurship) (IE) where at least one semester has to be studied at a foreign partner university.

All profiles will be completed with a Master's thesis.

### **(4) Examination performances**

The examination to be sat for the courses taking place at foreign partner universities is defined by the partner university. Quality assurance on the part of the University of Applied Sciences Ravensburg-Weingarten is provided by Learning Agreements. Credit transfer and recognition of grades achieved abroad is effected in compliance with the directive on the recognition of achievements abroad of

students enrolled at the University of Applied Sciences Ravensburg-Weingarten in its current version.

### **(5) Master's Thesis**

In addition to § 10 of the study and examination regulations (SPO), the following rules are valid:

The Master's thesis will usually be completed at the University of Applied Sciences Ravensburg-Weingarten, however, it can also be written in cooperation with a company, at a research institute or at a partner university abroad. The Master's thesis must be created in German or in English. The individual topics relate to the contents of the chosen profile. After completion, the results of the Master's thesis will be presented to the public at the University of Applied Sciences Ravensburg-Weingarten.

### **(6) Weightings for the Calculation of the Overall Grade in the Master's Certificate**

The following abbreviations are used in the below tables:

Type of performance

- GA Group work
- K xx Written examination with a duration of xx minutes
- MT Master's thesis
- M Oral examination
- PA Practical work (seminar or term paper, project or laboratory work)
- Portfolio Portfolio audit

<b>Table 1: TM&amp;O Business Optimization</b>			<b>Semester assigned and number of credit points</b>			<b>Accred. exam.</b>
Course		Lang.	1	2	3	Graded
Module 1 <b>Production Optimization 1 (UO)</b>	Production System Optimization	English	3			K90
	Production and Layout Planning	German	2			
	Modern Production Engineering, Tools	English	2			
Module 2 <b>Production Optimization 2 (UO)</b>	Production technology and production simulation / CAD and CAD Tools	English		3		Portfolio
	Modern Production Engineering, Automation	German		4		
Module 3 <b>Product Optimization 1 (UO)</b>	Development Methodology	English	3			K120
	Technology and Innovation Management	English	2			
Module 4 <b>Product Optimization 2 (UO)</b>	Product Optimization using Design of Experiments	English		3		M
	Integration of Mechatronic Systems	English		3		
Module 5 <b>Product Engineering 1 (UO)</b>	Key Technologies of Modern Product Development	German	4			M
	Functional materials – Manufacturing processes and applications	German	2			
Module 6 <b>Technology Evaluation (UO)</b>	Developments in Research and Technology	German		3		GA
	Laboratory/Application Futurology	German		2		
Module 7 <b>Process and Cost Optimization (UO)</b>	Production Management and Optimization	English		4		K90
	Value-added Process Design	English		2		
Module 8 <b>Business Management (UO)</b>	Management Systems	English	2			Portfolio
	Management Accounting and Reporting	English	4			
Module 9 <b>Sales and Business Development (UO)</b>	Entrepreneurship	English		2		K90
	Business Development	German		2		
	Customer Relation Management and Optimized Distribution	English		2		
Module 10 <b>Mathematical Methods (UO)</b>	Engineering Mathematics and Computer Application	German	4			K90
	Operations Research	English	2			
Elective Module 11 <b>Free Elective Courses to shape a profile in Industrial Engineering (UO)</b>					10	
<b>Master's Thesis (UO)</b>	Master's seminar and Master's thesis	English/ German			20	MT
<b>Total</b>			30	30	30	

<b>Table 2: TM&amp;O Research &amp; Development</b>			<b>Semester assigned and number of credit points</b>			<b>Accred. exam.</b>
Course		Lang.	1	2	3	Graded
Module 1 <b>Product Engineering 1 (RD)</b>	Key Technologies of Modern Product Development	German	4			M
	Functional materials – Manufacturing processes and applications	German	2			
Module 2 <b>Product Optimization 1 (RD)</b>	Development Methodology	English	4			K120
	Technology and Innovation Management	English	2			
Module 3 <b>Product Optimization 2 (RD)</b>	Production Optimization using Design of Experiments	English		3		M
	Integration of Mechatronic Systems	English		3		
Module 4 <b>Product Engineering 2 (RD)</b>	Engineering Mechanics	English	6			K90
Module 5 <b>Product Engineering 3 (RD)</b>	System Analysis and Simulation	English	5			K90
	System Analysis and Technical Specification	English	1			
Module 6 <b>Production Optimization 2 (RD)</b>	Production technology and production simulation / CAD and CAD Tools	English		3		Portfolio
	Modern Production Engineering Part 2, Automation	German		4		
Module 7 <b>Technology Evaluation (RD)</b>	Developments in Research and Technology	German		3		GA
	Laboratory/Application Futurology	German		2		
Module 8 <b>Human and Technology (RD)</b>	Visual Systems	German		2		K120
	Biomedical Systems and Sensor Technology	German		2		
	Human Centric Lighting	German		2		
Module 9 <b>Autonomous Systems (RD)</b>	Autonomous Systems	German		2		GA
	Machine Vision	German		2		
	3 D Systems	German		2		
Module 10 <b>Mathematical Methods (RD)</b>	Engineering Mathematics and Computer Application	German	4			K90
	Operations Research	English	2			
<b>Master's Thesis (RD)</b>	Master's Seminar and Master's Thesis	English/ German			30	MT
<b>Total</b>			<b>30</b>	<b>30</b>	<b>30</b>	

