Study and Examination Regulations

for the Master's Programs of

Hochschule Ravensburg-Weingarten (RWU)

University of Applied Sciences

as of January 16th, 2025

On January 16th, 2025, pursuant to § 8 section 5 in conjunction with § 30 section 1 and § 32 of the Baden-Württemberg Higher Education Act (Landeshochschulgesetz - LHG) of January 1st, 2005 (law gazette, page 1 et seqq.) as amended from time to time, the Senate of Hochschule Ravensburg-Weingarten University of Applied Sciences enacted the following changes to the Study and Examination Regulations in compliance with § 19 section 1 No. 9 LHG. The Rector has approved the Study and Examination Regulations pursuant to § 32 section 3 sentence 1 LHG.

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§ 1 Scope and structure

(1) These study and examination regulations apply to the Master's degree programs

1. Mechatronics
2. Social and Health Care Management (part-time)
3. International Business Management & Sustainability (part-time)
4. Environmental and Process Engineering
5. Computer Science
6. Digital Business & Marketing Intelligence
7. Applied Health Science
8. Product Development in Mechanical Engineering
9. Technology Management and Optimization
10. Social Work and Participation
11. Business Administration and Entrepreneurship
12. Electrical Engineering and Embedded Systems

(2) The academic year is divided into semesters commencing on May 1st and September 1st, 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 Study and Examination Regulations of the individual study program

A. General Part

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

(1) The Master's program aims to convey specialized knowledge and skills corresponding to Level 2 of the German Qualifications Framework for Higher Education Degrees enabling the students to take up skilled employment develop their personality and pursue academic work.

(2) The Master's examination terminates the studies by conferring a professional qualification in the following study programs:

1. Mechatronics
2. Social and Health Care Management (part-time)
3. International Business Management & Sustainability (part-time)
4. Environmental and Process Engineering
5. Computer Science
6. Digital Business & Marketing Intelligence
7. Applied Health Science
8. Product Development in Mechanical Engineering
9. Technology Management and Optimization
10. Social Work and Participation
11. Business Administration and Entrepreneurship
12. Electrical Engineering and Embedded Systems

(3) The examination is meant to establish that the student has achieved the objectives defined for his program.

(4) Successful pass of the Master's examination leads to the award of an academic degree, i.e.:

1. Master of Science (M.Sc.) for the study programs
   - Mechatronics
   - Computer Science
   - Digital Business & Marketing Intelligence
   - Product Development in Mechanical Engineering
2. Master of Business Administration (MBA) for the study programs
   - Social and Health Care Management
   - International Business Management & Sustainability
3. Master of Engineering (M.Eng.) for the study programs
   - Environmental and Process Engineering
   - Technology Management and Optimization
   - Electrical Engineering and Embedded Systems
4. Master of Arts (M.A.) for the study programs
   - Applied Health Science
   - Social Work and Participation
   - Business Administration and Entrepreneurship

(5) The Master's degree can only be awarded if 300 ECTS have been achieved including the previous study.

§ 3 Official Length of Program, Organization 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 Study and Examination Regulations of the individual study program.

(2) At all stages, the study has a modular structure. A module denotes an individual course or a group of courses with a coordinated thematic and chronological structure to which a certain number of ECTS is assigned depending on the workload required for successful participation. These ECTS are not awarded for mere attendance, but as a rule only if proof of a specific accredited examination can be provided. Assignment of the ECTS is effected in compliance with the ECTS (European Credit Transfer System), with one credit point corresponding to the sixtieth part of the student's annual workload (30 hours). The Reference Book of Modules of the individual study program completes the Study and Examination Regulations of the study program in question. It provides detailed information, among others, about the examinations as laid down in the Study and Examination Regulations. The Reference Book of Modules shall be approved by the Faculty Council in consultation with the Academic Commission. The Faculty Council may assign the head of study program with the task of approving the Reference Book of Modules.

(3) Courses can also be offered in the form of e-learning. Should a major part or the entire course be taught in this form, a decision by the responsible Faculty Council will be required.

(4) Upon decision by the Faculty Council concerned, courses can also, on a case-by-case basis, be taught in English.

(5) Upon decision of the responsible Faculty Council, the sequence and the type of modules/courses and examinations as laid down in the Study and Examination Regulations for the individual study programs can, in particular cases, be changed for one academic semester and for compelling reasons if this is imperative to ensure the orderly running of the study program. The reasons for the changes must be documented.

(6) Transitional provisions for new Study and Examination Regulations for the individual study programs must be agreed upon in the Faculty Council in consultation with the Academic Commission.

(7) The attendance of courses can be made compulsory if and only if the students' presence is absolutely necessary to build the competence. Compulsory attendance is documented in the Reference Book of Modules for the respective module.

§ 4 Type and Structure of the Examination

(1) The Master's examination consists of the examinations in the different modules and the Master's thesis or the Master's module, if the latter is provided for in the Study and Examination Regulations of the respective study program.

(2) A module encompasses defined competences to be acquired and, as a rule, concludes with a single accredited academic achievement/examination. Nature, form and scope of the accredited academic achievement/examination for the individual modules are laid down in the Study and Examination Regulations of the respective study program. Detailed information on the nature and the form of the examination(s) to be taken are given in the Reference Book of Modules.

§ 5 Scope of the Examination, Intermediate Assessment, Deadlines for Academic Achievements during the Course of the Studies

(1) If the regular course of study is adhered to, a maximum of six examinations are normally taken per semester in accordance with § 4 of the General Part of the Study and Examination Regulations.

(2) In order to successfully complete the program, a total number of ECTS must be earned as specified in the study and examination regulations of the respective study program. ECTS are awarded for successfully completed modules or examination achievements according to the number listed in the study and examination regulations of the respective degree program.

(3) Students who have not completed the required number of ECTS credits by the end of the standard period of study plus three semesters at the latest shall lose their right to take the examination for this degree program. However, if a proof of having consulted the academic advisory service of his/her study program is submitted before the expiration of this deadline, the deadline is extended by one semester. The examination entitlement is not lost if the student is not responsible for exceeding the deadline. If the student is to be held responsible for exceeding the deadline will be determined by the Central Examination Board.

(4) Examinations are offered in a semester for those modules taught in that semester as well as retake examinations. The examiner may change the form of examination to an oral examination in the case of retake examinations for organizational reasons (e.g. portfolios, group presentations or laboratory work) if the module is not taught in the semester concerned.

§ 6 Retake of Examinations

(1) Failed examinations can be retaken twice. The second retake presupposes that the student can provide proof of having consulted the academic advisory service of his/her study program prior to registering for the examination. It is not possible to retake a passed examination.

(2) Failed compulsory examinations and compulsory examinations deemed failed must be retaken. A module examination cannot be retaken in parts, but only as a whole. The repeatability of the Master's thesis is regulated by § 10 of the General Part of the Study and Examination Regulations.

(3) Examinations taking place during the lecture period are deemed commenced once the student has participated in the first test. Students who are unable to sit parts of an examination taking place during the lecture period for reasons they cannot be held responsible for will be given the opportunity to retake the outstanding parts latest in the next semester. Place and time of the retake will be determined by the examiner. For organizational reasons, the partial examination can be conducted as an oral examination analogous to §5 section 4.

(4) A student may not withdraw from an examination that has already begun. Abandoning an examination that has already begun will be counted as a failed attempt.

§ 7 Forms of Examination, Electronic Examinations

(1) As a rule, accredited examinations can have the following forms:

- Oral examination
- Written examination
- Written examination during the lecture period
- Other written papers (e.g. term paper, report, seminar paper)
- Multiple choice
- Oral paper
- Presentation
- Laboratory work
- Design
- Practical work
- Poster
- Portfolio
- Colloquium

Further forms of examination can be defined in the Study and Examination Regulations of the individual study programs. Team achievements are admissible.

(2) Examinations can also be taken in IT-supported form.

(3) Oral examinations may be conducted by videoconference according to the Ravensburg-Weingarten University guidelines for conducting oral examinations via videoconference.

