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Production Engineering and Management
at the OWL University of Applied Sciences and Arts
(MPO PEM)

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**Production Engineering and Management
at the OWL University of Applied Sciences and Arts
(MPO PEM)**

dated 4 February 2020

On the basis of § 2 para. 4 and § 64 para. 1 of the Law governing the Universities of the Federal State of North Rhine-Westphalia (Higher Education Act) from 16 September 2014 (GV. NRW. p. 547), last amended by the Act Amending the Higher Education Act 12 July 2019 (NRW.p. 377), the OWL University of Applied Sciences and Arts has enacted the following statutes:

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I. General information

§ 1

Area of application

These examination regulations for the “Production Engineering and Management” Master’s program at the OWL University of Applied Sciences and Arts (TH OWL) apply in conjunction with the current valid version of the general section of the Master's degree examination regulations of the OWL University of Applied Sciences and Arts. The program operates as a double degree program alongside partner university Università degli Studi di Trieste (UNITS).

§ 2

Master’s degree

After the student passes their Master’s exam, he or she will be awarded the academic degree of “Master of Science”, abbreviated “M.Sc.” by the OWL University of Applied Sciences and Arts, and the academic degree of “Laurea Magistrale” by the Università degli Studi di Trieste.

§ 3

Requirement for study, entrance restrictions

- (1) In order to begin the degree program,
 1. the student must submit verification that they have completed a Bachelor’s or final examination in an industrial engineering area at the TH OWL, in particular in the programs of wood engineering, innovative production systems, industrial engineering or digital engineering, with a standard degree program length of at least six semesters. In exceptional cases, verification that they have completed a Bachelor's or final examination in another degree program at least six semesters in length may be accepted, if the majority of the content in this program is comparable to that of the degree programs indicated.
 2. furthermore, the student must submit verification that they have achieved a final overall grade of 3.0 or better in the degree program completed in accordance with no. 1 and
 3. students must submit verification of their English language skills by a “First Certificate in English – FCE” (corresponds to the B 2 level of the Common European Framework), or equivalent certification.

- (2) The Teaching Commission will determine whether the requirements of paragraph 1 no. 1 clause 2 have been fulfilled.

§ 4

Standard degree program length, required coursework, teaching and examination language, Tests at partner university

- (1) The standard degree program length is four semesters, including the Master's examination. Students may begin their degrees at the TH OWL in either the summer or the winter semester.
- (2) Students must complete a total of 120 credits. A single credit at the TH OWL is based on 30 hours of work.
- (3) Depending on whether UNITS or TH OWL is considered the student's "home university" (students whose "home university" is the TH OWL will be referred to in the following document as TH OWL students, while students whose "home university" is UNITS will be referred to in the following document as UNITS students) and depending on when they began their studies, the study schedule provides for the following locations of study:

a) "Home university": UNITS

Program start date: Winter semester

Semester	Locations of study
1. Sem. (WS)	UNITS
2. Sem. (SS)	UNITS
3. Sem. (WS)	TH OWL
4. Sem. (SS)	UNITS

b) "Home university": TH OWL

Program start date: Winter semester

Semester	Locations of study
1. Sem. (WS)	TH OWL
2. Sem. (SS)	UNITS
3. Sem. (WS)	TH OWL
4. Sem. (SS)	TH OWL

c) "Home university": TH OWL
 Program start date: Summer semester

Semester	Locations of study
1. Sem. (SS)	TH OWL
2. Sem. (WS)	TH OWL
3. Sem. (SS)	UNITS
4. Sem. (WS)	TH OWL

- (4) Coursework and examinations for the Master's degree program in Production Engineering and Management are held at UNITS in English. Some of the coursework and examinations at the TH OWL are carried out in English and – if subjects are to be completed only by TH OWL students – some are carried out in German. TH OWL students also generally have the option of completing their entire degree program in English – in particular if they are not able to verify sufficient knowledge of the German language (TestDaF or equivalent certifications). In such cases, the student must pass the English electives indicated in the study schedule in Annex 1 at the TH OWL.
- (5) The provisions of our partner university apply to examinations completed during the course of study (Annex 1) and to completing the final examination (Master's examination) at UNITS. The examination provisions of our partner university apply to their examination committees.

