Examination and Academic Regulations
for the Master’s Program
at the Technische Universität München (Campus Heilbronn)

dated 27. June 2018
as amended in the second amendment from 14th October 2019

In accordance with Art. 13 (1) sentence 2 in conjunction with Art. 58 (1) sentence 1, Art. 61 (2) sentence 1 and Art. 43 (5) [for continuing education Master’s programs 43 (6)] of the Bayerisches Hochschulgesetz (BayHSchG) [Bavarian Higher Education Act] the Technische Universität München issues the following Examination and Academic Regulations (Fachprüfungs- und Studienordnung, FPSO):

Introductory note on linguistic usage In accordance with Art. 3 (2) of the German Constitution, women and men have equal rights. Any terms relating to persons and functions mentioned in the following regulations are equally valid for women and men

Table of Content:

§ 34  Applicability, Academic Titles and related degrees
§ 35  Commencement of Studies, Standard Duration of Study, ECTS
§ 36  Eligibility Requirements
§ 37  Modular Structure, Module Examination, Courses, Course Specialization, Language of Instruction
§ 37 a  Project Studies
§ 38  Examination Deadlines, Progress Monitoring, Failure to Meet Deadlines
§ 39  Examination Board
§ 40  Recognition of Periods of Study, Coursework and Examination Results
§ 41  Continuous Assessment Procedure
§ 42  Registration for and Admission to the Master’s Examination
§ 43  Scope of the Master’s Examination
§ 44  Repeat Examinations, Failed Examinations
§ 45  Coursework
§ 45 a  Multiple-Choice-Test
§ 46  Master’s Thesis
§ 47  Passing and Assessment of the Master’s Examination
§ 48  Degree Certificate, Diploma, Diploma Supplement
§ 49  Entry into Force

Appendix 1:  I.  Scope of the master’s examination
             II.  Examination modules
             III.  Study plan
Appendix 2:  Aptitude Test
§ 34
Applicability, Academic Titles and related degrees

1. These Examination and Academic Regulations for the Master’s program in Management at the Campus Heilbronn (FPSO) complement the General Academic and Examination Regulations for Bachelor’s and Master’s programs at the Technische Universität München (APSO) as amended.
2. The APSO shall have precedence.

1. Upon successful completion of the Master's examination the degree “Master of Science” („M.Sc.”) is awarded. The academic title may also be used with the name of the university “(TUM)”.

The master degree „management“, „industrial engineering“ and „economics for natural sciences“ of the Technische Universität München are related degrees. Where a student transfers from another university to the Technische Universität München, the examination board in charge will decide on the basis of the examination/general academic regulations of that other university if the programs are related

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

1. The Master’s program in Management at the Technische Universität München commences, as a rule, in the winter semester.

2. The number of classes in required, elective subjects needed to obtain the Master's degree is 90 credits (60 weekly hours per semester) spread over three semesters. Additionally, 30 credits (max. six months) have to be achieved for the completion of the Master's thesis pursuant to § 46.

Optional: The number of examinations in the required, required elective (optional: elective) subjects to be completed in the Management (Campus Heilbronn) Master’s program according to Appendix 1 (II) is a minimum of 120 credits. The 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

   a. a qualified Bachelor’s degree obtained after a program of at least six semesters from a domestic or foreign institution of higher education or at least an equivalent degree in engineering or natural sciences, as well as bachelor degrees the subject area of architecture or comparable programs.

   b. an adequate knowledge of the English language; students whose native language or language of instruction is not English must demonstrate proficiency through an acknowledged language test such as “Test of English as a Foreign Language” (TOEFL) (minimum of 88 points), “International English Language Testing System” (IELTS) (minimum of 6.5 points), or “Cambridge Main Suite of English Examinations”; alternatively adequate language skills may be proven through a good grade in English (corresponding to at least 10 out of 15 points) awarded by a domestic higher education entrance qualification. If, in the undergraduate program, 12 credits were obtained for examinations administered in English language examination modules, or a thesis was written in English (minimum of 12 Credits), adequate proficiency in English is deemed proven. Additionally a GMAT-Score of at least 600 also proofs adequate proficiency in English.

   c. passing of the Aptitude Test pursuant to Appendix 2.
The English version is provided merely as a convenience and is not intended to be a legally binding document! Only the officially promulgated German version is legally binding.

(2) A degree is considered a qualified degree within the meaning of subsection 1 if such degree requires the successful completion of examinations that are equivalent to the examinations in the Bachelor’s program at the Technische Universität München specified in subsection 1, no. 1, and correspond to the subject-specific requirements of the Master’s program in management.