(4) As a rule, the examinations will be taken during the examination weeks outside the lecture period of the academic semester.

(5) The assessment process shall take no longer than four weeks.

§ 8 Oral Examinations

(1) As a rule, oral examinations shall be taken before at least two examiners or before one examiner in the presence of an expert assessor as a group examination or as an individual examination. Before determining the grade in accordance with § 11 of the General Part of the Study and Examination Regulations, each examiner shall hear the other examiners involved in the examination or the expert assessor.

(2) Oral examinations shall have a duration of at least 20 minutes for each candidate, maximum 30 minutes.

(3) 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.

(4) 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 Examinations during the Lecture Period

(1) Examinations can also be held during the lecture period. In particular, such examinations include portfolio examinations and mid-term written tests. The sum of the individual partial tests completed during the

lecture period may not exceed the regular extent of a single examination as defined for the study program. Type, extent, and relative weighting of the individual examination elements are laid down in the module description.

(2) A portfolio examination consists of several examination elements of different forms. Possible forms of examinations are, in particular, oral exams, oral papers and presentations, written documentations, multiple choice tests, documented practical works, designs or posters.

(3) A written examination during the lecture period consists of several partial written tests.

§ 9 a Award of Bonus Points

The responsible examiner can, at his/her own discretion, additionally define possibilities of improving the final grade (for example give bonus tasks, presentations and/or practical works) encouraging the students' continuous participation throughout the lecture. The total of such possibilities may not improve the final module grade by more than 0.5. A prerequisite for the bonus points to be considered is that the student has passed the accredited examination as laid down in the Study and Examination Regulations of the respective study program. Students shall be informed of these complementary possibilities to improve their final grade at the beginning of the course as well as via the Reference Book of Module.

§ 10 Master's Thesis

(1) The Master's thesis is an examination which is intended to show that the student is able to work on a problem from the subject area of his or her field of study using the required methods within the specified period of time. The scope of work for the Master's thesis is a minimum of 15 and a maximum of 30 ECTS. The exact number of ECTS to be awarded is specified in the study and examination regulations of the respective study program.

(2) The assignment is issued by a professor. The professor is responsible for supervision. Should the Master's thesis be completed at an institution other than the University, the chairperson of the Examination Board must give his/her consent. It must be ensured that the student is released to attend the required courses.

(3) The Master's thesis must be submitted no later than six months after the registration date. At the request of the student, the Examination Board may typically, in agreement with the supervisor, extend the deadline by up to three months if there is a special reason for doing so. In cases of serious hardship, the deadline may be suspended.

(4) The topic can only be returned once and only within the first two weeks of the completion time. A new topic must be agreed upon without delay, however within 4 weeks at the latest. § 26 of the General Part of the Study and Examination Regulations remains unaffected hereof.

(5) The Master's thesis is issued via the examination board. Topic and date are to be made on record. The students can express topic wishes. Upon request, the examination board will arrange for the timely issuance of the Master's thesis.

(6) The Master's thesis may also be submitted in the form of a group paper if the contribution of the individuals to be evaluated as an examination performance is clearly distinguishable and assessable on the basis of the specification of sections, page numbers or other objective criteria that enable a clear delimitation and fulfills the requirements according to section 1.

(7) The Master's thesis must be submitted to the Student Examination Office in due time and in two printed copies as well as in electronic form (pdf) or else exclusively in electronic form, depending on the requirements of the first examiner. The day and time of handing in the paper must be officially recorded. On submittal, the student will be required to assure in writing that he/she has written the thesis independently and that he/she did not use any sources or aids other than those referenced. Non-observance of the time limit fixed for handing in the Master's thesis will lead to the paper being graded with "fail" (5.0).

(8) The Master's thesis is usually to be evaluated by two examiners to be determined by the Examination board. One of the examiners is usually the supervisor of the Master's thesis. At least one of the examiners should be a professor of the relevant faculty. The assessment procedure should not exceed four weeks.

(9) In order to pass their Master's thesis, candidates will need an overall grade of at least "sufficient" (4.0). It is possible to repeat it once, a second repetition being excluded.

§ 11 Evaluation of Examinations, Non-Observance of Deadlines for Examinations

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

1 = very good	An excellent performance
2 = good	A performance well above average requirements
3 = satisfactory	A performance which fulfills all average requirements
4 = sufficient	A performance which meets the requirements despite some shortcomings
5 = fail	A performance which due to considerable shortcomings does not meet the requirements

To differentiate the evaluation of the examinations, it is possible to use decimal grades in 1/10 increments with 1.0 being the best and 5.0 the worst grade.

(2) 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 a total number of points to be achieved. If a module examination, by way of exception, consists of several independent tests, then the grade of the academic achievement will be calculated from the average of the grades achieved in the different examinations weighted according to the number of ECTS.

The following grades shall be used.

for an average of 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 = sufficient;

for an average of 4.1 or worse = fail.

(3) For examinations taking place throughout the semester such as portfolio examinations or written examinations held during the lecture period, the grade of the module is calculated from the weighted results of the various examination elements. Individual partial performances do not have to be passed in order to pass the semester-accompanying examination.

(4) When fixing the grades only the first decimal will be taken into account; all other decimals will be dropped without rounding.

(5) The overall grade for the degree is calculated on the basis of the module grades achieved during the entire study weighted according to the number of ECTS (weighted arithmetic mean). 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.

(6) For outstanding performances (overall grade 1.3 or better), the overall assessment "pass with distinction" ("mit Auszeichnung bestanden") will be awarded.

(7) The final grade as documented in the Diploma Supplement will be awarded as relative grade according to the following table set up by the HRK (Association of Universities and other Higher Education Institutions in Germany):

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 will be 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.

Recognition and conversion of examinations taken abroad will be effected according to § 6 of the statutes concerning the transfer of academic achievements and examinations at the University of Applied Sciences Ravensburg-Weingarten (Satzung über die Anrechnung von Studien- und Prüfungsleistungen an der Hochschule Ravensburg-Weingarten) as amended from time to time.

(8) An examination will also be assessed as "fail" (5.0) if it is not completed within the completion period or time awarded.

(9) Students must notify the head of the Examination Board without delay and in writing of the reason for exceeding the completion time or the failure to complete the examination furnishing appropriate evidence. In the case of illness, the presentation of a certificate filled in by a doctor and attesting the inability to sit

an exam is required within 14 days. In cases of doubt, a doctor's certificate can be required from a doctor named by the University. If the reason stated is deemed valid, a new day and time for the examination will be fixed. In such case, the already achieved examination results will be taken into account. For examinations during the lecture period, § 8 section 4 of the General Part of the Study and Examination Regulations shall apply.

§ 12 Deceit, Breach of Regulations

(1) Should a candidate try to influence the results of his/her own or another person's examination by deceit or use of unauthorized aids, his/her examination will be graded with "fail" (5.0). Authorized aids are those indicated in the final version of the electronic examination schedule. Students are obliged to inform themselves in this respect. Any disturbance of the orderly course of an examination can lead to the candidate being 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 Board can exclude the candidate from taking further examinations.

(2) In serious cases, the Examination Board may exclude the person to be examined from performing further examination services.

(3) The person concerned by the decision may, within a period of one month, request the decision to be reviewed by the Examination Board in compliance with section 1, sentences 1 and 4. 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) ECTS can only be earned for successfully completed modules.

(3) The Master's examination is deemed to be passed if the Master's thesis and all the required modules have been passed and if the ancillary conditions as specified in the Special Part hereof are fulfilled.

§ 14 Definite Failure of the Master's Examination

(1) The Master's 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 a module examination or other accredited examinations 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, Academic Achievements and Examinations

(1) Periods of study, academic 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, academic achievements and accredited examinations in study programs not covered by section 1 will be accredited in compliance with the statutes concerning the recognition and transfer of academic achievements and examinations as well as competencies acquired at institutions other than institutions of higher education at the University of Applied Sciences Ravensburg-Weingarten (Satzung über die Anerkennung und Anrechnung von Studien- und Prüfungsleistungen sowie außerhochschulisch erworbenen Kompetenzen an der Hochschule Ravensburg-Weingarten) as amended from time to time if the competencies acquired do not differ significantly from the academic achievements/accredited examinations to be replaced.