Table 3: TM&O International and Entrepreneurship (IE)		Lang.	Semester assigned and number of credit points			Accred. exam.
			1	2	3	Graded
Module 1 <b>Production Optimization 1 (IE)</b>	Production technology and production simulation / CAD and CAD Tools	English	3			Portfolio
	Modern Production Engineering, Automation	German	4			
Module 2 <b>Technological Engineering and Change (IE)</b>	Product Optimization using Design of Experiments	English	3			M
	Integration of Mechatronic Systems	English	3			
Module 3 <b>Technology Evaluation (IE)</b>	Developments in Research and Technology	German	3			GA
	Laboratory/Application Futurology	German	2			
Module 4 <b>Process and Cost Optimization (IE)</b>	Production Management and Optimization	English	4			K90
	Value-Added Process Design	English	2			
Module 5 <b>Sales Optimization (IE)</b>	Customer Relation Management and Optimized Distribution	English	2			K90
	Business Development	German	2			
	Management Systems	English	2			
Module 6 <b>Entrepreneurship (IE)</b>	Foreign Studies with Partner Universities	English		30		s. h. (4)
Module 7 <b>Production Optimization 2 (IE)</b>	Production and Layout Planning	German			2	K90
	Production System Optimization	English			3	
Module 8 <b>Product Optimization 2 (IE)</b>	Modern Production Engineering, Tools	English			2	K120
	Development Methodology	English			3	
<b>Master's Thesis Management International (IE)</b>	Master Seminar and Master's Thesis	English/ German			20	MT
<b>Total</b>			<b>30</b>	<b>30</b>	<b>30</b>	



## **C. Final Provisions**

### **§ 32 Entry into Force**

The present Study and Examination Regulation will become effective on 1 September 2005. Simultaneously, the previous Study and Examination Regulation for Bachelor and Master programs of 20 December 2000 will cease to be effective.

### **§ 33 Entry into Force of the first Amendment of 29 November 2005**

1. This amendment will become effective on 1 September 2006.
2. As from 30 November 2005, students enrolled in the previous Master program in International Business Engineering and registering for examinations after the present Amendment has become effective will study according to the provisions of this Amendment. They will take the missing examinations in compliance with the new Study and Examination Regulations. Upon application, they can complete their studies according to the previous Study and Examination Regulations under the original name of the study program. Such application will be irrevocable and must be filed in writing upon registration for the first examination following the entry into force of this Study and Examination Regulations at the latest.

### **§ 34 Entry into Force of the second Amendment of 13 July 2006**

This amendment will become effective on 1 September 2006.

### **§ 35 Entry into Force of the third Amendment of 16 January 2007**

This amendment will become effective on 1 September 2007.

### **§ 36 Entry into Force of the fourth Amendment of 26 June 2007**

This amendment will become effective on 1 September 2007.

### **§ 37 Entry into Force of the fifth Amendment of 29 January 2008**

This amendment will become effective on 1 March 2008.

### **§ 38 Entry into Force of the sixth Amendment of 26 June 2008**

This amendment will become effective on 1 September 2008. As from 1 September 2008, students enrolled in the previous Master program in International Business Management and registering for examinations after the present Amendment has become effective will study according to the provisions of this Amendment. They will take the missing examinations in compliance with the new Study and Examination Regulations. Upon application, they can complete their studies according to the previous Study and Examination Regulations under the original name of the study program. Such application will be irrevocable and must be filed in writing upon registration for the first examination following the entry into force of this Study and Examination Regulations at the latest.

### **§ 39 Entry into Force of the seventh Amendment of 28 November 2008**

This amendment will become effective on 1 March 2009.

### **§ 40 Entry into Force of the eighth Amendment of 27 March 2009**

This amendment will become effective on 1 April 2009.

**§ 41 Entry into Force of the ninth Amendment of 29 June 2009**

This amendment will become effective on 1 September 2009.

**§ 42 Entry into Force of the tenth Amendment of 27 November 2009**

This amendment will become effective on 1 March 2010.

**§ 43 Entry into Force of the eleventh Amendment of 31 March 2010**

This amendment will become effective on 1 September 2010.

**§ 44 Entry into Force of the twelfth Amendment of 25 June 2010**

This amendment will become effective on 1 September 2010.

**§ 45 Entry into Force of the thirteenth Amendment of 26 November 2010**

This amendment will become effective the day after publication.

**§ 46 Entry into Force of the fourteenth Amendment of 21 January 2011**

This amendment will become effective the day after publication.

**§ 47 Entry into Force of the fifteenth Amendment of 28 November 2011**

This amendment will become effective the day after publication.

**§ 48 Entry into Force of the sixteenth Amendment of 22 June 2012**

This amendment will become effective the day after publication.

**§ 49 Entry into Force of the seventeenth Amendment of 25 January 2013**

This amendment will become effective the day after publication.

**§ 50 Entry into Force of the seventeenth Amendment of 9 April 2014**

This amendment will become effective the day after publication.

**§ 51 Entry into Force of the eighteenth Amendment of 2 July 2015**

This amendment will become effective the day after publication.

**§ 52 Entry into Force of the nineteenth Amendment of 30 June 2016**

This amendment will become effective the day after publication.

**§ 53 Entry into Force of the twentieth Amendment of 28 June 2018**

This amendment will become effective the day after publication.

**§ 54 Entry into Force of the twenty-one Amendment of 27 June 2019**

This amendment will become effective the day after publication.

Weingarten, on June 27<sup>th</sup>, 2019

Prof. Dr.-Ing. Thomas Spägle  
Rector

Prof. Dr. rer. pol. Theresia Simon  
Vice-Rector for Student Affairs and  
Quality Management