(3) The assessment according to subsection 2 will be performed during the first stage of the Aptitude Test on the basis of the module catalogue of the respective Bachelor’s program.

(4) The comparability of programs, the subject-specific aptitude as well as the equivalence of degrees acquired from foreign institutions will be decided upon by the examination board in compliance with Art. 63 of the Bayerisches Hochschulgesetz [Bavarian Higher Education Act].

§ 37
Modular Structure, Module Examination, Courses Fields of Study, Language of instruction

(1) ¹General provisions concerning modules and courses are set forth in §§ 6 und 8 APSO. ²For any changes to the stipulated module provision § 12 (8) of the APSO shall apply.

(2) ¹The curriculum listing the required and elective courses is included in Appendix 1 (III). ²In case the student did not provide proof of German speaking skills at the time of application, the admission entails a requirement to successfully complete a course that teaches integrative German skills latest by the end of the second semester. ³The respective offers will be announced from the local examination board. ⁴Other language courses outside of TUM will also be recognized.

(3) ¹The language of instruction in the Master’s program in Management at Campus Heilbronn is generally English. ²It will be specified in appendix 1 (II), should individual electives fully or partially be taught in German. ³In case it is stated in the appendix that the module will be taught either in English or German, the lecturers will announce the language of instruction latest at the beginning of the lectures in an appropriate manner.

§ 37 a
Project Study

(1) ¹The project study entails a project work, which requires an active participation in a practical or research project related to the content of the degree. ²It entails 12 credits and 360 working hours. ³The project study will be finalized with a written report and a presentation. ⁴It is supposed to be conducted from at least two people or abroad. ⁵It is supposed to be completed by the end of the third semester. ⁶Through this module it shall be proven that tasks can be solved as a team. ⁷The contribution to be assessed as an examination performance must be clearly recognizable and assessable individually. ⁸This also applies to the individual contribution to the group result. ⁹For the assessment, § 17 APSO applies.

(2) ¹The Project Study has to be supervised by a professor of the TUM department of management. ²Furthermore academic employees can also be appointed as examiners if the respectively applicable requirements of the “Hochschulprüfungsverordnung” are met.
§ 38  
Examination Deadlines, Progress Monitoring, Failure to Meet Deadlines

(1) Examination deadlines, progress monitoring, and failure to meet deadlines are governed by § 10 APSO.

(2) At least one of the basic module examinations listed in Appendix 1 (II) must be successfully completed by the end of the second semester. In 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 the School of Management, Technische Universität München.

§ 40  
Recognition of Periods of Study, Coursework, and Examination Results

The recognition of periods of study, coursework and examination results is governed by the provision of § 16 of the APSO.

§ 41  
Continuous Assessment Procedure

(1) In addition to written examinations (Klausuren) and oral examinations, types of assessment pursuant to § 12 und 13 APSO may include exercises, reports, projects, presentations, learning portfolios and/or research papers.

  a) A Klausur is a supervised written examination. In these written examinations, students are expected to demonstrate, within a limited amount of time and using predefined methods and resources, their ability to identify problems, find solution strategies and, if required, implement them. The duration of Klausuren is provided for in § 12 (7) of the APSO.

  b) 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. Exercises are designed to assess a student’s factual and detailed knowledge and its application. Practical exercises may be administered in writing, orally, or electronically. Possible modes are assignments, exercise sheets, programming exercises, tests and exercises related to an internship. Details of each practical exercise and the related competencies to be examined are set out in the module descriptions.