§ 15 a Recognition of Competencies Acquired at Institutions other than Institutions of Higher Education

Competencies acquired at institutions other than institutions of higher education will be accredited in compliance with the University statutes concerning the transfer of academic achievements and examinations as well as competencies acquired at institutions other than institutions of higher education (Satzung der Hochschule Ravensburg-Weingarten über die Anrechnung von Studien- und Prüfungsleistungen sowie außerhochschulisch erworbener Kompetenzen) as amended from time to time.

§ 16 Examination Board

(1) An Examination Board composed of seven members shall be set up for each study program. Members shall be appointed for a four-year term of office.

(2) The chairperson (Head of study program), his/her deputy, the other members of the Examination Board as well as their deputies shall be appointed by the faculty to which the study program belongs from the ranks of the professors of this faculty as well as from the ranks of the professors of other faculties holding lectures in that study program on a regular basis.

(3) The Examination Board shall ensure that the provisions of the Study and Examination Regulations are complied with. It makes suggestions for reforming the curriculum and the study and examination regulations. The Examination Board may delegate certain of the tasks incumbent upon it to the chairperson.

(4) The members of the Examination Board shall have the right to attend examinations.

(5) The members of the Examination Board 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.

(6) A Central Examination Office will be created to support the Examination Board. Academic advice will be provided by the vice-rector in charge of student affairs and teaching.

(7) The Central Examination Board consists of the vice-rector in charge of student affairs and teaching as chairperson, one further vice-rector and the deans. The head of Student Administration will attend the meetings of the Central Examination Board in an advisory capacity. It is possible, on a case-by-case basis, to consult contract instructors or other professors to obtain their opinion. The Central Examination Board

can appoint a representative who will be in charge of coordinating the organization and conduct of the academic achievements and examinations.

§ 17 Examiners

(1) In addition to professors, academic staff members to whom the examination authority has been delegated and lecturers may be appointed as examiners. Persons experienced in professional practice and training who themselves possess at least the qualification to be established by the examination or an equivalent qualification may also be appointed as examiners.

(2) The examiners' names shall be disclosed in due time.

(3) § 16 section 5 of the General Part of the Study and Examination Regulations shall apply accordingly to the examiners as well as the 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 heads of study program who are members of the Dean's Office and represented in the Committee (cf. § 26 (4) Baden-Württemberg Higher Education Act – LHG). Members of the Central Study Committee are: one head of study program of each faculty (cf. § 24 (5) Baden-Württemberg Higher Education Act – LHG), the vice-rector in charge of student affairs and teaching (as chairperson) as well as further members pursuant to §10 (3) of the University of Applied Sciences Ravensburg-Weingarten statutes concerning the quality assurance in study and teaching (nd Qualitätssicherungssatzung der Hochschule Ravensburg-Weingarten über die Qualitätssicherung in Studium und Lehre) as amended from time to time.

(2) The tasks of the Central Examination Board are as follows:

1. Decision on the kind of organization and the conduct of accredited examinations.

2. Monitoring of the organization and orderly conduct of the examinations.

3. Decision on applications for compensation of disadvantages.

Decision on study and examination issues in opposition proceedings.

Recommendation on the further development of examination regulations in consideration of the Baden-Württemberg regulation on the accreditation of study programs (Studienakkreditierungsverordnung) as amended from time to time.

(3) The Examination Boards of the study programs have the following tasks:

1. decisions on the consequences of violations of examination regulations (§ 12).

2. decisions on passing and failing grades (§ 12 and § 13).

3. decisions on the appointment of examiners and assessors (§ 17).

4. decisions on the admission to courses and examinations in cases of doubt.
5. decisions on the recognition of study and examination achievements.
6. decisions on the recognition of competences acquired outside the university.
7. decisions on the issue and extension of deadlines for Master's thesis.
8. decision on the invalidity of the Master's examination.
9. statement in appeal proceedings in study and examination matters.
10. opinion in the course of the agreement of deviating study courses according to § 26 paragraph 6 and § 28 of the General Part of the Study and Examination Regulations.
11. in the case of cooperative study programs, the Examination Board shall assume the tasks corresponding to nos. 1 to 4 of the Central Examination Board as agreed in the cooperation agreement.
12. In cases of doubt, the decision on extensions of examination deadlines for students with family care responibilities (§ 26 section 4).

(4) The Central Examination Office is responsible for:

1. Implementation of the decision on the kind of organization and the conduct of accredited examinations,
2. Management of examination-related documents,
3. Admission to academic achievements and other examinations,
4. Preparation and issue of examination-related notifications, attestations, certificates and other documents,
5. Proceedings concerning examination deadlines and official lengths of program,
6. Support of the Examination Board.

§ 19 Provision of the Range of Courses

The University will ensure by the range of courses offered that examinations can be performed within the time limits defined in the present Examination Regulations and that the courses can be offered to the extent necessary.

§ 20 Organization 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 will, for each semester, 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 and to register for the examinations. Exam registration and cancellation of an exam registration is effected electronically via the University's campus management system. In exceptional cases, it is possible to register for an examination or cancel an exam registration in writing, within the deadlines provided. Reasons for such exception must be given by the students and evidence must be provided. Non-participation in an examination that has not yet begun also counts as deregistration from the examination, unless it is an oral examination.

(2) In the case of oral examinations, it is possible to cancel the examination directly with the examiner up to the agreed start of the examination. If students do not take part in a registered oral examination, the examination will be graded as "insufficient" (5.0).

(3) 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 Student Examination Office.

(4) In the case of cooperative study programs, the registration for examinations and the withdrawal of a registration for examinations shall take place at the university in which the student is enrolled.

§ 21 Admission to Examinations

(1) Students may take examinations in accordance with these Examination Regulations if they are enrolled in the corresponding degree program, have not lost their right to take examinations in the degree program or a related degree program with essentially the same content, and have properly registered for the examination. Any additional prerequisites listed in the Study and Examination Regulations of the respective individual study programs must also 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 Student Examination Office.

§ 22 Information about Examination Results

(1) The examiner will inform the Student Examination Office of the examination results according to the modalities defined for the various examination forms and within the scheduled time frame.

(2) The Student Examination Office will inform the students of the examination results via an entry in the University's electronic examination management system.

(3) After passing an examination, the student's account will be credited with the corresponding ECTS. Provided that it is feasible from an organizational point of view, students can inspect their accounts at any time.

§ 23 Certificates, Master's Diploma

(1) The student shall receive a certificate immediately, if possible within four weeks, stating that he or she has passed the Master's examination. The certificate shall include the modules and their grades, the topic and the grade of the Master's thesis as well as the overall grade, stating the selected specialization. The certificate shall bear the date of the last examination. It is to be signed by the dean of the respective faculty. In the case of cooperative study programs, the certificate shall be signed by the dean at whose university the student is enrolled.

(2) At the same time as the certificate, the graduate receives the Master's certificate with the date of the certificate. In it, the award of the Master's degree is certified in accordance with § 2 section 4 of the General Part of the Study and Examination Regulations. The Master's certificate is signed by the Rector and bears the seal of the University. In the case of cooperative degree programs, the master's certificate shall be signed by the rector at whose university the student is enrolled.

(3) In addition, the graduate receives an English and a German language certificate supplement ("Diploma Supplement") with standardized information describing university degrees. It informs about the completed

study contents, the course of studies and the academic and professional competences acquired with the degree. The "Diploma Supplement" is signed by the head of the student affairs department.

(4) Certificates of passed examinations shall be issued to the student upon request before the certificate is issued.

(5) The Master's certificate will be issued only if a certificate of discharge from the administration has been received. In the case of cooperative degree programs, discharge certificates from the participating universities must be available.

(6) Upon application, a maximum of five subjects other than the prescribed subjects shall be listed in the Master's certificate (additional subjects). The result of these subjects is not taken into account when determining the overall grad.