§ 5

Testing structure and testing dates

- (1) The Master's examination represents the end of the Master's degree program. The Master's examination is divided into examinations completed during the course of study and the Master's thesis as the final part of the examination. This consists of a written part and an oral part (colloquium).
- (2) The degree program and testing process must be designed so that students can complete the degree program and Master's examination within four semesters. For this purpose, the candidate must be informed promptly regarding the type and number of tests they must complete, as well as the deadlines for completing them and the dates on which the written part of the Master's thesis will be issued and delivered.
- (3) Typically, the student should register for the final part of the Master's examination (request for admission to the written part of the Master's thesis) during their fourth semester.

§ 6

Assessment of test performance

- (1) In deviation from § 10 para. 1 of the general section of the Master's degree examination regulations, the interim values 1.25; 1.50; 1.75; 2.25; 2.50; 2.75; 3.25, 3.50 and 3.75 may be used to differentiate among assessments of testing performance.
- (2) In deviation from § 10 para. 5 of the general section of the Master's degree examination regulations, only the first two decimal places are taken into consideration when determining the student's module grades and their overall grade; all other places after that are cut off, without rounding.
- (3) Grades at our partner university are converted in accordance with Annex 2; the grade of "passed" is used for ungraded examinations.

§ 7

Repeating tests

- (1) Tests graded as at least "sufficient" (4.00) cannot be repeated.
- (2) Tests or examinations completed during the course of study that the student did not pass may be repeated a maximum of three times. Repeat tests can also be completed at our partner university (UNITS). The testing conditions of the partner university that offers the module apply (TH OWL); and the test will be graded by test administrators at the providing partner university (TH OWL).
- (3) If the student does not pass their Master's thesis, they may repeat it one time. When calculating the student's number of attempts, a failed attempt in the same degree program at the partner university will be included as a failure.

II. Examinations completed during the course of study

§ 8

Scope and format of examinations completed during the course of study

- (1) The form and scope of examinations completed during the course of study are defined in §§ 11 to 16.

(2) Credits must be obtained in the modules indicated in Annex 1 at the TH OWL or UNITS, by completing tests in accordance with paragraphs 3 and 4.

(3) TH OWL students must

- obtain 41 credits by completing examinations in the test subjects listed in Annex 1,
- obtain 5 credits by completing examinations in a module in subject group A “Skills” (TH OWL);
- obtain 10 credits by completing examinations in two subjects (sub-modules) in subject group B “Management and IT of SME” (TH OWL),
- obtain 10 credits by completing examinations in two subjects (sub-modules) in subject group C “Specialised Manufacturing Technologies” (TH OWL) and
- obtain 10 credits by completing examinations in two subjects (sub-modules) in subject group D “Product and Process Development” (TH OWL),
- obtain 20 credits by completing examinations in four other elective subjects

If the student has obtained or exceeded the required number of credits, then other subjects in which they have obtained credits are considered additional subject areas.

(4) The provisions of our partner university apply to examinations completed during the course of study at the UNITS.

§ 9

Admission to examinations completed during studies

The student’s admission to an examination may be made dependent on their active participation in the course in question. Students can verify their active participation by their coursework (such as through a log, report, composition, or short presentation). The student's coursework ensures that they are actively involved in the course in question and that their participation is adequate for the subject matter. The instructor is responsible for determining whether the student has completed the required coursework, and must inform the examination office of this promptly. If the student does not complete their coursework, they may repeat it.

§ 10

Conducting of examinations completed during studies

Students may not have any electronic devices with them during examinations (except for devices required for medical reasons). All electronic devices (such as digital watches, cell phones, smartphones, headphones, and AirPods must be shut off and stored in a bag or backpack away

from the student's desk. Violations will be considered attempted cheating. This does not include aids which the student completing the exam has express permission to use, such as calculators.