  c) A 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. Students are expected to demonstrate that they have understood all essential aspects and are able to present them in writing. Reports may include excursion reports, internship reports, work reports, etc. The 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) 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. 5Students are expected to demonstrate that they are able to complete the tasks in a team environment. 6A student’s contribution to group work, which is to be assessed as a component of an examination, 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. 2Students are expected to demonstrate that they are able 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 [Thesenpapier], abstract, term 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 on 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 beamer, slides, posters, videos) for the purpose of demonstrating and summarizing specific issues or results and paring complex problems down to their essential core. 2For the presentation, the student is expected to demonstrate that he or she is capable of preparing a certain topic within a given time frame in such a way as to present or report it in a clear and comprehensible manner to an audience. 3In addition, the student is expected to demonstrate that he or she is able to respond competently to any questions, suggestions or discussions brought by the audience and relating to his or her subject area. 4The presentation may be complemented by a brief written precis. 5The presentation may be prepared either individually or in groups. 6A student’s contribution to group work, which is to be assessed as a component of an examination, 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 on relevant topics and specific questions to be answered. 2In oral examinations students are expected to demonstrate that they have reached the qualification objectives laid out in the module descriptions, understood the central concepts of the subject matters covered by the exam, and are able to apply them to specific problems. 3The oral examination will 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 by the student according to predefined criteria that exhibits the student’s progress and achievements in defined content areas at a given time. 2Students are required to explain according to which criteria they have chosen the materials and their relevance for their learning progress and the achievement of the qualification objectives. 3With the learning portfolio, students are expected to demonstrate that they have taken active responsibility for their learning process and have reached the qualification objectives set out in the module description. 4Depending on the module description, types of independent study assessment in a learning portfolio may include, in particular, application-oriented assignments, web pages, 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.
The module examinations will, as a rule, be taken concurrently with the program. The type and duration of module examinations are provided for in Appendix 1 (II). In the event of divergence from those provisions, § 12 (8) of the APSO must be complied with. The assessment of the module examination is governed by § 17 of the APSO. The weights of the individual examinations are determined in Appendix 1 (II) according to the credits.

The module examinations will, as a rule, be taken concurrently with the program. The type and duration of module examinations are provided for in Appendix 1 (II). In the event of divergence from those provisions, § 12 (8) of the APSO must be complied with. The assessment of the module examination is governed by § 17 of the APSO. The weights of the individual examinations are determined in Appendix 1 (II) according to the credits.

Where Appendix 1 (II) provides that a module examination is either in written or oral form, the examiner will inform the students in appropriate form, at the commencement of classes at the latest, of the type of examination to be held.

§ 42 Registration for and Admission to the Master's Examination

(1) Students who are enrolled in the Master's program in Management (Campus Heilbronn) are deemed admitted to the module examinations of the Master's examination.

(2) Registration requirements for required and elective module examinations are stipulated in § 15 (1) APSO. The registration requirements for repeat examinations for failed required and required elective modules are stipulated in § 15 (2) APSO.

(3) Admission requirements for the module “Advanced International Experience” is the successful completion of a stay abroad which is relevant to the context of the study. More details can be found in Appendix 1.

§ 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) The module examinations are listed in Appendix 1 (II). 60 Credits in required modules and a minimum of 30 credits in elective modules in management must be earned. The selection of modules must be in compliance with § 8 (2) of the APSO.

§ 44 Repeat Examinations, Failed Examinations

(1) The repetition of examinations is governed by § 24 of the APSO.

(2) Failure of examinations is governed by § 23 of the APSO.

§ 45 Coursework

The Master's program in Management at the Campus Heilbronn does not require coursework, only the successful completion of examinations.
§ 45 a
Multiple-Choice Test

The undertaking of multiple-choice tests is governed by § 12 of the APSO.

§ 46
Master’s Thesis

(1) ¹As part of the Master’s examination, each student must write a Master’s thesis pursuant to § 18 of the APSO. ²The Master’s thesis topic may be supervised/assigned by any full-time member (with the meaning of Art. 2 (1) BayHSchPG) of the faculty of management of the Technische Universität München. ³The expert examiners will be determined by the examination board.

(2) ¹Students are admitted to commence work on their Master’s theses, who successfully completed at least 45 out of 60 Credits in the required courses, as well as at least 6 Credits from the electives. ²Work on the Master’s thesis should commence after successful completion of all module examinations.

(3) ¹The period of time between topic assignment and submission of the completed Master’s thesis must not exceed six months. ²The Master’s thesis is considered presented and not passed if the student fails to submit it on time without valid reasons pursuant § 10 (7) of the APSO. ³The Master’s thesis should be written in English language.

(4) ¹If the Master’s thesis was 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 from receipt of the grade.

§ 47
Passing and Assessment of the Master’s Examination

(1) The Master’s Examination is deemed passed when all examinations required for the Master’s examination pursuant to § 43 (1) have been passed and a plus credits account of at least 120 credits has been achieved.

(2) ¹The grade of a module will be 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 § 43 (2) sentence 2 and the Master’s thesis. ³The grade weights of the individual modules correspond to the credits assigned to each module. ⁴The overall assessment is expressed by the designation pursuant §17 of the APSO.

§ 48
Degree Certificate, Diploma, Diploma Supplement

¹If the Master’s examination was passed, a degree certificate, a 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 course work requirements have been fulfilled.
§ 49*)
Entry into Force

1 These Examination and Academic Regulations shall enter into force on third of May 2018. They shall apply to all students who commence their studies in the Management Master’s program of the Technische Universität München (Campus Heilbronn) as of the winter semester 2018/19.

