

Examination and Academic Regulations for the Master's Program in Management at the Technical University of Munich

[in accordance with the first amendment of 23 September 2016](#)

In accordance with Art. 13 (1) sentence 2 in conjunction with Art. 58 (1) sentence 1 and Art. 61 (2) sentence 1 of the Bayerisches Hochschulgesetz (BayHSchG) [Bavarian Higher Education Act] the Technical University of Munich issues the following Examination and Academic Regulations (Fachprüfungs- und Studienordnung, FPSO):

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§ 34 Applicability, Academic Title

- (1) ¹These Examination and Academic Regulations (FPSO) for the Master's program in Management complement the General Academic and Examination Regulations for Bachelor's and Master's programs at the Technical University of Munich (APSO) of March 18, 2011 as amended. ²The APSO shall have precedence.
- (2) ¹Upon successful completion of the Master's examination the degree "Master of Science" ("M.Sc.") is awarded. ²The academic title may be used with the name of the university "(TUM)".
- (3) The study programs Industrial Engineering (TUM WIN, Wirtschaftsingenieurwesen) and Management for Natural Scientists (TUM NAWI, Wirtschaftswissenschaften für Naturwissenschaften) are related study programs. The Examination Committee decides upon the affinity of study programs in the case of transfer students from other universities.

§ 35 Commencement of Studies, Standard Duration of Study, ECTS

- (1) Commencement of the Master's program in Management is possible in the winter semester only.
- (2) ¹The number of credits in required and elective subjects needed to complete the Master's degree is 90 (60 weekly hours per semester), spread over three semesters. ²In addition, 30 credits (maximum six months) are required for the completion of the Master's thesis pursuant to § 46. ³The number of examinations in required and elective subjects to be completed in the Master's program in Management according to Appendix 1 II is thus a minimum of 120 credits. ⁴The standard duration of study for the Master's program will be a total of four semesters.

§ 36 Eligibility Requirements

- (1) Eligibility for the Master's program in Management is demonstrated by
 1. a qualifying Bachelor of Science (B.Sc.) of at least six semesters obtained from a German or foreign university, or a degree that is at least the equivalent of this in engineering or natural sciences, or a Bachelor's in architecture or comparable study programs,
 2. an adequate knowledge of the English language; students whose native language or language of education is not English must submit proof of having passed a recognized language test such as the Test of English as a Foreign Language (TOEFL, scoring at least 88 points), the International English Language Testing System (IELTS, at least 6.5 points), the Cambridge Main Suite of English Examinations or other language tests authorized by the Academic Affairs Board and published on the website of the Admissions and Enrollment Office of the Technical University of Munich; alternatively, this proof may take the form of a good grade in English (at least 10 out of 15 points) in the German higher education entrance qualification

[Hochschulzugangsberechtigung]; if the student has successfully passed examination modules in English worth 12 credits as part of an undergraduate degree or has a GMAT score of at least 600 points, adequate knowledge of English is similarly deemed to be proven,

3. passing the aptitude assessment pursuant to Appendix 2.
- (2) A degree is considered "qualifying" within the meaning of subsection 1 if there are no significant differences with regard to the competences (learning results) acquired in the scientifically oriented relevant Bachelor's degrees named in subsection 1 (1) at TUM or a comparable university, and these competences correspond to the subject-specific requirements of the Master's program in Management.
- (3) To decide with regard to subsection 2, the catalog of modules from the relevant Bachelor's degree will be examined in the first stage of the aptitude assessment.
- (4) The comparability of programs, the specific aptitudes and the recognition of skills from degrees acquired at foreign universities will be decided upon by the Examination Committee in compliance with Art. 63 of the Bayerisches Hochschulgesetz [Bavarian Higher Education Act].
- (5) The IMIM Admission Requirements in Appendix 3, which are also an Appendix to the Consortium Agreement on the Erasmus Mundus Master's program "International Master in Industrial Management (IMIM)" dated February 10, 2015, are considered equivalent proof of qualification for participants in this program.

§ 37

Modular Structure, Module Examination, Courses, Course Specialization, Language of Instruction

- (1) ¹General provisions on modules and courses are set out in §§ 6 and 8 of the APSO. ²For any changes to the stipulated module provisions, § 12 (8) of the APSO shall apply.
- (2) The curriculum listing the required and elective modules to be attended is given in Appendix 1 (III). ²If students do not demonstrate a knowledge of German during application, admission will be subject to the additional requirement that at least one module is taken in which knowledge of German is acquired. ³Relevant courses will be announced by Examination Committee in the usual manner. ⁴Voluntary extracurricular activities such as German courses taken at the Language Center will also be recognized.
- (3) ¹The language of instruction in the Master's program in Management is English. ²Any individual elective modules taught entirely or partially in German are identified in Appendix 1 II.

