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Application process chart Master in Management and Technology

The application must meet all of the following criteria:
- Bachelor's degree or equivalent (at least 140 ECTS at the time of application) in Management and Technology, Management, Economics, Industrial Engineering or a comparable program
- Management subjects - min. 25 ECTS
- Economics subjects - min. 10 ECTS
- Engineering or natural science subjects - min. 15 ECTS
- GMAT score of at least 540 points (if you obtained your first degree, usually a Bachelor's degree, in China, Egypt, India, Pakistan or Bangladesh)

If not fulfilled
Rejection

Stage 1
51 points or more

If fulfilled

Between 45 - 50 points

Stage 2
- Previous academic background (max. 50 points)
- GPA (max. 9 points)
- GMAT (max. 15 points)*

44 points or less
Rejection

69 points or less
Rejection

70 points or more
Admission

*Points granted according a scale and valid only on the first stage
Additional documents might be required. Find the list of required documents on TUMonline.
1. Assessment procedure Master in Management and Technology

1.1. Entrance Requirements

To be eligible to apply for the Master in Management and Technology program, applicants must:

(a) hold a Bachelor’s degree or equivalent (at least 140 ECTS at the time of application) in Management and Technology, Management, Economics, Industrial Engineering, or a comparable program.

(b) have successfully completed modules worth at least 25 ECTS in business (management)/“Betriebswirtschaftslehre”

(c) have successfully completed modules worth at least 10 ECTS in economics/“Volkswirtschaftslehre”

(d) have successfully completed modules worth at least 15 ECTS in engineering or natural science (mathematics, statistics & informatics classes included)

(e) submit a GMAT Score of at least 640 points if you have obtained your first degree (usually a Bachelor’s degree) in China, Egypt, India, Pakistan and Bangladesh.

Please note that under no circumstances conditional admission will be given, in case an applicant does not meet the Entrance Requirements at the time of application!

If your application fulfills all entrance criteria from 1.1., it will start with the first stage of the assessment procedure.

1.2. Stage 1: Previous academic background + GPA + GMAT (if equals or higher 650 points)

If an application fulfills the entrance requirements, 30 points will be immediately granted for the credits in business management and economics. No points will be given for the entrance requirement of at least 15 ECTS in natural sciences or engineering. Additionally, 20 points will be granted for the experience gained in empirical research methods and operations research/management science (additional information about these 2 core modules can be found here). Please note having credits in these two areas is not an entrance requirement. However, it plays a crucial role in the success of the application.

As long as the course has been passed, they can be considered for the assessment. The respective grade is irrelevant for the evaluation of the core module groups. If the application does not have the minimum number of credits stipulated for each category, zero points will be given in that specific field.

<table>
<thead>
<tr>
<th>Core module group</th>
<th>Points</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business management modules (at least 25 ECTS)</td>
<td>20</td>
<td>immediately granted when fulfilling the entrance requirements</td>
</tr>
<tr>
<td>Courses in the field of empirical research Methods (at least 6 ECTS)</td>
<td>10</td>
<td>could be granted</td>
</tr>
<tr>
<td>Courses in the area of quantitative decision making with methods of operations research (at least 6 ECTS)</td>
<td>10</td>
<td>could be granted</td>
</tr>
<tr>
<td>Modules in economics (at least 10 ECTS)</td>
<td>10</td>
<td>immediately granted when fulfilling the entrance requirements</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>
Up to 9 points will be given for your overall final bachelor’s degree grade. If you apply with a bachelor’s degree from a foreign country and / or with a grade of grading system other than the German one, your grade will be converted into the German grading system using the Bavarian formula by TUM or Uni-Assist. Please refer here for more information:

<table>
<thead>
<tr>
<th>German Grade</th>
<th>1</th>
<th>1.1 / 1.2</th>
<th>1.3 / 1.4</th>
<th>1.5 / 1.6</th>
<th>1.7 / 1.8</th>
<th>1.9 / 2.0</th>
<th>2.1 / 2.2</th>
<th>2.3 / 2.4</th>
<th>2.5 / 2.6</th>
<th>2.7 or below</th>
</tr>
</thead>
<tbody>
<tr>
<td>Points</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

The points from the core modules and your final grade will be combined.