§ 11

Paper-based exams and e-testing

- (1) The examination consists of a written test which the student is given one to two hours to complete. The test is supervised. The test administrator decides whether any aids will be permitted to complete the test.
- (2) Tests can also be completed using multimedia tools ("e-testing"). Such tests consist, in particular, of free text writing prompts, fill in the gap texts and/or matching tasks. Multiple choice questions are permitted in accordance with the requirements of § 11 a. Before carrying out multimedia-supported tests, the test administrator must ensure that electronic data is clearly identified and can be permanently and uniquely linked to the specific candidate.
- (3) Typically, just one tester administers the testing tasks for the examination. In legitimate cases, in particular if the module test covers several areas at once, the testing task may also be administered by multiple testers. In this case, the testers will jointly weight the portions of the testing task in advance.
- (4) Tests are graded by the test administrator. Tests that must be passed in order to pass the final overall degree program requirements, and that would result in the student being removed from the program if failed, are also graded by a second authorised test administrator.
- (5) If the test includes multiple-choice tasks, then the test is graded overall in accordance with § 11 a para. 4 to 7. The other paragraphs of § 11 a apply accordingly to the multiple choice section.

§ 11 a

Multiple choice testing

- (1) Tests can be conducted as multiple choice tests. When completing a multiple choice test, candidates must answer questions by finding and providing the correct answer or answers from a list of given potential answers.
- (2) The test questions and possible answers (examination task) are defined by at least two test administrators. They must record in writing what possible answers will be accepted as correct answers, how many points are assigned to each test question, and how many points overall can be gained.

- (3) Along with the task, the candidate must be informed of how points are assigned, the total possible number of points and the points assigned to each task.
- (4) The candidate is considered to have passed the test if he receives 50 % of the maximum number of points (absolute pass mark) or if the candidate's score falls below the average score of the reference group of candidates by less than 15 % (relative pass mark). The reference group in this case is formed of candidates taking part in this specific test. If the test is held jointly for candidates from multiple degree programs, then the candidates from the different degree programs jointly make up the reference group. The relative pass mark should only be taken into consideration if it is below the absolute pass mark.
- (5) Grades should be evaluated as follows:

If the candidate has received the minimum number of points necessary to pass the test in accordance with paragraph 4, then their grade is:

- 1.0 if he receives at least a further 90 %
- 1.3 if he receives at least a further 80, but less than 90 %
- 1.7 if he receives at least a further 70, but less than 80 %
- 2.0 if he receives at least a further 60, but less than 70 %
- 2.3 if he receives at least a further 50, but less than 60 %
- 2.7 if he receives at least a further 40, but less than 50 %
- 3.0 if he receives at least a further 30, but less than 40 %
- 3.3 if he receives at least a further 20, but less than 30 %
- 3.7 if he receives at least a further 10, but less than 20%
- 4.0 if he receives none or less than 10 %

of the possible points beyond the minimum points.

- (6) When determining testing results in accordance with paragraph 4 and the student's grade in accordance with paragraph 5, scores will be rounded up in the candidate's favour.
- (7) When determining the candidate's score, the following must be indicated:
 1. The total number of possible points and the candidate's points,
 2. The number of points required to pass the absolute pass mark, as well as the average points scored by the reference group and the number of points required to reach the relative pass mark,
 3. If the candidate passes, the percentage by which their points exceed the minimum points,
 4. The candidate's grade.

- (8) When determining testing results, the test administrators must note whether any test questions in particular are often frequently missed, possibly indicating that the testing task was poorly formulated. If some test questions or possible answers do appear to have been poorly formulated, after completing the test, then these testing tasks will not be considered in the scoring process. The total possible points will be reduced accordingly, and the reduced total number of points will be used to determine test scores. The testing committee must be informed of the issue. They may review the grading process and making a binding determination of whether individual testing tasks should be removed from the scoring. Reducing the number of tasks/points in this way may not be to the detriment of the candidates.
- (9) Multiple choice tests can also be given in a multimedia-supported format (“e-multiple choice”).
- (10) § 11 applies accordingly.

§ 12

Programming work

- (1) In a test of “programming work”, candidates receive a written task from a certain module area, then have one to two hours to create a computer program. Programming work is supervised. The test administrator decides whether any aids will be permitted to complete the test. The computer program must be saved on a data storage media stipulated by the test administrator, and/or as a file at a path and on a computer stipulated by the test administrator. The candidate must provide is personal information, the complete file name, the file size, date, and time for the required saved file.
- (2) Typically, just one tester administers the testing tasks for a programming test.
- (3) The test administrator scores the programming work. Programming work that would result in the student’s removal from the program from the program if the student fails is also scored by a second test administrator.
- (4) If the student does not deliver their computer program on time or in the required format, then the test is graded “insufficient” (5.00) in accordance with § 11 para. 1 clause 2 of the general section of the Master's degree examination regulations.