§ 37a

Project Studies

- (1) ¹The Project Studies module consists of active involvement in a research or practical project connected to the contents of the degree program. ²It is carried out by a group of at least two students and must be completed by the end of the fourth semester in which the student is registered for courses awarding credits toward the degree. ³Evaluation of the Project Studies module is governed by § 17 APSO. ⁴The Project

Studies module can be completed as part of the elective modules and is worth 12 credits. ⁵The Project Studies module is an elective module and forms part of the catalog "Elective Modules"; it may also be replaced by other elective modules from this catalog.

- (2) ¹The Project Studies module is supervised by a lecturer from TUM School of Management. ²The supervisor shall announce, at the latest when the student is registered for the Project Studies module, what type of examinations according to § 41 (1) d) must be completed in order for the student to be deemed to have successfully participated in the Project Studies module, and how those examinations are to be weighted.

§ 38

Examination Deadlines, Progress Monitoring, Failure to Meet Deadlines

- (1) Examination deadlines, progress monitoring and failure to meet deadlines are governed by § 10 of the APSO.
- (2) ¹At least one of the module examinations from the core modules listed in Appendix 1 II must be successfully completed by the end of the second semester. ²In the event of failure to meet deadlines, § 10 (5) of the APSO shall apply.

§ 39

Examination Board

Pursuant to § 29 of the APSO, the board responsible for all decisions concerning examination matters shall be the Master's Examination Board of TUM School of Management.

§ 40

Recognition of Periods of Study, Coursework and Examination Results

Recognition of periods of study, coursework and examination results is governed by the provisions of § 16 of the APSO. ²Coursework and examinations carried out as part of the IMIM program at the partner universities Universidad Politécnica de Madrid (UPM) and Politecnico di Milano (POLIMI) shall be recognized without assessment of their equivalence.

§ 41

Continuous Assessment Procedure, Types of Assessment

- (1) In addition to written examinations (*Klausuren*) and oral examinations, types of assessment pursuant to § 12 and § 13 of the APSO may include (but are not limited to) exercises (tests, where applicable), reports, project work, presentations, learning portfolios and/or research papers.
- a) ¹A **Klausur** is a supervised written examination in which the objective is, within a limited amount of time and using predefined methods and resources, to identify problems, find solution strategies and, if required, implement them. ²The duration of Klausuren is provided for in § 12 (7) of the APSO.

- b) ¹**Exercises (tests where applicable)** are administered to assess a student's ability to complete assigned tasks (for example, solving mathematical problems, writing computer programs, designing models) using theoretical knowledge to solve application-oriented problems. ²Exercises are designed to assess the student's factual and detailed knowledge and its application. ³Practical exercises may be administered in writing, orally or electronically. ⁴They may take the form of homework assignments, practice sheets, programming exercises, (e-)tests, tasks assigned within a university internship program, etc. ⁵Details of each practical exercise and the related competencies to be examined are set out in the module descriptions.
- c) ¹A **report** is a written record and summary of a learning process for the purpose of presenting the acquired knowledge in a structured way and analyzing the results in the context of a module. ²The objective is to demonstrate in the report that all the essential aspects have been understood and can be presented in writing. ³Reports may include excursion reports, internship reports, work reports, etc. ⁴The written report may be complemented by a presentation for the purpose of assessing the student's communication competency in presenting scholarly work to an audience.
- d) ¹**Project work** is designed to reach, in several phases (initiation, problem definition, role assignment, idea generation, criteria development, decision, implementation, presentation, written evaluation), the defined objective of a project assignment within a given period of time and using suitable instruments. ²In addition, project work may include a presentation in order to assess a student's communication competency in presenting scholarly work to an audience. ³The specific components of each project work assignment and the related competencies to be assessed are delineated in the module description. ⁴Project work may include group work. ⁵Here, it should be demonstrated that the tasks can be completed in a team environment. ⁶If the student's contribution to group work is to be assessed as a component of an examination, that contribution must be clearly identifiable and gradable. ⁷This also applies to each individual's contribution to the group result.
- e) ¹A **research paper** is a written assignment in which students work independently on solving complex scholarly or scholarly/application-oriented problems, using the scientific methods of the related discipline. ²The objective is to demonstrate the ability to solve problems corresponding to the learning results of the module in question in compliance with the guidelines for scholarly work – from analysis and conception to implementation. ³Research papers, differing in their requirement standards, may take the form of a conceptual framework/theory paper [*Thesepapier*], abstract, essay, research paper, seminar paper, etc. ⁴The research paper may be complemented by a presentation and/or a colloquium for the purpose of assessing the student's communication competency in presenting scholarly work to an audience. ⁵Specific details of each research paper and the related competencies to be assessed are set out in the module description.
- f) ¹A **presentation** is a systematic and structured oral performance supported by suitable audio-visual equipment (such as a projector, slides, posters, videos) for the purpose of demonstrating and summarizing specific issues or results and paring complex problems down to their essential core. ²The objective of the presentation is to demonstrate the ability to prepare a certain topic within a given timeframe in such a way as to present or report on it in a clear and comprehensible manner to an audience. ³In addition, the ability to respond competently to any

questions, suggestions or discussions brought by the audience and relating to the subject area should be demonstrated. ⁴The presentation may be complemented by a brief written précis. ⁵The presentation may be prepared either individually or in groups. ⁶If the student's contribution to group work is to be assessed as a component of an examination, that contribution must be clearly identifiable and gradable. ⁷This also applies to each individual's contribution to the group result.