§ 24 Invalidity of the Master's 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 § 14 section 1. This may include the particular examination to be declared as "fail" (5.0) and the Master's examination as failed. The same applies accordingly to the Master's thesis.

(2) If the student has deliberately wrongfully obtained admission to the examination, the examination will be declared as "fail" (5.0) and the Master's 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 handed out. The Master's 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 is excluded after a period of fife years from the date of the examination certificate.

§ 25 Inspection of the Examination Records

(1) Upon request, the candidate will be granted inspection of his/her written examinations, the relating examiners' evaluations and the minutes of the examination.

(2) The request must be made to the examiner. The examiner shall determine the place and time of the inspection. The inspection shall take place on university premises. The chairperson of the Examination Board is responsible for clarifying any discrepancies.

(3) The retention periods for examinations and their related documentation are specified in the Guidelines on Document Retention Periods at the Ravensburg-Weingarten University of Applied Sciences.

§ 26 Special Provisions for Students with Family Care Responsibilities

(1) Students who are entitled to parental leave pursuant to § 15, Paragraphs 1 through 3 of the Federal Parental Benefit and Leave Act (Bundeselterngeld- und Elternzeitgesetz) or who are caring for a close relative as defined in § 7, Section 3 of the Home Care Leave Act (Pflegezeitgesetz) are entitled to avail themselves of the special provisions detailed in Paragraphs 2 through 5. The entitlement comes into or goes out of effect at the end of the semester in which the conditions mentioned in Sentence 1 arise or cease to apply. Entitled persons are required to keep corresponding records and are obliged to provide notification immediately should any of the prerequisites set out in Sentence 1 arise, change, or cease to apply. All notifications are

to be addressed exclusively to the Student Examination Office. Different from the Federal Parental Benefit and Leave Act (Bundeselterngeld- und Elternzeitgesetz), students remain eligible until the youngest child to be cared for reaches the age of fourteen. Definitions and determinations of dependency as they relate to eligibility for home care leave are based on §§ 14 and 15 in Volume 11 of the German Social Security Code (Sozialgesetzbuch).

(2) Students who fall under the category of persons specified in Section 1 are entitled to take some of their examinations after the deadlines stipulated by the individual degree programs' Study and Examination Regulations; the same applies to the deadlines for the completion of academic achievments. The following rules shall apply:

The deadline for completing the Master's examination are extended by half a semester for each semester in which the student belongs to the eligible group. Accordingly, this period is extended by up to three semesters.

(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 file an application with the responsible Examination Board for the issue of a final thesis for which the completion time can be extended by 100%. 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 responsible Examination Board for the remaining completion time to be extended by 100%, 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) The deadline for examinations that are not to be taken in written or oral form at the university is extended by an appropriate period of time (e.g. term paper, project work). Excluded are laboratory work and other examinations for which an extension is not possible for organizational reasons.

(5) For students with family care responsibilities, an acute illness of the relative being cared for is equivalent to an illness of the students.

(6) 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.

(7) In justified cases, an application for a change of the form of examination can be filed. The decision on the application will lie with the Central Examination Board.

§ 27 Special Protection during Pregnancy and Lactation

(1) Pregnant and breastfeeding students are entitled to periods of protection and leave under the German Maternity Protection Act (Mutterschutzgesetz). With respect to the study progress, the claiming of protection periods shall be deemed equivalent to a leave of absence. During such times, students are entitled to attend courses, sit examinations and use the University institutions.

(2) In the framework of work completed in laboratories or studios, the protective provisions of the Maternity Protection Act shall apply.

(3) Pregnant students are not obliged to report their pregnancy. It is, however, strongly recommended, in their own interest, that they report their pregnancy to the Student Administration Office as soon as their pregnancy is confirmed. This will provide them with the possibility to use their rights under the Maternity Protection Act. The same applies to breastfeeding students. A doctor's certificate or a certificate from a

midwife must be enclosed. The pregnancy attestation should include the expected delivery date.

(4) A compensation of disadvantages according § 30 section 2 and 3 can also be granted on the basis of a pregnancy or lactation.

§ 28 Students with Disabilities or Chronic Illness

(1) In the case that a student is handicapped by a permanent disability or a chronic illness rendering the completion of courses within the time limits as defined in § 9 particularly difficult, the Central Examination Board may, upon written request, declare an extension of the deadlines or an individual study plan to be binding. The individual study plan must comprise at least two academic achievements in each subject-related semester.

(2) In the case that a candidate is handicapped by a permanent or temporary disability or a chronic illness making it particularly difficult for him/her to sit an examination in the prescribed form, the Central Examination Board may, upon written request, take adequate measures to compensate for the impairment or, if achievement of the aim of the examination can be evidenced in an equivalent manner by any other form of examination, allow a different form. The proof of abilities as required by the performance profile of the examination administered may not be waived.

(3) Applications under Sec. 1 and 2 have to be submitted to the examination office, which will forward them accordingly to the Central Examination Board. 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. The Central Examination Board may request an attestation by a doctor named by the Board.

3. When filing an application under section 1, the student must additionally submit a statement from the head of the study program requested extension of the deadline resp. a draft of the individual study plan signed by the head of the study program.

§ 29 Special Provisions for Elected Student Members in Statutory Bodies and Organs of the University or the Student Services Organization and the Constituted Student Body

(1) An activity as elected member in statutory bodies or organs of the University or the Student Services Organization and the Constituted Student Body during at least one year may not be taken into account for the calculation of the examination deadlines pursuant to § 32 section 6 LHG. 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 academic achievement in the framework of a module aiming at conveying such competencies, and up to five ECTS can be granted for this. The decision lies with the Rector upon the student's request.

(3) The special provisions as laid down in sections 1 and 2 may only be used as an alternative.

B. Special Part

§ 30 Master's Program Mechatronics

(1) Non-Consecutive Master's Program

This non-consecutive Mechatronics Master's Program consists of three semesters and is designed for those who have already successfully completed an undergraduate program in a technical or scientific field.

Coursework and exams equivalent to at least 90 European Credit Transfer and Accumulation System (ECTS) credits must be earned in order to complete the master's degree program. These courses are listed in Tables 1 to 4 along with electives.

Graduates of Bachelor's degree programs which comprised only 180 ECTS must either demonstrate the successful completion of an additional 30 ECTS of coursework directly related to the field of mechatronics or must complete such coursework during the course of their master's degree program. This additional coursework must be approved by the Examination Board. The extra 30 ECTS are documented in the diploma supplement, but are not included in the master's degree final grade.

(2) Prior Education Taken into Consideration eaching language

The modules and structure of the master's degree plan are adapted according to each student's prior education. Depending on the type of undergraduate program previously completed, the following module plans apply for the MM1 to MM3 semesters:

- **Table 1:** Module plan for students who have completed a bachelor's degree in the field of mechanical engineering.
- **Table 2:** Module plan for students who have completed a bachelor's degree in the field of electrical engineering.
- **Table 3:** Module plan for students who have completed a bachelor's degree in the field of computer science.
- **Table 4:** Module plan for students who have not completed a bachelor's degree in any field corresponding to Tables 1, 2, or 3.

Each student is assigned to one of the four module plans by the chairperson of the program's Examination Board.

Tables 1 to 3 include elective modules. The list of pre-approved electives is announced at the beginning of each semester. Furthermore, additional courses from other Ravensburg-Weingarten University master's programs can also be taken with the approval of the Mechatronics Master's Program Examination Board chairperson.

(3) Language of Instruction eaching language

The courses are offered in the English language

(4) Assessment

The assessments scheduled for the MM1, MM2, and MM3 semesters are listed in Tables 1 to 4. The type and scope of the coursework, as well as corresponding assessments are indicated as follows:

Type of Course		Assessment		Other Abbreviations	
L	Lecture	**W(xx)**	Written Exam; duration in (xx) minutes	**SH**	Number of Semester Hours
LH	Lab/Hands-on	**SWP**	Seminar Work and Presentation	**ECTS**	Number of Credits Earned (§3)
T	Tutorial	**PR**	Project Result		
S	Seminar/Presentation	**PF**	Portfolio		
P	Project	**RPA**	Practical work (50%) with presentation (50%)		

Tutoring can satisfy elective module requirements but may not exceed 5 ECTS in total. When in doubt, the chairperson of the respective Examination Board shall decide on the number of ECTS to be awarded.