§ 13
Oral examinations

- (1) Oral examinations are generally administered by one or two test administrators, in the presence of one expert assessor from the subject area, or in front of multiple test administrators (examination panel) as a group or individual examination. Each candidate is tested in each area by only one test administrator. Oral examinations last between 15 and 45 minutes per candidate. The exact length of the examination will be determined at the latest when the examination schedule is issued. The length of the examination is extended depending on the number of candidates for group examinations. The expert assessors may not ask questions during the exam. The test administrator must consult with the expert assessor before assigning a grade, or multiple test administrators must consult with one another before assigning a grade.
- (2) The primary objects and results of the test, in particular those that affect the score, must be recorded in a log. The candidate must be informed of the results of the test following the oral examination.
- (3) Students that plan to take the same test during a later examination period will be permitted to sit in as spectators if space allows, unless a candidate has objected to this when they signed up for the exam. Spectators will, however, not be allowed to watch the consultations or know the exam results.

§ 14
Presentation

- (1) In a “presentation” exam, the candidate must independently complete a task from the area of the module, and present their results and how they reached those results orally. They will have at least four weeks to complete the task. The examination committee will set the length of the presentation, with a maximum limit of 35 minutes per candidate. The test administrator(s) may only ask comprehension questions to help them understand the candidate's approach and results during the presentation. Candidates admitted to the same examination module during the same examination period may listen to the presentation as spectators, and the candidate may not object to having spectators.
- (2) “Presentation” examinations can also be given during seminar courses. The examination committee may stipulate further requirements, in particular registration deadlines.
- (3) The responsible instructor will issue the task, which will be announced to students via a public posting after it is approved by the examination committee.
- (4) § 13 applies accordingly.

- (5) Presentations are generally given in the presence of spectators and one test administrator with an expert assessor present, or in the presence of multiple test administrators (examination panel) as an individual examination. Only the test administrator(s) may ask comprehension questions on the candidate's results and how they obtained them. Only the content of the question and the student's answers to comprehension questions will be graded. The test administrator must consult with the expert assessor before assigning a grade, or multiple test administrators must consult with one another before assigning a grade.
- (6) The primary objects and results of the presentation, in particular those that affect the score, must be recorded in a log. The candidate must be informed of the results of the test following the presentation.

§ 15

Composition

- (1) In a "composition" exam, the candidate must independently complete a task from the area of the particular module. Depending on the task in question, the composition may be written or may involve programming, or it may be a graphic draft or graphic illustration, or may consist of producing a workpiece or a model. Combined formats are permitted. The task should contain information on the required scope of the composition. Students will have at least four weeks to complete the task.
- (2) The examination committee will stipulate the issue and due dates for the task, the expected work results, and where the composition should be returned following coordination with the test administrator, and will provide this information to the students promptly. Candidates must be provided with the task in written form. "Composition" examinations can also be given during seminar courses. The date on which the task is issued is considered the exam date in the sense of § 13 para. 5 of the general section of the Master's degree examination regulations.
- (3) The composition must be submitted to the office indicated on the written task, at the latest by the set due date. The test administrator(s) must record the date on which the task was returned; if work is delivered by mail or by a comparable commercial delivery service, then the time at which it is delivered by the mail or delivery service will be decisive. When submitting their written composition, the candidate must assure in writing that they have completed their work – or for group work the part of the work designated as their own – independently, and that they have not used any sources or materials beyond those indicated and those cited in quotes. If a written composition is not submitted on time, it will be graded as "insufficient" (5.0). Compositions may be submitted electronically. They may be uploaded via the ILIAS learning platform for this purpose. When submitting a composition via ILIAS, the candidate must also submit a certification to the chair of the examination committee that they have written the work – or for

group work, the part of the work designated as their own – independently and that they have not used any sources besides those indicated, and that the work was not submitted in this or any other form to any other examination.

§ 16

Semester work projects

- (1) Semester work projects are issued by the test administrator throughout the semester. This is a comprehensive examination format which typically involves written, oral, and practical testing components. Both professional and methodological expertise as well as social and self-competence may be tested.
- (2) The conditions for successfully passing the task are disclosed and documented during the introductory event. Tasks are assigned during the first or second introductory event, where each student receives their own individual task. If all students are to complete the same task, then it is sufficient to simply state the requirements and submission deadlines during the introductory event.