- g) ¹An **oral examination** is a timed, graded discussion of relevant topics and specific questions to be answered. ²The objective of oral examinations is to demonstrate that the qualification objectives laid out in the module descriptions have been reached, the central concepts of the subject matter covered by the exam have been understood, and they can be applied to specific problems. ³The oral examination may be held either as an individual or group examination. ⁴The duration of the examination is provided for in § 13 (2) of the APSO.
- h) ¹A **learning portfolio** is a collection of written materials compiled according to predefined criteria, demonstrating progress and achievements in defined content areas at a given time. ²The criteria according to which the materials have been chosen and their relevance for their learning progress and the achievement of the qualification objectives must be explained. ³The learning portfolio should demonstrate that active responsibility for the learning process has been taken and the qualification objectives set out in the module description have been reached. ⁴Depending on the module description, types of independent study assessment in a learning portfolio may include, in particular, application-oriented assignments, websites, weblogs, bibliographies, analyses, conceptual framework/theory papers, as well as the graphic representation of facts or problems. ⁵The specific components of each learning portfolio and the related competencies to be assessed are set out in the module description.
- (2) ¹The module examinations are, as a rule, taken concurrently with the program. ²The type and duration of module examinations are provided for in Appendix 1 (II). ³In the event of divergence from those provisions, § 12 (8) of the APSO must be complied with. ⁴The assessment of module examinations is governed by § 17 of the APSO. ⁵Grades from partial module examinations are weighted using the weighting factors given in Appendix 1 II.
- (3) Where Appendix 1 II provides that a module examination is either in written or oral form, the examiner must inform the students in appropriate form, no later than the first day of classes, of the type of examination to be held.

§ 42

Registration for and Admission to the Master's Examination

- (1) ¹Students who are enrolled in the Master's program in Management are deemed admitted to the module examinations of the Master's examination.
- (2) ¹The registration requirements for required and elective module examinations are set out in § 15 (1) of the APSO. ²The registration requirements for repeat examinations for failed required modules are set out in § 15 (2) of the APSO.

§ 43

Scope of the Master's Examination

- (1) The Master's examination consists of
 1. the module examinations in the corresponding modules pursuant to subsection (2),
 2. the Master's thesis pursuant to § 46.
- (2) ¹The module examinations are listed in Appendix 1 II. ²60 credits in required modules and a minimum of 30 credits in elective modules must be earned. ³When choosing modules, § 8 (2) of the APSO must be considered.

§ 44

Repeat Examinations, Failed Examinations

- (1) The repetition of examinations is governed by § 24 of the APSO.
- (2) Failure to pass examinations is governed by § 23 of the APSO.

§ 45

Coursework

No modules in the Master's program in Management end with coursework (Studienleistungen).

§ 45a

Multiple Choice Test

The procedure for multiple choice tests is provided for in § 12 of the APSO.

§ 46

Master's Thesis

- (1) ¹As provided for in § 18 of the APSO, students must complete a Master's thesis as part of their Master's examination. ²The Master's thesis topic may be determined and the thesis supervised by qualified examiners from the School of Management of the Technical University of Munich. ³The supervisors are appointed by the Examination Board pursuant to sentence 2.
- (2) ¹In order to be admitted to commence work on their Master's thesis, students must have earned a minimum of 45 of the 60 credits in the required modules and a minimum of 6 credits in the elective modules. ²Work on the Master's thesis should commence at the latest when all module examinations have been successfully completed.
- (3) ¹The period of time between topic determination and submission of the completed Master's thesis must not exceed six months. ²The Master's thesis is considered presented and not passed if it is not submitted on time without valid reasons pursuant to § 10 (7) of the APSO. ³The Master's thesis must be written in English.

- (4) ¹If the Master's thesis is not graded with at least "sufficient" (4.0), it may be repeated once with a new topic. ²Students must renew their application for admission within six weeks of receiving the grade for their thesis.

§ 47

Passing and Assessment of the Master's Examination

- (1) The Master's examination is deemed passed when the student has successfully completed all examinations required pursuant to § 43 (1) and has earned a total of at least 120 credits.
- (2) ¹The module grade is calculated according to § 17 of the APSO. ²The overall grade for the Master's examination will be calculated as the weighted grade average of the modules according to § 43 (2) sentence 2 and the Master's thesis. ³The weighting of the grades for individual modules corresponds to the credits assigned to each module. ⁴The overall grade is expressed by the designation pursuant to § 17 of the APSO.