Extra points will be given for a GMAT score according to the table below:

<table>
<thead>
<tr>
<th>GMAT ≤ 640</th>
<th>650</th>
<th>660</th>
<th>670</th>
<th>680</th>
<th>690</th>
<th>700</th>
<th>≥ 710</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Please note that if you have obtained your first degree (usually a Bachelor’s degree) in China, Egypt, India, Pakistan and Bangladesh you must submit a GMAT Score of at least 640 points with your application. Extra points will be granted only with a score equal or higher to 650. If your Bachelor’s degree has been obtained in any other country, submitting a GMAT is optional for you. If you decide to submit a GMAT, the extra points will be given according to the same table.

The extra points of the GMAT are considered only on the first stage of the assessment procedure.

Please make sure you give the Technical University of Munich the right to verify it online.

The result of stage 1 either leads to:

- a rejection: if the application only reaches 44 points or less
- a direct admission: if the application reaches 51 points or more
- the evaluation of the essay in stage 2 of the assessment procedure: if the application reaches between 45 and 50 points.

Since the essay is a mandatory document for the application, all applicants must upload it on TUMonline, even if they are sure of obtaining admission in stage 1. We expect our applicants to have a high standard of scientific writing, therefore applicants who fail to meet this standard will unfortunately be excluded from the assessment process in case plagiarism is detected in the essay.

1.3. Stage 2: Points from Stage 1 (without GMAT) + Essay

In case the Essay is relevant for the final assessment, it will be evaluated based on the following criteria, the maximum point score for the essay is 40 points:
- Ability of scientific-logical reasoning (max. 20 points)
- Classification of economic-technical facts (max. 10 points)
- English-language expressiveness (max. 10 points)

The final result in stage 2 consists of the combined points from stage 1 (GMAT not being considered in stage 2) and the total points achieved in the evaluation of the Essay. If the combined total is 70 points or more, the application will be accepted (admission), if the total point score is 69 points or less, the application will be rejected.

Please refer to the info sheet “How should I write the essay?” on our website for more information regarding the essay.

2. How to fill out the Curricular Analysis?

In accordance with Annexure 2 of the examination and study regulations of the Master’s Program in Management and Technology, the assessment commission uses a curricular analysis to assess your eligibility and aptitude. During your application in TUMonline, you will need to follow a link to fill out the Curricular Analysis.

2.1. Registration

Please fill out the registration form. The link to this form will be provided at the very end of your TUM Online application.

Please enter your email address and click submit. In short you will receive an e-mail with a code.

Enter the 6 digit code you received.
Enter your personal information.

2.2. Entering courses

After registration, please enter all modules/courses, grades, and credits (ECTS) according to the Transcript of Records of your undergraduate studies (Bachelor Degree Program) in German or English. If you have completed additional classes that are not part of your main study program but were accomplished to gain missing credits necessary for a successfully application or because you additionally studied at another university, please list them under the seventh category Subjects from additional transcripts and/or additional degrees and upload the transcript(s) in TUMonline.

List them according to the following subject groups as you see fit and please enter each subject only once! We recommend you to upload course descriptions for our reference.
1. Business management modules (at least 25 ECTS)
   Examples: Finance and accounting, management accounting, financial management, controlling, production management, supply chain management, strategic management, risk management, human resource management, information management, organization and project management, management games
   If the name of the course(s) is not clearly about management topics, it may be helpful to upload the course description(s) for our reference.

2. Fundamental subjects in empirical methods (at least 6 ECTS; for details see here)
   Examples: Introduction to social research, applied econometrics, market research
   Please upload the course description(s) for our reference.

3. Technical basics in the field of quantitative decision support with methods of Operation Research (at least 6 ECTS; for details see here)
   Examples: Management science, operations research, decision oriented modelling
   Please upload the course description(s) for our reference.

4. Fundamental subjects in economics (at least 10 ECTS)
   Examples: Microeconomics, macroeconomics, international economics, industrial economics, environmental economics, energy economics
   If the name of the course(s) is not clearly about management topics, it may be helpful to upload the course description(s) for our reference.

5. Fundamental subjects in engineering or natural sciences (at least 15 ECTS)
   Examples: Mathematics, statistics, engineering, informatics (for more details see here).
   If the name of the course(s) is not clearly about management topics, it may be helpful to upload the course description(s) for our reference.

6. All other subjects
   Examples: Law, communication skills, language training, software training, sociology, psychology, scientific writing, thesis, internships, sports

7. Subjects from additional transcripts and/or additional degrees
All completed additional classes that are not part of your main study program but were accomplished to gain missing credits necessary for a successfully application.