III. Internships, Master's thesis

§ 17

Internship / scientific research appointment

- (1) Students in the Production Engineering and Management Master's program must complete a four-week internship.
- (2) The internship is designed in particular to allow students to apply the knowledge and skills they have gained through their past studies and to reflect on and evaluate the experiences they have had while completing their practical work.
- (3) The internship should be completed after the third semester lecture period.
- (4) The examination committee will admit students to the practical phase, approve internship placements, and appoint advising professors. The examination committee may assign these duties to a professor in the responsible department. The examination committee will decide in case of doubt or any contradictions.

- (5) Advising professors will confirm that the student has successfully completed the internship once they have read the reference from the training institution and a report to be completed by the student in English and determined that the student has satisfactorily completed the work assigned to them during the practical phase, that their employment was appropriate, and that they have actively taken part in the assessment event required for the internship. To actively participate, students will give an English-language presentation on their internship.
- (8) Students will be awarded 6 credits for successfully completing their internship.

§ 18

Written part of the Master's thesis

- (1) The written part of the Master's thesis typically consists of the student independently completing a complex task using academic / scientific methods, and providing a comprehensive explanation and description of the way they solved the task at hand. The written part of the Master's thesis must be completed in English, with a brief description in either German or English. 40 pages is the expected reference length for the written part of the Master's thesis.
- (2) Students will have a maximum of three months to complete the written part of their Master's thesis.
- (3) In deviation from § 20 para. 2 of the general section of the Master's degree examination regulations, the written part of the Master's thesis must be graded in writing and in English by at least two to four test administrators. One of the test administrators must be the student's advisor for the written part of the Master's thesis. The test administrators are named by the examination committee, and an authorised examiner must be appointed from UNITS in coordination with and with the support of the TH OWL and UNITS program coordinators. The test administrators assigned to the written part of the Master's thesis evaluate the colloquium jointly, whereby the UNITS test administrator(s) typically take part in the colloquium via video call. The written part of the Master's thesis and the associated colloquium are assessed as a single unit. Before assigning a grade, the test administrators must consult with one another. The individual test administrators must assign their own assessments according to § 6 para. 1. The Master's thesis grade is determined based on the arithmetic mean of individual grades in accordance with § 10 para. 3 of the general section of the Master's degree examination regulations. The candidate must be informed of the results of the Master's thesis following the colloquium.
- (4) Students will be awarded 18 credits for successfully completing their Master's thesis.

§ 19
Admission to the written part of the Master's thesis

Students can only be admitted to the written part of the Master's thesis if:

1. They have passed the examinations during the course of study in accordance with § 8 para. 3 and
2. They have verified their successful participation in an internship/academic research fellowship.

§ 20
Colloquium

- (1) Colloquiums are typically public, and start with a presentation of results from the written part of the Master's thesis.
- (2) The colloquium lasts around 20 minutes for each candidate. The regulations (§ 13) applicable to oral examinations also apply to the colloquium accordingly.

§ 21
Result of the Master's examination

- (1) In addition to § 22 para. 2 of the general section of the Master's degree examination regulations, the following apply: If the candidate has attempted examinations in subjects offered by UNITS according to the degree program examination regulations, then UNITS is entitled to determine whether the student passes or fails. The partner university must inform the responsible examination committee at the TH OWL if the student fails their examination. If the candidate has attempted examinations in modules offered by the TH OWL according to the examination regulations, then the responsible examination committee at the TH OWL is responsible for determining that the candidate has failed, and must inform the testing committees at the partner university of this in writing.
- (2) In addition to § 22 para. 3 of the general section of the Master's degree examination regulations, an English translation must be enclosed with the information on available legal remedies.