(5) Master's Thesis

At least 45 ECTS must be earned in the MM1 and MM2 semesters before a student may apply to begin work on their master's thesis. Students have 6 months to complete the thesis and it must be written in English.

After submission, the master's theses are presented in a public event at Ravensburg-Weingarten University.

(6) Master's Degree Certificate & Transcript

The master's degree certificate and transcript are issued in English. All of the completed modules from table 1, 2, 3, or 4 are included in the transcript. Any additional modules which were taken but not included in the overall grade may be included in the transcript upon request.

(7) Final Grade

Both completed examinations as well as the master's thesis are included in the calculation of the final GPA (grade point average). The contribution of each assessment to the final grade is weighted according to its respective number of ECTS credits.

Table 1: MM1 to MM3 module plan for students who have completed a bachelor's degree in the field of mechanical engineering

Module	Course	Program Semester				Graded Assessment
			MM1	MM2	MM3	
		Type/SH	ECTS	ECTS	ECTS	
Applied Mathematics	Applied Mathematics	V+P/4	5			K90 or PF
Numerical Methods	Numerical Methods	V+P/4	5			K90 or PF
Elective Module				5		
Power Electronics	Power Electronics	V/4	5			K90
Elective Module					5	
Elective Module			5			
Automation	Automation	V/4		5		K90
Process Interface Equipment	Process Interface Equipment	V/4	5			PF
	Laboratory on Process Interface Equipment	P/2		2		
Simulation of Mechatronic Systems	Simulation of Mechatronic Systems	V/4	5			K90
Scientific Project	Working in International Scientific Project Teams	S/1		5		PF
	Scientific Project	PR/4				
Advanced Control Systems	Advanced Control Systems	V/4		6		K90*
	Advanced Control Systems Lab	P/2				
Robotics	Robotics	V/4		7		K90
	Lab on Robotics	P/2				
Master's thesis	Master's thesis with Colloquium 20%				25	
Summe ECTS			**30**	**30**	**30**	

*Lab attendance documented by not graded lab report is required for admission to exam.

Table 2: MM1 to MM3 module plan for students who have completed a bachelor's degree in the field of electrical engineering

Module	Course	Program Semester				Graded Assessment
			MM1	MM2	MM3	
		Type/SH	ECTS	ECTS	ECTS	
Applied Mathematics	Applied Mathematics	V+P/4	5			K90 or PF
Numerical Methods	Numerical Methods	V+P/4	5			K90 or PF
Electrical Drives	Electrical Drives	V/4		5		K90
Elective Module				5		
Engineering Design and Materials	Engineering Design and Materials	V+Ü/4	5			K90 or RPA
Advanced Engineering Mechanics	Advanced Engineering Mechanics	V/4	5			K90 or RPA
Elective Module				5		
Elective Module					5	
Simulation of Mechatronic Systems	Simulation of Mechatronic Systems	V/4	5			K90
Scientific Project	Working in International Scientific Project Teams	S/1		5		PF
	Scientific Project	PR/4				
Advanced Control Systems	Advanced Control Systems	V/4		6		K90*
	Advanced Control Systems Lab	P/2				
Embedded Computing 1	Embedded Computing	V/4	5			PF
Embedded Computing 2	Embedded Computing Lab	P/2		4		PF
	Embedded Computing Seminar	S/2				
Master's thesis	Master's thesis with Colloquium 20%				25	
Summe ECTS			**30**	**30**	**30**	

*Lab attendance documented by not graded lab report is required for admission to exam.

Table 3: MM1 to MM3 module plan for students who have completed a bachelor's degree in the field of computer science

Module	Course	Program Semester				Graded Assessment
			MM1	MM2	MM3	
		Type/SH	ECTS	ECTS	ECTS	
Applied Mathematics	Applied Mathematics	V+P/4	5			K90 or PF
Numerical Methods	Numerical Methods	V+P/4	5			K90 or PF
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/4			5	K90 or RPA
Advanced Engineering Mechanics	Advanced Engineering Mechanics	V/4	5			K90 or RPA
Elective Module				5		
Process Interface Equipment	Process Interface Equipment	V/4	5			
	Laboratory on Process Inter- face Equipment	P/2		2		PF
Elective Module			5			
Scientific Project	Working in International Scientific Project Teams	S/1		5		PF
	Scientific Project	PR/4				
Advanced Control Systems	Advanced Control Systems	V/4		6		K90*
	Advanced Control Systems Lab	P/2				
Robotics	Robotics	V/4		7		K90
	Lab on Robotics	P/2				
Master's thesis	Master's thesis with Colloquium 20%				25	
Summe ECTS			**30**	**30**	**30**	

*Lab attendance documented by not graded lab report is required for admission to exam.

Table 4: MM1 to MM3 module plan for students who have not completed a bachelor's degree in any field corresponding to Tables 1, 2, or 3

Module	Course	Program Semester				Graded Assessment
			MM1	MM2	MM3	
		Type/SH	ECTS	ECTS	ECTS	
Applied Mathematics	Applied Mathematics	V+P/4	5			K90 or PF
Numerical Methods	Numerical Methods	V+P/4	5			K90 or PF
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/4			5	K90 or RPA
Advanced Engineering Mechanics	Advanced Engineering Mechanics	V/4	5			K90 or RPA
Automation	Automation	V/4		5		K90
Process Interface Equipment	Process Interface Equipment	V/4	5			
	Laboratory on Process Interface Equipment	P/2		2		PF
Simulation of Mechatronic Systems	Simulations of Mechatronic Systems	V/4	5			K90
Scientific Project	Working in International Scientific Project Teams	S/1		5		PF
	Scientific Project	PR/4				
Advanced Control Systems	Advanced Control Systems	V/4		6		K90*
	Advanced Control Systems Lab	P/2				
Robotics	Robotics	V/4		7		K90
	Lab on Robotics	P/2				
Master's thesis	Master's thesis with Colloquium 20%				25	
Summe ECTS			**30**	**30**	**30**	

* Lab attendance documented by not graded lab report is required for admission to exam.

§ 32 Master's Program International Business Management & Sustainability

(1) Admission and degree

The part-time master's degree program International Business Management & Sustainability is a business administration program for graduates of (non)* bachelor's degree programs in business administration with professional experience (degree: Master of Business Administration, MBA). Further details are regulated by the admission statutes of Ravensburg-Weingarten University of Applied Sciences.

(* also diplomas or state examination or other licentiate degrees)

(2) Study structure and language

The study program is offered on a part-time basis and concludes with a master's thesis. The total duration of the study program is 5 semesters. From the first semester through the fifth semester, all lectures are conducted in English. The master`s thesis can be written and defended in either English or German.

(3) Workload

For the successful completion of the master's degree program, it is required to complete all modules with the corresponding examinations amounting to 90 ECTS. The number of ECTS credit points per module are listed in Table 1.

(4) Master's thesis

The master's thesis may only be carried out after the student has acquired at least 50 ECTS credits. The topic, assignment and scope of the master's thesis are to be limited by the examiner in such a way that the workload corresponds to 20 ECTS credits. The Master's thesis can be completed either in English or in German. The student decides on his/her own responsibility about the choice of language. Depending on the requirements of the first examiner, two copies of the thesis must be submitted in hardcover/printed form and as a digital copy or exclusively in digital form at the latest six months after the date of issue in the examination office at Ravensburg-Weingarten University of Applied Sciences. The first examiner can request a draft from the student. After submission of the master's thesis the results are presented by the student in a colloquium. The regulations of § 10 of the General Part of the Study and Examination Regulations for the master's degree programs at Ravensburg-Weingarten University in the currently valid version apply.