§ 48

Degree Certificate, Diploma, Diploma Supplement

¹If the Master's examination is passed, a degree certificate, diploma and a diploma supplement including a transcript of records are to be issued in compliance with § 25 (1) and § 26 of the APSO. ²The date to be entered on the degree certificate is the day when all examination and coursework requirements have been fulfilled.

§ 49

Double Degree

- (1) ¹The Technical University of Munich (TUM), UPM, POLIMI and Heriot-Watt University (HWU) have signed a cooperation agreement for a joint "International Master in Industrial Management" (IMIM) program. ²The following special regulations apply for students on the Master's program in Management at the Technical University of Munich who are participating in the IMIM:
- ¹Participants are selected jointly by the Executive Committee appointed by the participating partner universities, on the basis of the documents submitted pursuant to Appendix 3; this Executive Committee comprises one representative of each of the partner institutions involved in the joint program; all members must be professors.
 - Students on the IMIM program spend the first semester (in which they are registered for courses awarding credits toward the degree) at UPM and their second semester at POLIMI; they must earn 30 credits in each of these semesters.
 - ¹Students spend their third and fourth semesters at TUM; students on the program must file their application to be admitted to the Master's program in Management at the Technical University of Munich together with the documents specified in Appendix 3, via the online application process, with the Technical University of Munich by May 31 for the winter semester (absolute deadline); in their third semester, students must earn 30 credits from a catalog of elective modules; this

catalog will be published by the School of Management in appropriate form in good time before the first day of classes; in their fourth semester students write their Master's thesis, worth 30 credits.

4. When they have earned 30 credits at UPM, 30 credits at POLIMI, and 60 credits at TUM, students on the IMIM program receive, in addition to the degree of "Master of Science in International Master in Industrial Management" from UPM and "Master di primo livello: International Master in Industrial Management" from POLIMI, the degree of "Master of Science (M. Sc.)" from TUM and a certificate issued jointly by UPM, POLIMI and TUM confirming that they have successfully completed the IMIM program.

§ 50 Entry into Force

- (1) ¹These Examination and Academic Regulations will enter into force on April 1, 2016.
²They shall apply to all students who commence their studies on the degree program at the Technical University of Munich as of the winter semester 2016/2017.

APPENDIX 1:

I. Scope of the Master's Examination

	Components	Credits	Semester
1.	Examinations during the course of the program earning credits in the required modules of the fundamentals in Management	36	Semester 1/2
2.	Examinations during the course of the program earning credits in the required modules of the fundamentals in Economics	6	Semester 1
3.	Examinations during the course of the program earning credits in the required modules of the fundamentals in Law	6	Semester 2
4.	Examinations during the course of the program earning credits in the required modules of International Management & International Experience	6	Semester 1/2
5.	Examinations during the course of the program earning credits in the module Global Entrepreneurship	6	Semester 1/2
6.	Examinations during the course of the program earning credits in the elective modules from the elective in Management	30	Semester 3
7.	Master's thesis pursuant to § 46	30	Semester 4
		120	

II. Examination Modules

Master's program in Management

Students must successfully complete the following required modules:

N o.	Module no.	Module name	Module type	Type of instruction SWS/V Ü P	Sem.	SWS	Credits	Type of examination	Duration of examination	Language of instruction
Fundamentals of Management										
1	WI001139	Financial Accounting (MiM)	Required	2 V + 2 Ü	1	4	6	Klausur	120 min	English
2	WI001137	Management Science (MiM)	Required	2 V + 2 Ü	1	4	6	Klausur	120 min	English
3	WI000258	Empirical Research in Economics and Management	Required	2 V + 2 Ü	1	4	6	Klausur	120 min	English
4	WI001138	Investment and Financial Management (MiM)	Required	2 V + 2 Ü	2	4	6	Klausur	120 min	English
5	WI001129	Marketing & Innovation Management (MiM)	Required	2 V + 2 Ü	2	4	6	Klausur	120 min	English
6	WI001131	Production and Logistics (MiM)	Required	2 V + 2 Ü	2	4	6	Klausur	120 min	English

Fundamentals of Economics										
7	WI001056_1	Principles of Economics	Required	2 V + 2 Ü	1	4	6	Klausur	120 min	English

Fundamentals of Law										
8	WI001122	Introduction to Business Law (MiM)	Required	2 V + 2Ü	2	4	6	Klausur	120 min	English

International Management & International Experience

For the "International Management & International Experience" part of the module, students must successfully complete a piece of coursework in the form of a report. In the "International Management" part of the module, they must successfully complete a Klausur.