§ 22

Grade report, overall grades, Master's degree certificate, Master's examination

- (1) The TH OWL and UNITS will each issue a grade report indicating that the candidate has passed their Master's examination. The TH OWL will issue the grade report promptly and in German, if possible within six weeks after the last work involved with the examination is submitted. The report must note that the program was administered jointly with UNITS. The grade report must include grades for all examinations completed during the course of study, the topic and grade on the Master's thesis, the overall grade on the Master's examination and the place where examinations were completed. The grade must be indicated in words and as a number with two decimal places, in parentheses. The grade "passed" is assigned for ungraded examination results. If an internship has been completed, this must be noted. The number of credits received for the examination results must be indicated beside each result; this applies accordingly to the internship. The credits received for the examination results and total credits received for the internship phase must be indicated. Examinations that have been credited must be identified as such.
- (2) The TH OWL and UNITS will each issue a certificate of the university degrees awarded in accordance with § 2. The TH OWL will issue the Master's degree certificate, with the date of the certificate and program of study, at the latest 3 months after the final work associated with the examination has been completed. The report must note that the program was administered jointly with UNITS. The Master's degree certificate will be issued in German.

IV. Invalid tests, withdrawal of the Master's degree

§ 23

Invalidity of the Master's examination, withdrawal of the Master's degree

In addition to § 26 of the general section of the Master's degree examination regulations, a decision in accordance with § 26 para. 1 and para. 2 clause 2 of the general section of the Master's degree examination regulations will be issued in writing to the examination committees of the partner university.

V. Final provisions

§ 24 Transitional provisions

- (1) These regulations apply to all students admitted to the first semester of the Master's program in Production Engineering and Management starting in the 2019/2020 winter semester.
- (2) For students who register
 - for the 2020 summer semester in their second semester,
 - for the 2020/2021 winter semester in their second or third semester,
 - for the 2021 summer semester in the second to fourth semester
 - for the Master's degree in Production Engineering and Management at the OWL University of Applied Sciences and Arts , para. 1 applies accordingly.
- (3) Students who begin their Master's degree in Production Engineering and Management at the OWL University of Applied Sciences and Arts before the 2019/20 winter semester can complete their examinations up to and including those for the 2021/2022 winter semester in accordance with the Master's degree examination regulations of 26 February 2013 (announcement sheet of the OWL University of Applied Sciences and Arts 2013/no. 5), amended by the regulations of 25 May 2016 (announcement sheet of the OWL University of Applied Sciences and Arts 2016/no. 13), unless they request in writing that the new examination regulations should apply. A request to apply the new examination regulations may not be revoked.
- (4) In hardship cases, the examination committee can extend the deadline under paragraph 3, following a written request to do so. After the deadline in accordance with paragraph 3, or after the end of the extended deadline, the Master's degree examination regulations for the Production Engineering and Management program at the OWL University of Applied Sciences and Arts apply in their current valid version.

§ 25

Entry into force and publication

- (1) These examination regulations shall come into force as of 01 September 2019.
- (2) They will be published in the announcement sheet of the OWL University of Applied Sciences and Arts.

These examination regulations shall be issued following review by the steering committee of the OWL University of Applied Sciences and Arts and based on a resolution by the department of production and wood technology of 28 August 2019 and 15 January 2020.

Lemgo, 04 February 2020

The President
of the OWL University of Applied Sciences and Arts

Prof. Dr. Jürgen Krahl

Note:

One year after these regulations are enacted, breaches of procedural or formal regulations under the Higher Education Act or under other university laws or regulations may only be asserted under the stipulations of § 12 paragraph 5 no. 1 to no. 4 of the NRW Higher Education Act. Otherwise, such objections will be excluded.