(5) Examination/assessment

For the successful completion of the master's degree program, it is required to take the examinations listed in table 1. Repeat examinations are possible in accordance with § 6 of the General Part of the Study and examination regulations for the master's degree programs at Ravensburg-Weingarten. University of Applied Sciences and can be taken in the following semester, if possible. Practical examination elements, e.g., within the framework of portfolio examinations, can only be completed in the cycle in which the course takes place. In this case, the other examination elements should also be completed in the corresponding semester. Practical examination elements can be credited by the lecturer in the following semester, if they continue to be part of the respective portfolio examination. Students may complete selected modules at foreign universities in consultation with the chairperson of the examination committee. The type of examination of the modules is determined by the foreign university. The quality assurance on behalf of Ravensburg-Weingarten University of Applied Sciences is carried out via learning agreements. The crediting of academic work completed abroad by students enrolled at Ravensburg-Weingarten University of Applied Sciences is carried out in accordance with the Guideline for the Recognition of Study Achievements Obtained Abroad by Students Enrolled at Ravensburg-Weingarten University of Applied Sciences, as amended from time to time.

(6) Additional information on the modules

(A) If the students have the appropriate prior knowledge, it is possible to replace up to three modules upon request with a practically oriented (project) work/coursework. This is only possible after consultation with the chairperson of the examination board.

(B) In module 5 students must complete (at least) one subject-related stay abroad or in the area (e.g., excursion, study week). Upon request of the student to the chairperson of the examination board, the stay abroad or in the area can be replaced by an internationally oriented project work/coursework.

(C) The elective modules (module 16-19) can be taken as an alternative to either one of the modules 5 or 11. The ECTS of the elective will be credited accordingly in the overall performance as a substitute to the selected module, which is then not completed. The elective can also be chosen in addition to all modules as an extra module with a Certificate.

(D) Module 20 is an elective course for Double Degree (DD) students only.

(E) Students may participate in multiple modules in a single semester, based on their own abilities and responsibilities, if they intend to complete the program earlier to the specified period. A prior consultation with the chairperson oft the examination board and respective module responsible is necessary. However, a reduction of the number of semester needed for completion does not imply a reduction of the study fees (they always have to be paid completely).

(7) Special features

(A) Students can participate in DD agreement. The exact specifications are defined in the relevant DD contract with the partner university. The master's thesis can be carried out at the home or the partner university, but must fulfill the RWU requirements on a final thesis at master level. The selection of the students is made after application for a DD place by the chairperson of the examination board and the selection board. After successful completion, the graduate is awarded a double degree.

(B) During their studies, after consultation with the chairperson of the examination board, students can participate in selected micro-credentials which exist between the program and partnered universities.

(C) During their studies and as alumni, students have the opportunity, after consultation with the chairperson of the examination board, to participate several times in an international study trip without taking an examination. The costs must be covered by the students/alumni.

(D) Each student can participate in an individual 2-hour coaching session with an experienced coach for personal further development. Students don't get a grade and/or credits for the individual coaching session.

(E) Periodically, group coaching sessions take place on a voluntary basis outside of the modules without examinations, in which students can take part for their personal further development. Students who successfully participate will receive a certificate. Students don't get a grade and/or credits for the group coaching session.

(F) Professional Scrum Master certification training is provided as an optional add-on to module 11. Students who complete the training successfully will be awarded an official SCRUM Master certificate.

(G) An online participation in agreement with the chairperson of the examination board in the first semester is possible. The chairperson of the examination board can define the latest possible date of arrival in person at RWU.

(H) Students are offered elective courses during the study program. However, a minimum number of students must apply for the elective course in ordert o take place. The decision oft he execution oft he elective course i staken by the chairperson of the examination board.

(I) All students are required to participate in a health activity, such as hiking, once a year to promote self-well-being and resilience.

(8) Abbreviations

Teaching and learning methods		Form of assessment	
LS	Lecture and Seminar	**MT**	Master's Thesis
LP	Lecture and Practice	**K60**	written exam 60 minutes
PL	project-based Learning format	**K30**	written exam 30 minutes
S	Seminar	**Portfolio**	Portfolio Exam

Table 1: Modules Master's Program International Business Management & Sustainability

Modules			Semester and ECTS						Form of assessment
Module	**Title**	**Teaching method**	**(Elective)**	**1**	**2**	**3**	**4**	**5**	
Module 1	Academic Writing & Empirical Research Methods	LS		5/3					Portfolio
Module 2	Controlling & Finance Management	LS		5/3					K60
Module 3	Integrated Business Process Management	LP		5/3					Portfolio
Module 4	Behavioural Science & Leading Yourself	LS		5/3					Portfolio
Module 5	International/National Business Project	PL			5/4				Documentation or Case Study Presentation
Module 6	International Economic Structures & Compliance	LS			5/3				Portfolio
Module 7	International Project Management & Sustainability	LS			5/4				Portfolio
Module 8	Behavioral Science & Leading People	LS			5/3				Portfolio
Module 9	International Value Chain Management	LP				5/4			Portfolio
Module 10	Strategic Management	LS				5/3			(Group) Presentation
Module 11	Sustainable Business Models & Innovations	S				5/4			Portfolio
Module 12	Digital Transformation & Business Development	S					5/3		Portfolio or coursework

Modules			Semester and ECTS						Form of assessment
Module	**Title**	**Teaching method**	**(Elective)**	**1**	**2**	**3**	**4**	**5**	
Module 13	Key Account Management	LS					5/4		Case study presentation and Term paper
Module 14	Leading Sustainable Organizations	LS					5/3		Portfolio
Module 15	Master Seminar and Thesis	S MT						20/0	MT and Colloquium
(Module 16)	Strategic Career Development with Purpose and Resilience (Elective)**	LP	(5/4)						Portfolio
(Module 17)	Sustainable Marketing and Personal Branding (Elective)**	LP	(5/4)						Portfolio
(Module 18)	Sustainable Operations (Elective)**	LS	(5/4)						Portfolio
(Module 19)	Sustainable Capstone Project (Elective)**	PL	(5/4)						Portfolio
(Module 20)	Business Consulting Project (Elective for DD only)	PL	(6/0)						Portfolio
Summe ECTS / SWS			**(26/16)**	**20/12**	**20/14**	**15/11**	**15/10**	**20/0**	

Remark:

** All elective modules are considered to be a possible offer for the students. They don`t take place in a regular manner. If one of the elective modules is planned in a semester, students have to register for it one semester prior. The elective module only takes place with a sufficient number of applications. The execution of this elective module is decided by the chairperson oft he examination board.

§ 38 Master's Program Technology Management and Optimization

(1) Structure of studies

The consecutive master program Technology Management and Optimization comprises three semesters and builds on the Ravensburg-Weingarten University of Applied Sciences (RWU) bachelor degree programs in Industrial Engineering (Technology Management) and Physical Engineering. Admission is also possible with a university degree in industrial engineering or related subjects from other universities or a university degree in a technical or natural scientific discipline. Further details are regulated by the admission statutes of Ravensburg-Weingarten University of Applied Sciences (RWU) for the master program in Technology Management and Optimization in their current version.

For the successful completion of the consecutive study program, courses as well as the associated study and examination achievements to the extent of 90 ECTS are required. These are shown in tables 1 to 3. The degree is completed in the 3rd semester with the master examination.

Graduates of Bachelor's degree programs whose studies comprise less than 210 ECTS must complete the remaining ECTS at the latest by the time they register for the master's thesis in accordance with the admission regulations of Ravensburg-Weingarten University (RWU) for the master program Technology Management and Optimization in its current version.

(2) Course of studies

The master program in Technology Management and Optimization (TMO) can be studied with three profile directions:

- a profile direction with a technical orientation (TMO Company Optimization) (UO)),
- a profile direction with a development-oriented orientation (TMO Development and Technological Innovation) (EN)) and
- a profile with an international orientation (TMO International and Entrepreneurship) (IE)), which requires at least one semester of study at a foreign partner university.

All profiles are completed with a master's thesis.

The selection of the profile takes place after the beginning of the study by registration in the examination office.

The study program uses modern didactic forms of learning. The active participation of the student is a mandatory prerequisite for the acquisition and proof of competence.