N o.	Module no.	Module name	Module type	Type of instruction SWS/V Ü P	Sem.	SWS	Credits	Type of examination	Duration of examination	Language of instruction
1	WI9000012	International Management & International Experience 1)	Required	2 V + 2 Ü	1/2	2	6	Klausur + Report	60 min	English

Global Entrepreneurship

For the module "Global Entrepreneurship", students must successfully complete a lecture (with Klausur) and, building on this, either the seminar "Business Plan-Grundlagenseminar" (*basic seminar business plan*) or the seminar "Business-Plan – Aufbau-seminar" (*Advanced Seminar Business Plan*), or the lecture "Innovative Unternehmer" (*Innovative Entrepreneurs*), or a comparable seminar. The supplementary catalog will be published by the TUM School of Management in appropriate form in good time before the first day of classes.

No.	Module no.	Module name	Module type	Type of instruction SWS/V Ü P	Sem.	SWS	Credits	Type of examination	Duration of examination	Language of instruction
10	WI900005	Global Entrepreneurship ¹⁾	Required	2 V + 2 SE/V	1/2	4	6	Klausur and project report (1:1)	60 min	German/English

Elective modules for the elective in Management

Students must earn a minimum of 30 credits from a supplementary catalog of elective modules. 12 of these credits may be earned as part of a Project Studies module pursuant to § 37a. Some or all of these examinations may be taken at a foreign university. The supplementary catalog of elective modules will be published by TUM School of Management in appropriate form in good time before the first day of classes; **the following is an example of such a catalog.**

No.	Module no.	Module name	Module type	Type of instruction SWS/V Ü P	Sem.	SWS	Credits	Type of examination	Duration of examination	Language of instruction
11	WI900684	Project studies ¹⁾	Elective		3/4	4	12	Project work	n/a	German/English
12	WIB33002	Advanced Seminar in Innovation and Entrepreneurship	Elective	4 Se	3/4	4	6	Research paper	n/a	English
13	WI000116	Lead-User-Project	Elective	4 Se	3/4	4	6	Project work	n/a	German/English
14	WI000813	Technology Entrepreneurship Lab	Elective	4 Se	3/4	4	6	Project work	n/a	German/English
15	WIB14962	Advanced Topics in Sustainability Innovation and Marketing	Elective	4 Se	3/4	4	6	Research paper	n/a	English
16	WI001106	Advanced Seminar in Marketing, Strategy & Leadership	Elective	4 Se	3/4	4	6	Research paper	n/a	English
17	WIB21952	Advanced Topics in Marketing, Strategy & Leadership	Elective	4 Se	3/4	4	6	Research paper	n/a	English
18	WI000817	Marketing Compliance	Elective	4 V	3/4	4	6	Klausur	120 min	German/English
19	WI000997	Marketing Entrepreneurship Lab	Elective	4 Se	3/4	4	6	Project work	n/a	English
20	WI000994	Negotiation Strategies	Elective	4 Se	3/4	4	6	Seminar paper, presentation, Klausur ²⁾	n/a	German/English
21	WIB19823	Advanced Topics in Operations & Supply Chain Management	Elective	4 Se	3/4	4	6	Klausur, research paper ²⁾	n/a	German/English
22	WIB09828	Advanced Seminar Operations & Supply Chain Management	Elective	4 Se	3/4	4	6	Research paper	n/a	German/English
23	WI000819	Discrete Optimization	Elective	4 Se	3/4	4	6	Klausur, homework ²⁾	n/a	English

24	WI000979	Inventory Management	Elective	2V + 2Ü	3/4	4	6	Klausur	90 min	English
25	WIB02250	Advanced Seminar in Finance & Accounting	Elective	4 Se	3/4	4	6	Research paper	n/a	English
26	WIB06746	Advanced Topics in Finance & Accounting I I	Elective	2 V	3/4	2	3	Klausur	60 min	German/English
27	WI000232	Derivatives	Elective	2 Se	3/4	2	3	Klausur	60 min	English
28	WI000231	Asset Management	Elective	4 Se	3/4	4	6	Klausur	120 min	English
29	WI001115	Industrial Economics and Regulation of Energy Markets	Elective	2 V/2 Ü	3/4	4	6	Klausur	90 min	English

Notes:

- 1) This module and the relevant partial module examinations can be stretched over two semesters or more.
- 2) All the types of examination indicated are possible. Students will be given binding details, in particular the number, type, scope and method of grading these examinations, at the latest two weeks before the first day of classes in appropriate form.

Master's Thesis

No.	Module no.	Module name	Module type	Type of instruction SWS/V Ü P	Sem.	SWS	Credits	Type of examination	Duration of examination	Language of instruction
32		Master's Thesis	Required				30 credits			English

Abbreviations:

Sem. = Semester; SWS = *Semesterwochenstunden* (weekly hours per semester); V = *Vorlesung* (lecture); Ü = *Übung* (exercise); Se = Seminar.