*) This date applies for the original version from 27 August 2018. The entry into force of changes done later depends on the respective date of the amending statute.
### Appendix 1:

I. Scope of the Master’s Examination

<table>
<thead>
<tr>
<th>Components</th>
<th>Credits</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Study accompanying examinations for the achievement of the required credits in <strong>basics in management</strong></td>
<td>42</td>
<td>1./2. Semester</td>
</tr>
<tr>
<td>2. Study accompanying examinations for the achievement of the required credits in <strong>basics in economics</strong></td>
<td>6</td>
<td>1. Semester</td>
</tr>
<tr>
<td>3. Study accompanying examinations for the achievement of the required credits in <strong>basics in law</strong></td>
<td>6</td>
<td>2. Semester</td>
</tr>
<tr>
<td>4. Study accompanying examinations for the achievement of the required credits in <strong>Entrepreneurial, Strategic, and International Management</strong></td>
<td>6</td>
<td>1. Semester</td>
</tr>
<tr>
<td>5. Study accompanying examinations for the achievement of the required credits in <strong>electives in management</strong></td>
<td>30</td>
<td>3. Semester</td>
</tr>
<tr>
<td>6. <strong>Master’s Thesis</strong> pursuant to § 46</td>
<td>30</td>
<td>4. Semester</td>
</tr>
</tbody>
</table>

120
II. Exam modules

Master in Management (Required modules)

The following required modules have to be passed successfully.

<table>
<thead>
<tr>
<th>Module number</th>
<th>Module name</th>
<th>Required</th>
<th>Type / weekly hours</th>
<th>Sem.</th>
<th>SWS</th>
<th>Credits</th>
<th>Type of assessment</th>
<th>Duration of exams</th>
<th>Language of instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIIH1139</td>
<td>Financial Accounting (MiM)</td>
<td>Required</td>
<td>2 V + 2 U</td>
<td>1. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>60</td>
<td>English</td>
</tr>
<tr>
<td>WIIH1137</td>
<td>Management Science (MiM)</td>
<td>Required</td>
<td>2 V + 2 U</td>
<td>1. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>60</td>
<td>English</td>
</tr>
<tr>
<td>WIIH0258</td>
<td>Empirical Research in Economics and Management</td>
<td>Required</td>
<td>2 V + 2 U</td>
<td>1. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>120</td>
<td>English</td>
</tr>
<tr>
<td>WIIH1138</td>
<td>Investment and Financial Management (MiM)</td>
<td>Required</td>
<td>2 V + 2 U</td>
<td>2. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>120</td>
<td>English</td>
</tr>
<tr>
<td>WIIH1129</td>
<td>Marketing &amp; Innovation Management (MiM)</td>
<td>Required</td>
<td>4 V</td>
<td>2. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>120</td>
<td>English</td>
</tr>
<tr>
<td>WIIH1131</td>
<td>Production and Logistics (MiM)</td>
<td>Required</td>
<td>4 V</td>
<td>2. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>120</td>
<td>English</td>
</tr>
<tr>
<td>WIIH1130</td>
<td>Cost Accounting (MiM)</td>
<td>Required</td>
<td>2 V + 2 U</td>
<td>2. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>60</td>
<td>English</td>
</tr>
<tr>
<td>WIIH1056_1</td>
<td>Principles of Economics</td>
<td>Required</td>
<td>2 V + 2 U</td>
<td>1. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>120</td>
<td>English</td>
</tr>
<tr>
<td>WIIH1122</td>
<td>Introduction to Business Law (MiM)</td>
<td>Required</td>
<td>2 V + 2 U</td>
<td>2. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>120</td>
<td>English</td>
</tr>
<tr>
<td>WIIH1185</td>
<td>Entrepreneurial, Strategic, and International Management</td>
<td>Required</td>
<td>4 V</td>
<td>1. Sem.</td>
<td>5</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>120</td>
<td>English</td>
</tr>
</tbody>
</table>

Electives in management

As part of the economics electives, students complete credits in economics from a supplementary elective catalog totaling at least 30 credits. Of these, 12 credits can be earned as part of a project study in accordance with § 37 a.

Instead of examinations at TUM, subject-related examinations amounting to 30 credits can be taken at a foreign university as part of a stay abroad. For this purpose, the students compile an individual semester study plan with a mentor appointed by the faculty. The corresponding courses are to be selected from the courses offered by the foreign university.
The supplementary elective catalog will be announced in an appropriate manner by the Faculty of Business and Economics on time before the start of lectures; enclosed is an exemplary catalog of electives.