(3) Courses and examinations

The courses required for successful completion as well as the associated course and examination achievements are shown in tables 1, 2 and 3. The following abbreviations are used for this purpose:

Type of course		Type of exam		Further abbreviations	
V	Lecture	**K(xx)**	Written examination duration of xx minutes	**SWS**	Number of semester hours per week
P	Practical course, exercises	**M**	Oral examination	**ECTS**	Number of credit points required (§3)
VP	Lecture with integrated exercises	**R**	Seminar paper and presentation	**ST**	Summer term
Ü	Exercises	**PA**	Practical work in combination with tests	**WT**	Winter term
S	Seminar	**PF**	Portfolio		
PR	Project work	**D**	Documentation		
L	Laboratory/practical course	**H**	Term paper		
PB	Practical experience report				
MT	Master's thesis				

The examination requirements for the courses at foreign partner universities are determined by the partner university. Quality assurance on the part of Ravensburg-Weingarten University takes place via learning agreements. The crediting of the study achievements done abroad by students enrolled at the Ravensburg-Weingarten University is done according to the guidelines for the recognition of study work done abroad by students enrolled at Ravensburg-Weingarten University in their currently valid version.

The respective number of semester hours per week (SWS) specified in Tables 1, 2 and 3 is defined in each case as the maximum number of attendance hours. The details for the respective course are regulated by the module handbook.

Compulsory attendance in courses is decided for the individual case by the faculty council for the respective semester. In the case of seminars, attendance is compulsory for the issue of topics in the opening event, irrespective of the above regulation; participation in a seminar is no longer possible if the student did not attend the opening event for the issue of topics, unless the student is not responsible for the failure to attend.

The language of instruction is German or English, the details are regulated by the module handbook. German-language courses can also be offered in English on a semester-by-semester basis in agreement with the dean of studies. This is to be announced by the lecturer at the latest at the beginning of the lecture.

The language of instruction in module 19 of the profile International and Entrepreneurship (IE), which is studied abroad at a partner university, is English. Therefore, good English language skills must be demonstrated by taking one of the following tests when taking this profile:

- OPT with at least 80 points
- Oxford B2
- Cambridge B 2 or FCE
- IAELTS with 6.5
- TOEFL with 90 points.

The test must not have been taken more than two years ago.

As a rule, the examinations are conducted in the respective language of instruction. In agreement with the dean of studies, the examination may also be taken in German or English. This must be announced by the lecturer at the beginning of the lecture at the latest.

In addition to the examinations listed in tables 1, 2 and 3, the lecturer may, at his or her own discretion, specify voluntary examinations to be taken during the course of study as partial module examinations. The determination as well as the type, scope and weighting of the partial module examinations are to be announced to the students at the beginning of the lecture, usually in the first lecture, and announced by the faculty by means of a notice. The assessment of the partial module examinations is included in the module examination with their respective weight.

(4) Elective courses

Students can freely choose elective courses amounting to 10 ECTS. The elective courses must be taken from the graded range of courses offered by Ravensburg-Weingarten University of Applied Sciences, another German college/university and/or as part of a semester abroad.

As a rule, only subjects from Master programs can be chosen as electives. Elective courses may not be substantially identical in content to compulsory and already taken elective modules. In case of doubt, the chairperson of the Examination Board decides on the creditability of an elective course.

(5) Master's Thesis

In addition to § 10 of the General Part of the Study and Examination Regulations, the following regulations apply:

The master's thesis is usually written at the Ravensburg-Weingarten University of Applied Sciences, but can also be written in cooperation with a company, a research institution or at a partner university abroad. It is to be written in German or English. The individual topics are related to the content of the chosen profile fields. After completion, the results of the master's thesis are presented in a public colloquium at the Ravensburg-Weingarten University.

The topic, task and scope of the master's thesis are to be limited by the task-setter in such a way that the work can be completed in approximately 600 working hours, corresponding to 20 ECTS. The thesis must be submitted no later than six months after the registration date either in printed and electronic form to the examination office of the Ravensburg-Weingarten University or purely electronically via a digital submission system provided by the faculty.

The master seminar serves to reflect on the study contents of the master study program as well as their

interconnectedness against the background of the master's thesis and is conducted by the supervisor of the master's thesis.

Table 1: Profile Company Optimization (TMO UO)

Technology Management and Optimization (TMO)		**TMO-Profile Company Optimization (UO) Assigned semester, ECTS and SWS**						**Type of examination**
Modules	Courses	1 (WT)		2 (ST)		3 (WT)		graded
		ECTS	SWS	ECTS	SWS	ECTS	SWS	
Module 1	Digital design methods	3	2					Portfolio
Product Engineering 1	Agile development processes	2	2					
Module 2 **Product Engineering 2**	Modern material technologies							M
Module 3 **Product Engineering 3**	Cyberphysical systems							K90 or Portfolio
Module 4	Machine vision							PA
Product Engineering 4	Autonomous systems							
Module 5 **Product Engineering 5**	Digital transformation design							Portfolio
Module 6 **Production Engineering 1**	Automation systems			5	4			K60 or Portfolio
Module 7 **Production Engineering 2**	Analysis and optimization of production systems	3	3					K90
	Factory planning	2	1					
Module 8 **Production Engineering 3**	Digital planning of production systems			3	2			Portfolio
	Simulation of production systems			2	2			
Module 9 **Technologiemanagement**	Technology intelligence and futurology			3	3			Portfolio
	Technology development and implementation			2	2			
Module 10 **Business Management 1**	Business model optimization			5	4			Portfolio
Module 11 **Business Management 2**	Development of digital business models	5	4					Portfolio
Module 12 **Optimierungsmethoden 1**	Optimization with Matlab	5	4					K60
Module 13 **Optimierungsmethoden 2**	Design of Experiments			5	4			M
Module 14 **Business Analytics 1**	Data Science	5	4					K90 or Portfolio
Module 15 **Business Analytics 2**	Applications of business analytics	5	4					Portfolio
Module 16 **Business Analytics 3**	Machine learning							M or K60
Module 17 **Practice Project**	Lean and digitalization project			5	4			Portfolio
Elective Courses 18 Electives courses for specialization in the field of industrial engineering	Elective courses also from other faculties					10		
Module 19 **Entrepreneurship**	Foreign Studies with Partner Universities							
Master's thesis	Master seminar and Master's thesis					20		MT
Sum		**30**	**24**	**30**	**25**	**30**	**0**	

Table 2: Profile Development and Technological Innovation (TMO EN)

Technology Management and Optimization (TMO)		**TMO-Profile Development and Technological Innovation (EN) Assigned semester, ECTS and SWS**						**Type of examination**
Modules	Courses	1 (WT)		2 (ST)		3 (WT)		graded
		ECTS	SWS	ECTS	SWS	ECTS	SWS	
Module 1 **Product Engineering 1**	Digital design methods	3	2					Portfolio
	Agile development processes	2	2					
Module 2 **Product Engineering 2**	Modern material technologies			5	4			M
Module 3 **Product Engineering 3**	Cyberphysical systems	5	4					K90 or Portfolio
Module 4	Machine vision			3	2			PA
Product Engineering 4	Autonomous systems			2	2			
Module 5 **Product Engineering 5**	Digital transformation design			5	4			Portfolio
Module 6 **Production Engineering 1**	Automation systems			5	4			K60 or Portfolio
Module 7 **Production Engineering 2**	Analysis and optimization of production systems							K90
	Factory planning							
Module 8 **Production Engineering 3**	Digital planning of production systems							Portfolio
	Simulation of production systems							
Module 9 **Technologiemanagement**	Technology intelligence and futurology			3	3			Portfolio
	Technology development and implementation			2	2			
Module 10 **Business Management 1**	Business model optimization							Portfolio
Module 11 **Business Management 2**	Development of digital business models							Portfolio
Module 12 **Optimierungsmethoden 1**	Optimization with Matlab	5	4					K60
Module 13 **Optimierungsmethoden 2**	Design of Experiments			5	4			M
Module 14 **Business Analytics 1**	Data Science	5	4					K90 or Portfolio
Module 15 **Business Analytics 2**	Applications of business analytics	5	4					Portfolio
Module 16 **Business Analytics 3**	Machine learning	5	4					M or K60
Module 17 **Practice Project**	Lean and digitalization project							Portfolio
Elective Courses 18 Electives courses for specialization in the field of industrial engineering	Elective courses also from other faculties					10		
Module 19 Entrepreneurship	Foreign Studies with Partner Universities							
Master's thesis	Master seminar and Master's thesis					20		MT
Sum		**30**	**24**	**30**	**25**	**30**	**0**	