III. Curriculum

1. Curriculum

Semester	Course	Type of module	Credits
Semester 1			
	Financial Accounting	Required module	6
	Management Science	Required module	6
	Empirical Research in Economics and Management	Required module	6
	Principles of Economics	Required module	6
	Global Entrepreneurship (Part 1)	Required module	3
	International Management (Part 1 of Internat. Management & Internat. Experience)	Required module	3
Total credits in Semester 1:			30
Semester 2			
	Investment and Financial Management	Required module	6
	Introduction to Business Law (MiM)	Required module	6
	Marketing & Innovation Management	Required module	6
	Production and Logistics	Required module	6
	Global Entrepreneurship (Part 2)	Required module	3
	Internat. Experience (Part 2 of Internat. Management & Internat. Experience)	Required module	3
Total credits in Semester 2:			30
Semester 3			
	Elective modules from the elective in Management	Elective modules	30
Total credits in Semester 3:			30
Semester 4			
	Master's Thesis	Required module	30
Total credits in Semester 4:			30
Total credits for Master's program in Management			120

APPENDIX 2: Aptitude Assessment

Aptitude Assessment for the Master's program in Management at the Technical University of Munich

1. Purpose of the Assessment

¹Eligibility for the Master's program in Management, in addition to the requirements pursuant to § 36 (1) numbers 1 and 2, requires proof of aptitude pursuant to § 36 (1) no. 3 in accordance with the following provisions. ²The special qualifications and skills of the candidates should correspond to the profession of an engineer or natural scientist. ³Individual aptitude parameters are

- 1.1 specialized knowledge from (and success in) undergraduate studies in engineering or natural sciences in line with the engineering and natural science Bachelor programs at the Technical University of Munich,
- 1.2 knowledge of technical and management matters,
- 1.3 the ability to carry out research work and/or basic research and methodological work,
- 1.4 competence in the technical language in English,
- 1.5 reflection on their own skills and talents for a degree at the interface of management and engineering or natural sciences.

2. Aptitude Assessment Process

2.1 The aptitude test will be held once a year by the School of Management.

2.2 ¹Applications for admission to the aptitude test, including the documents set out in 2.3.1 through 2.3.5 and § 36 (1) no. 2 must be filed with the Technical University of Munich via the online application process by May 31 for the winter semester (absolute deadline). ²The degree certificate and diploma showing that the applicant has successfully completed the Bachelor's degree must be filed with the Registrar's Office of the Technical University of Munich no later than five weeks after the beginning of lectures. ³If this is not done, the applicant will not be permitted to start the Master's degree pursuant to § 36 of these regulations.

2.3 The application must include

2.3.1 a transcript of records including a list of modules worth at least 140 credits; the transcript of records must be an officially certified copy; official certification is not required if the examinations were taken at the Technical University of Munich,

2.3.2 a curriculum vitae in table form,

2.3.3 if applicable, evidence of the ranking in percentage terms of the degree gained or the candidate's ranking in percentage terms in their final semester in which they were registered for courses awarding credits toward the degree; this must be an officially certified copy; official certification is not required if the examinations were taken at the Technical University of Munich,

2.3.4 if applicable, proof of the type and length of international experience gained as part of the undergraduate degree or commenced a maximum of three years before beginning the undergraduate degree and after acquiring the higher education entrance

qualification (HZB), for example a period of 60 calendar days or more studying abroad, an internship abroad lasting 60 calendar days or more, other periods of residence abroad lasting 60 calendar days or more excluding purely to attend language courses (e.g. participation in a Work and Travel program, work as an au pair), or a summer/winter school abroad worth a minimum of 3 ECTS,

2.3.5 if applicable, proof of a GMAT score of a minimum of 600 points.

3. Aptitude Assessment Committee

3.1 ¹The aptitude test is administered by a committee that, as a rule, consists of the dean for academic affairs in charge of the Master's program in Management, at least two members of the professorial faculty and at least one research associate. ²At least half of the committee members must be members of the professorial faculty. ³A representative of the student body shall also participate in the committee in an advisory capacity.

3.2 ¹The members of the committee are appointed by the faculty council in consultation with the dean for academic affairs. ²At least one member of the professorial faculty is appointed as deputy member of the committee. ³As a rule, the committee is chaired by the dean for academic affairs. ⁴Procedural regulations will be in accordance with Art. 41 of the BayHSchG as last amended.

4. Admission to the Aptitude Assessment Process

4.1 Admission to the aptitude assessment process requires that all the documentation specified in no. 2.3 has been submitted in a timely and complete fashion.

4.2 Applicants meeting the requirements will be tested according to no. 5.

4.3 Applicants who are not admitted receive a rejection notice specifying the reasons and providing information on legal remedies.

5. The Aptitude Assessment Process

5.1 First stage of the aptitude assessment process

5.1.1 ¹The committee will assess, on the basis of the written application documents required under no. 2.3, whether or not an applicant is suitable for a program pursuant to no. 1 (First stage of the aptitude assessment process). ²For this purpose, the committee evaluates and grades the candidate's documentation on a scale ranging from 0 to 85 points, 0 being the worst and 85 the best possible result. ³There will be no negative points.