<table>
<thead>
<tr>
<th>module-number</th>
<th>module name</th>
<th>required / elective</th>
<th>type weekly hours V U P S</th>
<th>Sem.</th>
<th>SWS</th>
<th>Credits</th>
<th>Type of assessment</th>
<th>duration of exam</th>
<th>language of instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIHN9684</td>
<td>Project Studies (Master in Management)¹)</td>
<td>Elective</td>
<td>3./4. Sem.</td>
<td>4</td>
<td>12</td>
<td>Credits</td>
<td>project</td>
<td>n.a.</td>
<td>English</td>
</tr>
<tr>
<td>WIHN0007</td>
<td>Advanced Seminar in Innovation and Entrepreneurship</td>
<td>Elective</td>
<td>4 S</td>
<td>3./4. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>report</td>
<td>n.a.</td>
<td>English</td>
</tr>
<tr>
<td>WIHN0008</td>
<td>Advanced Topics in Innovation &amp; Entrepreneurship</td>
<td>Elective</td>
<td>4 S</td>
<td>3./4. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>report</td>
<td>n.a.</td>
<td>English</td>
</tr>
<tr>
<td>WIHN0003</td>
<td>Advanced Topics in Operations &amp; Supply Chain Management I</td>
<td>Elective</td>
<td>4 V</td>
<td>3./4. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>120</td>
<td>English</td>
</tr>
<tr>
<td>WIHN0004</td>
<td>Advanced Seminar in Finance &amp; Accounting</td>
<td>Elective</td>
<td>4 S</td>
<td>3./4. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>report</td>
<td>n.a.</td>
<td>English</td>
</tr>
<tr>
<td>WIHN1181</td>
<td>Advanced International Experience²)</td>
<td>Elective</td>
<td>4 V</td>
<td>3./4. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>Klausur</td>
<td>60 - 120</td>
<td>English</td>
</tr>
<tr>
<td>WIHN0005</td>
<td>Challenge on Industrial Innovation</td>
<td>Elective</td>
<td>4 S</td>
<td>3. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>report</td>
<td>n.a.</td>
<td>English</td>
</tr>
<tr>
<td>WIHN0006</td>
<td>Advanced Seminar Finance &amp; Accounting: Case Study Seminar</td>
<td>Elective</td>
<td>4 S</td>
<td>3./4. Sem.</td>
<td>4</td>
<td>6 Credits</td>
<td>report</td>
<td>n.a.</td>
<td>English</td>
</tr>
</tbody>
</table>

Annotation:

1) This module with the associated partial module examinations can extend over at least two semesters.
2) All forms of examination listed in § 41 are possible. Details, in particular the number, type, scope and grade calculation of these examinations, will be made known to the students in a suitable and binding manner no later than two weeks before the start of lectures.
3) The completion of the Advanced International Experience module requires the completion of a relevant stay abroad of usually 60 days. Suitable forms of the stay abroad are: Study abroad, internship abroad, other subject-relevant stays can be submitted to the examination board for decision.
**Master’s Thesis**

<table>
<thead>
<tr>
<th>Module number</th>
<th>Master’s Thesis (Master in Management)</th>
<th>Required / elective</th>
<th>Credits</th>
<th>Language of instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIHN9268</td>
<td>Master’s Thesis</td>
<td>Required</td>
<td>30 Credits</td>
<td>English</td>
</tr>
</tbody>
</table>

**Explanations:**
- Sem. = Semester; SWS = Semesterwochenstunden (weekly hours); V = Vorlesung (Exam); Ü = Übung (exercise); K = Klausur (exam); S = Seminar. In case of an oral or written exam, the duration of the exam can be found in the column “duration of exam” (in minutes).
### III. Study plan

#### 1. Study plan

<table>
<thead>
<tr>
<th>Semester</th>
<th>Event</th>
<th>module type</th>
<th>credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Semester</td>
<td>Financial Accounting (MiM)</td>
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<td>1. Semester</td>
<td>Management Science (MiM)</td>
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<td>1. Semester</td>
<td>Principles of Economics</td>
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<td>1. Semester</td>
<td>Entrepreneurial, Strategic, and International Management</td>
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<td>2. Semester</td>
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<td>2. Semester</td>
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<td>2. Semester</td>
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<td>3. Semester</td>
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<td><strong>Credits totaling 3. semester:</strong></td>
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<td>4. Semester</td>
<td>Master’s Thesis (Master in Management)</td>
<td>required module</td>
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<td><strong>Credits totaling 4. semester:</strong></td>
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<td><strong>Total Credits Master’s in Management (Campus Heilbronn):</strong></td>
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Appendix 2: Aptitude Assessment