Studienverlaufsplan Masterstudiengang Production Engineering and Management

Modul -Nr.	Modul	Sprache	SWS	CR	Semester/SWS			
					SoSe 1, 2, 3	WiSe 1, 2, 3	4	
Pflichtfächer								
7948	MADM	Advanced Mathematics ¹⁾	E	4	5		4	
7962	MATH	Angewandte Mathematik ²⁾	D	4	5	4		
		Product Design and Engineering (UNITS)	E	5	6	5		
		Information Processing and Control Engineering (UNITS)	E	5	6	5		
		Operations Management (UNITS)	E	5	6	5		
		Robotics and Mechatronics (UNITS)	E	5	6	5		
		Materials and Technologies (UNITS)	E	5	6	5		
7902	MSEM	Seminar International Production Management	E		6			x
Summe Pflichtfächer					41			
Wahlpflichtfächer								
7939	MIPM	Human Resources	E/D	4	5		4	
7927	MPRS	Prozessstabilisierung	D	4	5		4	
7949	MEHP	Nachhaltige Entwicklung holztechnolog. Prozesse	D	4	5		4	
7950	MIOH	Industrielle Oberflächenbeschichtung Holz	D	4	5		4	
7951	MIWK	Innovative Werkstoffkonzepte	D	4	5	4		
7952	MPBO	Präzisionsbearbeitung / Technische Optimierung	D	4	5	4		
7953	MZWP	Zerstörungsfreie Werkstoffprüfung	D	4	5	4		
7932	MPCO	Globale Produktion	D	4	5	4		
7938	MWIR	Wirtschaftsrecht	D	4	5	4		
7954	MBUF	Bilanzierung und Finanzwirtschaft	D	4	5	4		
Wahlpflichtmodul-Gruppe A: Skills (wähle mind. 1 von 2)								
7905	MENG	Advanced Business English	E	4	5	4	4	
7904	MIMS	International Management Skills	E	4	5		4	
Wahlpflichtmodul-Gruppe B: Management and IT of SME (wähle mind. 2 von 4)								
7916	MITM	Data Structure for Production Technology	E	4	5		4	
7918	MSTM	Strategic Management	E	4	5		4	
7955	MDAT	Data Analytics	E	4	5		4	
7917	MERP	IT-Systems in Production Management	E	4	5		4	
Wahlpflichtmodul-Gruppe C: Specialized Manufacturing Technologies (wähle mind. 2 von 4)								
7956	MSTL	Structure and Processes of Logistics	E	4	5		4	
7957	MPRS	Robust and Adaptable Production Systems	E	4	5		4	
7958	MRDT	Rapid Development and Technologies	E	4	5		4	
7942	MACI	Automated Complex Installations	E	4	5		4	
Wahlpflichtmodul-Gruppe D: Product and Process Development (wähle mind. 2 von 4)								
7940	MINN	Innovation Management	E	4	5		4	
7911	MPTO	Advanced Production Technologies and Optimisation	E	4	5		4	
7959	MPCP	Product Costing and Advanced Planning	E	4	5		4	
7960	MDTF	Digital Transformation	E	4	5		4	
Summe Wahlpflichtfächer					mind. 55			
7901	MINT	Internship / Wissenschaftliches Praktikum	E		6			
7961	MPEM	Master Thesis Production Engineering and Management	D		18			x
Summe Credits					mind. 120			

SWS = Semesterwochenstunden CR = Credits D = Deutsch E = Englisch

¹⁾ Pflichtmodul für zum Wintersemester eingeschriebene Studierende

²⁾ Pflichtmodul für zum Sommersemester eingeschriebene Studierende

Course Curriculum Masterstudiengang Production Engineering and Management

Module -Nr.	Module	Language	SWS	CR	Semester/SWS			
					SuSe	WiSe	4	
Compulsory Modules								
7948	MADM	Advanced Mathematics ¹⁾	E	4	5		4	
7962	MATH	Advanced Mathematics ²⁾	G	4	5	4		
		Product Design and Engineering (UNITS)	E	5	6	5		
		Information Processing and Control Engineering (UNITS)	E	5	6	5		
		Operations Management (UNITS)	E	5	6	5		
		Robotics and Mechatronics (UNITS)	E	5	6	5		
		Materials and Technologies (UNITS)	E	5	6	5		
7902	MSEM	Seminar International Production Management	E		6			x
Sum Compulsory Modules					41			
Elective Modules								
7939	MIPM	Human Resources	E/G	4	5		4	
7927	MPRS	Process Stabilisation	G	4	5		4	
7949	MEHP	Sustainable Develop. for Production Technology	G	4	5		4	
7950	MIOH	Advanced Wood Surface Technologies	G	4	5		4	
7951	MIWK	Innovative Material Concepts	G	4	5	4		
7952	MPBO	Precision Machining / Technological Optimisation	G	4	5	4		
7953	MZWP	Non Destructive Material Testing	G	4	5	4		
7932	MPCO	Globale Production	G	4	5	4		
7938	MWIR	Business Law	G	4	5	4		
7954	MBUF	Accounting and Finance	G	4	5	4		
Subject Area A: Skills (choose min. 1 out of 2)								
7905	MENG	Advanced Business English	E	4	5	4	4	
7904	MIMS	International Management Skills	E	4	5		4	
Subject Area B: Management and IT of SME (choose min. 2 of 4)								
7916	MITM	Data Structure for Production Technology	E	4	5		4	
7918	MSTM	Strategic Management	E	4	5		4	
7955	MDAT	Data Analytics	E	4	5		4	
7917	MERP	IT-Systems in Production Management	E	4	5		4	
Subject Area C: Specialized Manufacturing Technologies (choose min. 2 out of 4)								
7956	MSTL	Structure and Processes of Logistics	E	4	5		4	
7957	MPRS	Robust and Adaptable Production Systems	E	4	5		4	
7958	MRDT	Rapid Development and Technologies	E	4	5		4	
7942	MACI	Automated Complex Installations	E	4	5		4	
Subject Area D: Product and Process Development (choose min. 2 out of 4)								
7940	MINN	Innovation Management	E	4	5		4	
7911	MPTO	Advanced Production Technologies and Optimisation	E	4	5		4	
7959	MPCP	Product Costing and Advanced Planning	E	4	5		4	
7960	MDTF	Digital Transformation	E	4	5		4	
Sum Elective Modules					min. 55			
7901	MINT	Internship / Wissenschaftliches Praktikum	E		6			
7961	MPEM	Master Thesis Production Engineering and Management	G		18			x
Sum Credits					min. 120			