The following criteria will be applied to the evaluation:

a) Academic qualification

¹The curricular analysis of existing skills and knowledge is not conducted in the form of a schematic comparison of the modules, but rather on the basis of competencies. ²It is oriented toward the subject groups listed below, which are considered for a Bachelor's degree in either engineering or natural sciences.

Engineering subject groups

a) Subject groups from the Bachelor's in Mechanical Engineering:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge/maschinenwesen_bachelor/index.html?

b) Subject groups from the Bachelor's in Electrical Engineering and Information Technology:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/elektrotechnik_und_informatio_nstechnik_bachelor

c) Subject groups from the Bachelor's in Civil Engineering:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge/bauingenieurwesen_bachelor/index.html?

d) Subject groups from the Bachelor's in Architecture:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/architektur_bachelor

e) Other engineering subject groups:

For all other engineering degrees not mentioned in a) - d) a comparable study program at Technical University of Munich will be considered.

Natural science subject groups

a) Subject groups from the Bachelor's in Informatics:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/informatik_bachelor

b) Subject groups from the Bachelor's in Mathematics:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/mathematik_bachelor

c) Subject groups from the Bachelor's in Games Engineering:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/informatik_games_engineering

d) Subject groups from the Bachelor's in Bioinformatics:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/bioinformatik_bachelor

e) Subject groups from the Bachelor's in Biology:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/biologie_bachelor

f) Subject groups from the Bachelor's in Physics:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/physik_bachelor

g) Subject groups from the Bachelor's in Chemistry:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/chemie_bachelor

h) Subject groups from the Bachelor's in Nutritional Science:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge/ernaehrungswissenschaft_bachelor/index.html?

i) Subject groups from the Bachelor's in Geosciences:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/geowissenschaften_bachelor

j) Subject groups from the Bachelor's in Biotechnology:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/molekulare_biotechnologie_bachelor

k) Subject groups from the Bachelor's in Sport Science:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/sportwissenschaft_en

l) Subject groups from the Bachelor's in Medicine:

Exemplary Curriculum is available here:

http://portal.mytum.de/studium/studiengaenge_en/medizin_staatsexamen

³Where it is determined that there are no significant differences with regard to the competencies (learning results) acquired, a maximum of 50 points will be awarded. ⁴If this value is a decimal, it will be rounded up to the next whole number. ⁵Missing competencies will be deducted in accordance with the credits of the corresponding modules of the equivalent Bachelor's program at the Technical University of Munich.

b) Grading table/ranking of final grade

¹A total of 15 points will be awarded for the examination results from the candidate's undergraduate degree. ²Points will be awarded on the basis of the ranking in percentage terms of the candidate's degree or, if this is not available at the time of application, on the candidate's ranking in percentage terms in the final semester in which they were registered for courses awarding credits toward the degree. ³If it is not possible for the candidate to submit a ranking position, an overall grade average will be calculated on the basis of the modules in which the candidate received their best grades, up to a total of 140 credits. ⁴The evaluation process by ranking or overall grade average will be conducted in favor of the candidate.

⁵15 points will be awarded for the ranking in percentage terms of the candidate's degree. ⁶If the degree ranks among the best 1-20%, 15 points will be awarded; if it ranks among the best 21-30%, 11 points will be awarded; if it ranks among the best 31-50%, 6 points will be awarded; and if it ranks among the best 51% or more, 0 points will be awarded.

⁷Up to 15 points will be awarded for the overall grade average. ⁸For each one-tenth of a grade that the overall grade average is better than 2.5, the applicant will be awarded one point. ⁹The maximum number of points is 15. ¹⁰There will be no negative points. ¹¹Where a degree was obtained outside of Germany, the grade will be converted according to what is referred to as the "Bavarian formula".

¹²The overall grade average will be calculated as the weighted grade average of the modules. ¹³The weighting of grades for individual modules corresponds to the credits assigned to each module. ¹⁴When calculating grades, one decimal point will be taken into account; all decimal points after this will be ignored, without rounding.

¹⁵If the applicant, at the time of filling the application, submits a transcript of records showing more than 140 credits, the assessment will be made on the basis of the modules in which they received their best grades, up to a total of 140 credits. ¹⁶The applicant must list these modules in the application and confirm the accuracy of the information presented in writing.

c) International experience

¹Proven international experience gained as part of the undergraduate degree, or commenced a maximum of three years before beginning the undergraduate program and after acquiring the higher education entrance qualification (Hochschulzugangsberechtigung), will be evaluated as follows:

*Number of consecutive days spent abroad

Type of international experience	Max. points available
Studies abroad, min. 60 calendar days*	10
Internship abroad, min. 60 calendar days*	10
Other periods of residence abroad excluding purely to attend language courses (e.g. participation in a Work and Travel program, work as an au pair), min. 60 calendar days*	5
Summer/winter school abroad, min. 3 ECTS	5

²If the applicant provides evidence of several international experiences, the highest scoring individual experience will be used as part of the selection procedure; it is not possible to combine several periods of residence abroad. ³The maximum number of points possible is 10.

d) GMAT score

Applicants who provide evidence of having a GMAT score of a minimum of 600 points will be awarded 10 points.