Aptitude Assessment for the Master’s Program in Management at the Technische Universität München

1. Purpose of the Assessment

1 Eligibility for the Master’s program in X, in addition to the requirements pursuant to § 36 (1) no(s) and 2, requires proof of aptitude pursuant to § 36 (1) no. 3 in accordance with the following provisions. 2 The special qualifications and skills of the candidates should correspond to the profession of engineering or natural sciences. 3 Individual aptitude parameters are:

1.1 Subject knowledge (incl. success) from a first degree in the field of engineering or natural sciences in accordance with the engineering and natural science bachelor’s degree programs of the Technische Universität München.

1.2 Knowledge in the economic-technical context

1.3 Ability to do research work and/or basic research and methodological work;

1.4 English technical language proficiency

2. Aptitude Assessment Process

2.1 The aptitude test will be held annually by the faculty of management.

2.2 Applications for admission to the aptitude test including the documents set out in 2.3.1 through 2.3.7 as well as in § 36 (1) No. 2 must be filed online by 31 May for the winter semester to the Technische Universität München (absolute deadline). 2 Degree certificate and Diploma as proof of passing the bachelor’s degree must be filed with the enrollment office at the Technische Universität München no later than five weeks after the beginning of the lectures. 3 Otherwise, admission to the Master’s program is not yet possible in accordance with § 36 of this statute.

2.3 The application must include:

2.3.1 transcript of records with modules totaling 140 credits, issued by the respective examination board or the responsible office of student affairs and handed in as certified copy. A certified copy is not necessary if the modules were achieved at the Technische Universität München.

2.3.2 a curricular analysis derived from the transcript of records; this must be completed by the applicants as part of the online application process and attached as a printout to the application documents,

2.3.3 curriculum vitae formatted as a table;

2.3.4 a written essay in English, maximum of 2000 words; the essay has to be uploaded in TUMOnline as well as handed in as a printed version. The chairperson of the committee may provide one topic or a selection of several topics for this essay. The candidates must be informed of the topic(s) not later than 1 April.

2.3.5 a declaration that both the statement of the reasons for choosing the program and the essay are the candidate’s own work, and that the candidate has clearly identified any ideas taken from outside sources;
2.3.6 if applicable, proof of the percentage ranking position of the degree or a percentage ranking position of the applicant in the last semester as an officially certified copy; certification is not required if the examinations were taken at the Technical University of Munich

2.3.7 if applicable, proof of a GMAT score of at least 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 Management Master's program, at least two members of the professorial faculty and at least one research associate (wissenschaftlicher Mitarbeiter). 2At least half of the committee members must be members of the professorial faculty. 3A representative of the student body will be a part of the committee, in an advisory capacity.

3.2 1The members of the committee are appointed by the faculty council (Fakultätsrat) 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.

3.3 1In case the commission will be active in accordance with these statutes, the revocable assignment of certain tasks to individual commission members shall be permissible. 2If, pursuant to sentence 1, only one member of the commission is active in the performance of certain tasks; this member must be a university lecturer. 3If, pursuant to sentence 1, two or more members of the commission are active in the performance of certain tasks, at least half of them must be university lecturers. 4The commission shall ensure an appropriate allocation of responsibilities. 5If there is room for flexibility in the evaluation of an assessment criterion of the suitability procedure and at least two members of the commission are active in the evaluation of this criterion, the members of the commission shall evaluate independently according to the weighting specified, unless otherwise regulated; the score shall be the arithmetic mean of the individual evaluations, rounded up to whole numbers of points.

4. **Admission to the Aptitude Assessment Process**

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

4.2 Applicants who have fulfilled the requirements will be tested according to no. 5.

4.3 Applicants who are not admitted will receive a notification 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 75, 0 being the worst and 75 being the best possible result. 3Negative results will not be given.
The English version is provided merely as a convenience and is not intended to be a legally binding document! Only the officially promulgated German version is legally binding.

The following criteria will be applied to the evaluation:

a) Academic qualification

1. The curricular analysis of the existing specialized knowledge is not carried out by schematic comparison of the modules, but on the basis of competencies. 2. It is based on the elementary subject groups listed below, which are taken into account either for an engineering bachelor's degree program or for a bachelor's degree program in the natural sciences.