Table 3: Profile International and Entrepreneurship (TMO IE)

Technology Management and Optimization (TMO)		**TMO-Profile International and Entrepreneurship (IE) Assigned semester, ECTS and SWS**						**Type of examination**
Modules	Courses	1 (ST)		2 (WT)		3 (ST)		graded
		ECTS	SWS	ECTS	SWS	ECTS	SWS	
Module 1 Product Engineering 1	Digital design methods							Portfolio
	Agile development processes							
Module 2 Product Engineering 2	Modern material technologies							M
Module 3 Product Engineering 3	Cyberphysical systems							K90 or Portfolio
Module 4 Product Engineering 4	Machine vision							PA
	Autonomous systems							
Module 5 Product Engineering 5	Digital transformation design							Portfolio
Module 6 Production Engineering 1	Automation systems	5	4					K60 or Portfolio
Module 7 Production Engineering 2	Analysis and optimization of production systems							K90
	Factory planning							
Module 8 Production Engineering 3	Digital planning of production systems	3	2					Portfolio
	Simulation of production systems	2	2					
Module 9 Technologiemanagement	Technology intelligence and futurology	3	3					Portfolio
	Technology development and implementation	2	2					
Module 10 Business Management 1	Business model optimization	5	4					Portfolio
Module 11 Business Management 2	Development of digital business models							Portfolio
Module 12 Optimierungsmethoden 1	Optimization with Matlab							K60
Module 13 Optimierungsmethoden 2	Design of Experiments	5	4					M
Module 14 Business Analytics 1	Data Science							K90 or Portfolio
Module 15 Business Analytics 2	Applications of business analytics							Portfolio
Module 16 Business Analytics 3	Machine learning							M or K60
Module 17 Practice Project	Lean and digitalization project	5	4					Portfolio
Elective Courses 18 Electives courses for specialization in the field of industrial engineering	Elective courses also from other faculties					10		
Module 19 Entrepreneurship	Foreign Studies with Partner Universities			30				
Master's thesis	Master seminar and Master's thesis					20		MT
Sum		**30**	**25**	**30**	**0**	**30**	**0**	

§ 41 Master's Program Electrical Engineering and Embedded Systems

(1) Consecutive study

The consecutive Master's 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 Diplom degree.

The curriculum for the Master's program Electrical Engineering and Embedded Systems is shown in tables 1 and 2a or 2b.

There are two course specializations possible:

- System-On-Chip Design & Operation (table 2a) and
- Sensor Data Processing (table 2b).

Students choose one of these.

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 Board will publish the permissible elective subjects with a notice on the bulletin board.

Students may also do a research project work in one of the university's laboratories as the elective course in the second semester (EMM2).

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

(2) Scope of the study program

Courses as well as related course achievements and accredited examinations corresponding to at least 90 ECTS are required for successful graduation from the consecutive study program. ECTS are earned according to tables 1 and 2a or 2b.

(3) Language of instruction

Courses are offered in the English language.

(4) Accredited examinations

The accredited examinations provided for semesters EMM1, EMM2 and EMM3 are specified in tables 1 and 2a or 2b. 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		Type of exam		Scope of exam	
V	Lecture	**MT**	Master´s thesis	**SWS**	Semester hours
P	Laboratory / practical course	**PF**	Portfolio	**ECTS**	ECTS points in compliance with the European Credit Transfer System
PR	Project work	**K(xx)**	Written test with a duration of xx minutes		
S	Seminar	**M**	Oral examination		
		R	Seminar Paper and presentation		
		PA	Practical work (lab, term paper, exercise or seminar paper)		
		RPA	Practical work documented by a seminar paper and presentation (50% PA graded and 50% R graded)		

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

(5) Master's Thesis

The Master's thesis can only be commenced if mandatory courses and related coursework have been completed with at least 45 ECTS points. The Master's thesis shall have a duration of 6 months.

Amendment to § 10 (9) of the "General Part of this Study and Examination Regulations": Second examiner can also be a scientific assistant, who has been conferred upon the authority to examine, according to legal regulations.

After completion of the Master's thesis, the results shall be presented at Hochschule Ravensburg-Weingarten - University of Applied Sciences, in an event open to all members of the university.

(6) Master's Certificate

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

(7) 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 ECTS points earned.

(8) Validity

This SPO is valid starting from summer semester 2025.

Table 1: Master's Program Electrical Engineering and Embedded Systems

Module	Course	Curricular semester assigned				Accredited examination
			1	2	3	
		Type	ECTS/ SWS	ECTS/ SWS	ECTS/ SWS	
Applied Mathematics	Applied Mathematics	V+P	5/4			K90 or PF
Numerical Methods	Numerical Methods	V+P	5/4			K90 or PF
Embedded Computing 1	Embedded Computing	V	5/4			PF
Embedded Computing 2	Embedded Computing Lab	P (2 SWS)		4/4		PF
	Embedded Computing Project	PR (2 SWS)				
Signal Processing 1	Sensor and Actuator Signals	V+P	5/4			K90
Communications 1	Nearfield Communication	V+P	5/4			K90
Communications 2	Wireless Communication	V+P		5/4		K90
Advanced Control Systems	Advanced Control Systems	V (4 SWS)		6/6		K90*
	Advanced Control Systems Lab	P (2 SWS)				
Profile 1	(see table 2a and b)		5/4			
Profile 2	(see table 2a and b)			5/4		
Profile 3	(see table 2a and b)			5/4		
Elective				5/x		
Embedded Control	Embedded Control Seminar	S (2 SWS)			5/4	RPA
	Embedded Control Lab	P (2 SWS)				
Master'sThesis	Master's Thesis with Colloquium 20 %				25	MT + R
summary ECTS / SWS			**30/24**	**30/22+x**	**30/4**	

*Lab attendance documented by not graded lab report is required for admission to exam.

Table 2a: Master Program Electrical Engineering and Embedded Systems Profile - System-On-Chip Design & Operation

Module	Course	Curricular semester assigned				Accredited examination
			1	2	3	
		Type	ECTS/SWS	ECTS/SWS	ECTS/SWS	
Circuits & Systems 1	System-On-Chip Modeling & Design	V+P	5/4			PF
Circuits & Systems 2	System-On-Chip Operation & Test	V+P		5/4		PF
Computer Architecture	Computer Architecture	V+P		5/4		PF

Table 2b: Master Program Electrical Engineering and Embedded Systems Profile – Sensor Data Processing

Module	Course	Curricular semester assigned				Accredited examination
			1	2	3	
		Type	ECTS/SWS	ECTS/SWS	ECTS/SWS	
Computer Vision	Computer Vision	V+P	5/4			PF
Lidar and Radar Systems	Lidar and Radar Systems	V+P		5/4		PF
Signal Processing 2	Digital Filters	V+P		5/4		RPA

C. Final Provisions

§ 42 Entry into force

These study and examination regulations come into force on January 16th, 2025. At the same time, the previous Study and Examination Regulations for the Master's Programs of Hochschule Ravensburg-Weingarten (RWU) University of Applied Sciences dated June 27th, 2024 shall cease to apply. Unless otherwise agreed, students who are already enrolled will continue to be subject to the course-related special section of the study and examination regulations in the version in which they began their studies.

Weingarten, January 16th, 2025

Sgn. Prof. Dr.-Ing. Thomas Spägele

Rector

Weingarten, January 16th, 2025

Sgn. Prof. Dr. Sebastian Mauser

Vice-Rector for Student Affairs,

Teaching and Quality Management

For notarization

Sgn. Henning Rudewig

Chancellor