SWS =Hours per Week CR = Credits G = German E = Englisch

¹⁾ Obligatory for students enrolled in the first semester in a winter term

²⁾ Obligatory for students enrolled in the first semester in a summer term

Grade conversion tables**Grade conversion tables - examinations completed during the course of studies**

UNITS grade	TH OWL grade	TH OWL grade
30	1.00	very good
29	1.25	very good
28	1.50	very good
27	1.75	good
26	2.00	good
25	2.25	good
24	2.50	good
23	2.75	satisfactory
22	3.00	satisfactory
21	3.25	satisfactory
20	3.50	satisfactory
19	3.75	sufficient
18	4.00	sufficient
17 - 0	5.00	insufficient

Grade conversion table - Overall grade

UNITS grade	TH OWL grade	TH OWL grade
110 and 110 e lode	1.00	very good
109	1.06	very good
108	1.13	very good
107	1.20	very good
106	1.27	very good
105	1.34	very good
104	1.40	very good
103	1.47	very good
102	1.54	good
101	1.61	good
100	1.68	good
99	1.75	good
98	1.81	good
97	1.88	good
96	1.95	good
95	2.02	good
94	2.09	good
93	2.15	good
92	2.22	good
91	2.29	good

90	2.36	good
89	2.43	good
88	2.50	good

Annex 2, continued

UNITS grade	TH OWL grade	TH OWL grade
87	2.56	satisfactory
86	2.63	satisfactory
85	2.70	satisfactory
84	2.77	satisfactory
83	2.84	satisfactory
82	2.90	satisfactory
81	2.97	satisfactory
80	3.04	satisfactory
79	3.11	satisfactory
78	3.18	satisfactory
77	3.25	satisfactory
76	3.31	satisfactory
75	3.38	satisfactory
74	3.45	satisfactory
73	3.52	sufficient
72	3.59	sufficient
71	3.65	sufficient
70	3.72	sufficient
69	3.79	sufficient
68	3.86	sufficient
67	3.93	sufficient
66	4.00	sufficient
< 66	< 4.00	insufficient

Conversion of Master's thesis grade, including colloquium, completed at the University of Triest:

X = Master's thesis grade including colloquium

L = Overall grade at the University of Triest Y = Overall grade at Ostwestfalen –
Lippe University of Applied Sciences

$$Y = (374 - 3 * L) / 44$$

x_1, x_2, \dots, x_{16} = grades on examinations completed during the course of studies

n_1, n_2, \dots, n_{16} = Credits for examinations completed during the course of studies (total = 96 credits)

$$X = \frac{(Y * 114) - (x_1 * n_1 + x_2 * n_2 + \dots + x_{16} * n_{16})}{18}$$

Only the first two decimal places are considered in determining the Master's thesis grade with colloquium; all other decimal places are deleted without rounding.