Subject groups Bachelor’s program in engineering

a) Engineering Fundamentals:

- Mathematics, Technical mechanics, Machine Design, Materials Science, Machinery and Plant Engineering,

b) Bachelor Electrical Engineering and Information Technology: Mathematics, computer science, digital technology, circuit technology, electricity and magnetism, physics, measurement system and sensor technology, signals, materials of electrical engineering, electromagnetic field theory, systems, electronic components, computer technology, electrical power engineering.

c) Bachelor of Civil Engineering and Surveying:

- Mathematics, engineering mechanics, hydromechanics, construction process management, structural analysis, finite elements, hydrology, hydraulic engineering, urban water management, surveying.

d) Bachelor Architecture

- Design, construction, statics and strength of materials, history of construction, representation and design, structural design and materials, building climates and building technology, digital form finding, urban design, urban planning, urban studies, visual design, architecture and design theory, art history.

e) Other engineering subject groups

For engineering bachelor degrees other than those listed under a) to d), the subject catalog of the corresponding degree program at the Technical University of Munich is used as a basis.

Subject groups in natural sciences

a) Bachelor Computer Science:


b) Bachelor mathematics:

- Analysis, Linear Algebra, Discrete Mathematics, Numeric, Probability Theory, Mathematical Modeling, Programming Language;

c) Bachelor Games Engineering:

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Theoretical Computer Science, Numerical Programming, Physical Principles for Computer Games, Databases, Fundamentals of Artificial Intelligence;

d) Bachelor Bioinformatics:

e) Bachelor Biology:

f) Bachelor Physics:
Experimental physics, linear algebra, calculus, theoretical physics (mechanics/electrodynamics/quantum mechanics), and chemistry;

g) Bachelor Chemistry

h) Bachelor Nutritional Science:
Inorganic experimental chemistry, Inorganic chemistry, Cell biology, Experimental physics, Physical practical, Mathematics, Biology: Genetics, Human Physiology, Computer Science, Organic Chemistry, Principles of Human Nutrition, Food Science, Biochemistry, Physiology, Morphology, Microbiology, Nutritional Physiology of Macro- and Micronutrients, Food Microbiology, Food Science, Immunology, Experimental Nutrition Research, Nutritional Medicine, Human Sensory Science, Bio functionality of Food, Toxicology, Pharmacology and Clinical Studies, Regulation of Metabolism, Biostatistics;

i) Bachelor Earth sciences:
Mathematics, Experimental Physics, Chemistry, Biology, Data Processing in the Geosciences, General Mineralogy, Paleontology, Geological Maps and Profiles, Rocks, Applied Geophysics;

j) Bachelor Biotechnology:
Bioprocess Engineering, Plant Molecular Biology, Molecular Bacterial Genetics, Molecular Plant Breeding, Molecular Genetics and Regulatory Physiology of Animals, Proteins: Structure, Function and Engineering, Metabolic Engineering and Natural Product Production, Pharmacology and Toxicology;

k) Bachelor Scientific basics of sport:

Basic competencies in sports science (introduction to sports science work, basics of the theory of sports science, basics of mathematics and natural sciences), anatomical basics for sports and health science (functional anatomy of the human musculoskeletal system, anatomy of the internal organs), biological/physiological basics (biochemistry, physiology), anatomical basics for sports and health science, movement sciences (basics of movement science, basics of biomechanics), methodology (experimental design and descriptive statistics, Probability theory and inferential statistics, Experimental work), Biological/physiological competencies in sport (neuroanatomy/physiology, performance/work physiology, nutrition and fluid balance, doping prevention), Health science, Fundamentals of sports medicine, Introduction to traumatology, Training Science Competency, Psychological Competency (Fundamentals of Psych regulation, Psychology of Motivation and Emotion), Sports Education/Didactic Competency, Applied Anatomy, Biomechanical Competency, Basic Sports Diagnostic Competency, Sports Science Methodological Competency, Sports Technology;

l) Bachelor Medicine:

General medicine, anesthesiology, occupational medicine, social medicine, ophthalmology, surgery, dermatology, venereology, gynecology, obstetrics, otolaryngology, human genetics, hygiene, microbiology, virology, internal medicine, pediatrics, clinical chemistry, laboratory diagnostics, neurology, orthopedics, pathology, pharmacology, toxicology, psychiatry and psychotherapy, psychosomatic medicine and psychotherapy, legal medicine, urology.