Please upload the course description(s) for our reference.

Please assign all modules/courses that do not fit in one of the above-mentioned subject groups or that you are unsure of to the category no. 6: All other subjects. Please make sure you enter each subject only once.

2.3 Additional Information about core modules

In the following, you will find relevant content for the core module groups Empirical Research Methods and Operations Research (based on syllabi from classes taught at TUM School of Management). For a recognition of a course, a predominant agreement of a complete module with the reference contents must be given. Please note that we are not able to check classes for eligibility before you apply. It may be helpful to include certain syllabi with your application for our reference. Please note that a final thesis or class paper cannot be recognized for any of the core module groups.

<table>
<thead>
<tr>
<th>Management science/operations research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intended Learning Outcomes:</strong> After successful completion of the module students are capable of modelling mathematical optimization models for business problems, of solving small problems manually, of interpreting derived solutions and translating them into management actions.</td>
</tr>
<tr>
<td><strong>Management Science is about:</strong></td>
</tr>
<tr>
<td>- Modeling, solving and analyzing business administrations and management problems using mathematical concepts.</td>
</tr>
<tr>
<td>- Linear Programming</td>
</tr>
<tr>
<td>- Mixed-Integer Programming</td>
</tr>
<tr>
<td>- Graph Theory</td>
</tr>
<tr>
<td>- Network Flow</td>
</tr>
<tr>
<td>- Dynamic Programming</td>
</tr>
<tr>
<td>- Decision Theory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Empirical research methods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content:</strong> This module will give you an introduction to empirical research methods, including the higher aims of empirical research, the standards it needs to meet, and a set of methods that you can directly apply. Topics:</td>
</tr>
<tr>
<td>- Research ethics</td>
</tr>
<tr>
<td>- Research question and their implications</td>
</tr>
<tr>
<td>- Paper reading, positioning, and contributions</td>
</tr>
<tr>
<td>- Correlation and causality</td>
</tr>
<tr>
<td>- Choosing a research design</td>
</tr>
<tr>
<td>- Qualitative research</td>
</tr>
<tr>
<td>- Quantitative analysis &amp; quantitative research design</td>
</tr>
<tr>
<td>- Using existing scales and data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Informatics courses for the field fundamental subjects in engineering or natural sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modules with the following contents are not recognized:</strong></td>
</tr>
<tr>
<td>- Application of software (e.g. SAP, image processing, accounting, etc.)</td>
</tr>
<tr>
<td>- Organizational issues of operational IT use (procurement, implementation of projects)</td>
</tr>
<tr>
<td>- Advantages and disadvantages of IT applications/uses</td>
</tr>
</tbody>
</table>

| **Modules with the following contents are more likely to be recognized:** |
| - Computer architectures |
| - Structure of databases |
| - Programming of software |
2.4. Submission

Before sending the form online, please verify if all your entries are correct and complete.

All compulsory and elective modules must be listed and correctly assigned! If on your transcript of records there are, for example, 25 courses with a total of 180 credits, your curricular analysis must have the 25 courses and 180 credits.

2.5. FAQs about the Curricular Analysis

Can I also list modules from my master studies or previous study programs? Additional modules that are not part of your main study program but are necessary for a successful application or if you additionally studied at another university should be listed in the Curricular Analysis under the sixth category Subjects from additional transcripts and/or additional degrees.

Can I also list modules that I will finish after my application? No, you are only allowed to insert completed courses that are listed in your Transcript of Records.

I did not get a grade for the course, should I list it? Yes, please list all modules of your transcript of records. If you did not get a grade please leave the field blank.

I'm not sure which category my course fits into. What should I do? Please put it into the "all other subjects", if you are not sure.

Should I convert grades into the German grading system and credits into the ECTS system? No, please enter the classes exactly as they appear on your transcript of records. If any conversions are necessary, they will be done by TUM.

Which language should the courses listed be in? Please enter the classes exactly as they appear on your transcript of records (German or English). In case you are applying with a translated copy of a transcript of records, please use the translated title (German or English).

Can I enter non-numerical grades (such as A, B …)? No, the system cannot process non-numerical grades. In this case, please leave the grade field blank, we will use the information on your transcript for reference.

I made a mistake. What should I do? If you have made a mistake, please contact admission@wi.tum.de

Please note that this information sheet is not legally binding nor do we guarantee for its correctness and completeness! The only legally binding document is the statute ("FPSO") in its most current version.