5.1.2 The applicant's points in the first stage is calculated as the sum of the individual points.

²Decimal points that remain in the final figure will be rounded up.

5.1.3 Applicants who have achieved at least 61 points will receive confirmation that they have passed the aptitude assessment process.

5.1.4 ¹Unsuitable applicants with a total score of fewer than 55 points will receive a rejection notice, signed by the TUM Board of Management, specifying the reasons for rejection and providing information on legal remedies. ²Signatory power may be delegated. ³Upon application, notwithstanding nos. 5.1.1 to 5.1.3, applicants who would have been directly admitted or admitted to the second stage of the assessment process if they had achieved the best grade in their graduation grade, and who are entitled to

compensation for disadvantages due to disability or chronic or long-term illness, shall receive an invitation to the second stage instead of a direct rejection. ⁴The application must include appropriate evidence.

5.2 Second stage of the aptitude assessment process

Assessment Interview

5.2.1 ¹The remaining applicants will be invited for an aptitude assessment interview. ²In the second stage of the aptitude assessment process, the applicant's qualification at undergraduate level and the result of the assessment interview will be evaluated, with at least equal consideration given to the qualification obtained at undergraduate level. ³Interview appointments will be announced at least one week in advance. ⁴Indicative dates for interviews must be scheduled before expiration of the application deadline. ⁵The interview appointment must be kept by the applicant. ⁶If the applicant is unable to attend an aptitude assessment interview due to reasons beyond their control, a later appointment may be scheduled upon a student's well-grounded request, but no later than two weeks before the beginning of classes.

5.2.2 ¹The aptitude assessment interview is to be held individually for each applicant. ²The interview lasts at least 20 and not more than 30 minutes for each applicant. ³The interview will focus on the following topics:

1. reflection on their skills and talents for a degree at the interface of management and engineering or natural sciences,
2. knowledge of management and technical issues,
3. competence in the technical language English.

⁴The interview may also cover the documentation submitted pursuant to § 2 (3). ⁵Any subject-specific academic knowledge that is to be taught in the Master's program in Management will not affect the decision. ⁶With the applicant's approval, a member of the student body may sit in on the interview.

5.2.3 ¹The aptitude assessment interview will be conducted by at least two members of the committee. ²The committee members will grade each of the three topics independently. ³Each member will grade the interview on a scale from 0 to 10, 0 being the worst and 10 being the best possible result. ⁴The three points will be weighted as follows:

1. reflection on their skills and talents for a degree at the interface of management and engineering or natural sciences: x2
2. knowledge of management and technical issues: x3
3. competence in the technical language in English: x1.

⁵The points for each committee member will be calculated as the sum of the weighted grades for the individual topics. ⁶The points total will be calculated as the arithmetic mean of the points for the two committee members, rounded up to the nearest full point. ⁷The maximum number of points is 60.

5.2.4 ¹The applicant's overall score in the second stage is calculated as the points obtained under 5.2.3 and the points under 5.1.1 a) (academic qualification) and 5.1.1 b) Grading table/ranking of final grade. ²Applicants with 90 or more points will be deemed suitable.

5.2.5 ¹The result of the aptitude test as decided by the committee will be communicated in writing. ²The notice must be signed by the TUM Board of Management. ³Signatory power may be delegated. ⁴A rejection notice must specify the reasons for the rejection and provide information on legal remedies.

5.2.6 Admissions to the Master's program in Management shall apply to all subsequent applications for this program.

6. Record

¹The aptitude assessment process must be documented, including the date, duration and location of the assessment, the names of the committee members, the applicant's name and the decision of the members of the committee, as well as the overall result. ²This record must contain the essential reasons for the decision and the topics discussed at the interview with the applicant; these reasons and topics may be recorded in note form.

7. Repetition

Applicants who fail the aptitude test for the Master's program in Management may register to repeat the Aptitude Assessment Test once.

Appendix 3: IMIM Admission Requirements

Applicants for the IMIM program must attach the following documents to their application:

Proof of

1. a qualified Bachelor's degree in a technical or natural science subject with a minimum of 180 credits,
2. a curriculum vitae,
3. adequate knowledge of the English language; students must provide proof in the form of a recognized language test, such as the Test of English as a Foreign Language (TOEFL, scoring at least 89 points), the International English Language Testing System (IELTS, at least 6.5 points in total and no individual result worse than 6.0), the Cambridge Main Suite of English Examinations (at least grade B and no element worse than grade C), or the Pearson Academic Test (PTE; at least 62 points and at least 57 points in each of the four elements); alternatively a certificate of UPM that the program is conducted in English will be accepted as well; applicants whose native language is English do not need to submit such proof,
4. a letter of motivation,
5. two letters of recommendation (simple copy),
6. if applicable, a GMAT or GRE test (not obligatory, but recommended).