³Where a candidate's competencies are at least equivalent to those listed above he/she will be awarded a maximum of 50 points. ⁴In the case this value is not an integer, it shall be rounded up to the next larger number. ⁵Missing competencies will be deducted in accordance with the credits of the corresponding modules of the respective Bachelor's program at the Technische Universität München.

b) Final Grade

²The points will be awarded on basis of the ranking in percentage of the achieved degree. In case the ranking is not available at the time of application, the ranking position of the last semester will be used for the grading. ⁶If the applicant is not able to submit a ranking position, an overall grade point average will be calculated based on the highest graded modules totaling 140 credits. ⁷The evaluation procedure according to ranking position or overall grade point average is made in favor of the applicants. ⁸Up to 15 points will be distributed to the percentage ranking position of the degree. ⁹Ranking positions among the top 1-20 % will receive 15 points, ranking positions among the top 21-30% will receive 10 points, ranking positions among the top 31-50% will receive 6 points, and 0 points will be awarded for 51% and above. ¹⁰Up to 15 points are distributed on the overall grade point average. ¹¹For each tenth that the grade of the Bachelor's degree is better than 2.5, the applicant will be awarded one point. ¹²The maximum number of points is 15. ¹³Negative points are not awarded. ¹⁴Where a degree was obtained outside of Germany, the grade will be converted according to what is referred to as „Bavarian formula“ [bayerische Formel, pursuant to the resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK) of 15 March 1991] ¹⁵The overall grade point average is calculated as the weighted grade point average of the modules. ¹⁶The grade weights of the individual modules correspond to the assigned credits. ¹⁷One digit after the decimal point is taken
into account when calculating grades, further digits are not being considered or rounded. If a transcript of records with more than 140 credits is available at the time of application, the evaluation will be based on the best-graded modules amounting to 140 credits. The applicants must list these as part of the application as well as assure the correctness of the information provided in writing.

c) GMAT-Score
The proof of a current GMAT-Score with at least 600 points will be awarded with 10 points.

5.1.2 The applicant’s points total are calculated as sum of the individual points awarded. The decimal places that are not being scratched must be rounded up.

5.1.3 Applicants who achieved at least 62 points will received confirmation that they have passed the aptitude assessment test.

5.1.4 Unsuitable applicants with an overall grade of fewer than 50 points will receive a rejection notice, signed by the TUM Board of Management and specifying the reasons for rejection and providing information on legal remedies. Signatory power may be delegated to the chairperson of the Committee.

5.2 Zweite Stufe der Durchführung des Eignungsverfahrens:

5.2.1 The remaining applicants will be evaluated according to their essay. In the second stage of the aptitude assessment process the applicant’s qualification at undergraduate level, the grade of the ranking (or the overall grade) and the result of the essay will be evaluated, taking at least equal consideration of the qualification obtained at undergraduate level. The essay will be graded with points between 0 to 40 by two members of the committee. The content of the essay will be graded according to the following criteria:

The applicants should be able to:
1. to present skills of scientific-logical argumentation with basic and method-oriented text structure, as well as to write the essay in a scientific manner and with correct citation of sources,
2. to frame the question in the context of economic-technical issues,
3. to express themselves in English.

5.2.2 All three criteria will be graded individually by each member of the committee. The criteria will be weighted as follows:
1. Ability to present scientific logical argumentation with basic and methodological text structure as well as to write the essay in a scientific manner and with correct citation of sources: maximum 20 points,
2. Framing of the question in the context of economic-technical issues: maximum 10 points,
3. Expression in English: 10 Punkte.

5.2.3 The grading of the essay will at least be done by two members of the committee. The members of the committee will each grade all three of the mentioned criteria independently from each other. The score per committee member results from the sum of the weighted evaluations of the individual criteria. The total score is the arithmetic mean of the scores of the two committee members, rounded up to whole numbers of points. The maximum number of points is 40.

5.2.4 The applicant’s points total in the second stage are calculated as the sum of all points obtained under 5.2.3 and the points under 5.1.1.a) (academic qualification) and 5.1.1. b) (final grade). Applicants with 80 or more points will be deemed suitable.
5.2.5  The applicant will be notified of the result of the aptitude test in writing. The notice must be signed by the TUM Board of Management. Signatory power may be delegated to the chairperson of the Committee. A rejection notice must specify the reason 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.  Documentation

The aptitude assessment process must be documented. Especially the names of the applicants, the names of the involved members of the committee, as well as the results and the justification for the grading of the essay.

7.  Repetition

Applicants who have failed the aptitude test for the Master’s program in management may register for one repetition of the Aptitude Assessment Test.