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Aptitude Assessment Regulations for the Bachelor's Program in Management & Technology at the Technical University of Munich

dated April 1, 2010
as amended by the First Amendment Statute of March 17, 2011

In accordance with Art. 13 (1) sentence 2 in conjunction with Art. 44 (4) sentence 5 of the Bayerisches Hochschulgesetz (BayHSchG) [Bavarian Higher Education Act] and Art. 32 (2) of the Qualifikationsverordnung (QualV) (BayRS 2210-1-1-WFK), the Technical University of Munich issues the following regulations:

Introductory note on linguistic usage

Any terms relating to persons and functions mentioned in the following regulations are equally valid for women and men.

§ 1
Purpose of the Aptitude Assessment

(1) [1]Specific requirements exist for students to be eligible to join the Bachelor's Program in Management & Technology at the Technical University of Munich in the first or higher semester in which the student will be registered for courses awarding credits toward the degree [*Fachsemester*]. [2]The Bachelor's Program in Management & Technology has a particular degree profile, described in Appendix 1. [3]For this reason students must, in addition to meeting the requirements outlined in the latest version of the Examination and Academic Regulations (FPSO), demonstrate their suitability for the degree program in accordance with the following regulations.

(2) [1]The purpose of the aptitude assessment process is to determine whether students, besides having the higher education entrance qualification (HZB), demonstrate aptitude for the specific qualitative requirements of the Bachelor's Program in Management & Technology. [2]For this degree program, students must meet the following requirements in addition to having the HZB:

1. Mathematical and logical skills, and their application in solving problems at the interface of engineering/natural sciences and management;

2. The ability to formulate precise, clear arguments in German.

[3]Students on the interdisciplinary Bachelor's Program in Management & Technology require well-grounded abilities and aptitudes in mathematics and natural sciences in order to be able to assimilate the contents of the courses in engineering and natural sciences. This is particularly important as they will attend the same classes as students taking undergraduate degrees in these subjects.

[4]Logical and analytical skills and the ability to formulate precise, clear arguments in German are needed in order to communicate accurately with people from different professional backgrounds at the interface of engineering/natural sciences and management.

§ 2
Aptitude Assessment Process

(1) The aptitude assessment process will take place semi-annually, once in the summer semester (for the following winter semester) and once in the winter semester (only for students applying for higher semesters in which they will be registered for courses awarding credits toward the degree, to begin the following summer semester).

(2) Applications for admission to the aptitude assessment process for the following winter semester must be filed online by July 15, and for the summer semester by January 15, to the Technical University of Munich (absolute deadline).

(3) The application and the aptitude assessment are both in German in the case of German-language degree programs, and in German or English in the case of English-language degree programs.

(4) The application must include:

1. A curriculum vitae formatted as a table;

2. Details of the candidate's HZB;

3. A written statement of no more than 2 DIN A4 pages of the reasons for choosing the Bachelor's program in Management & Technology at the Technical University of Munich, in which the candidate also explains the specific skills, abilities and interests that make them particularly qualified for the program applied for; this can also be demonstrated in part by general activities carried out by the candidate, e.g. extracurricular activities outside school;

4. Where relevant, proof of program-related vocational training or other professional activities;

5. A declaration that the statement of the reasons for choosing the program are the candidate’s own work, and that the candidate has clearly identified any ideas taken from outside sources;

6. Where relevant, subject-specific additional qualifications (e.g. participation in a research competition, program-related vocational training, voluntary internships).

§ 3
Aptitude Assessment Committee

[1]The aptitude test is administered by a committee appointed by the Dean. [2]The size of the Committee depends on the number of candidates; at least half of its members must be members of the professorial faculty according to Art. 2 (3) sentence 1 of the Bayerisches Hochschulgesetz (BayHSchG) [Bavarian Higher Education Act], and the remainder must be research or teaching associates and lecturers. [3]A representative of the student body will sit on the Committee in an advisory capacity. [4]The Committee is chaired by the Dean or the Dean of Studies, mandated by the Dean. [5]Procedural regulations will be in accordance with Art. 41 of the BayHSchG. [6]Members of the Committee are appointed for two years, with extensions possible.

§ 4
Admission to the Aptitude Assessment Process

[1]Admission to the aptitude assessment process requires that all the documentation specified in § 2 (4) has been submitted in a timely and complete fashion to the Technical University of Munich. [2]If this is not the case, the candidate will not be admitted to the aptitude assessment process.

§ 5
The Aptitude Assessment Process: Stage 1

(1) In the first stage of the aptitude assessment process, candidates are evaluated on the basis of the following criteria:

1. Average grade in the HZB;

2. Individual grades in specific subjects;

here, the following are noted: The individual grades given in the HZB for Mathematics (twice), German (twice) and Advanced Natural Sciences (once) for the last four half-year periods prior to the candidate gaining the HZB, including where appropriate the Abitur grades for these subjects as listed in the HZB; these grades are then added together and divided by the weighted number of individual grades, ignoring grades for the specialist research paper or similar; if the HZB does not list a grade for a subject named above in 2., the number that the total is divided by is reduced accordingly.

(2) The evaluation is carried out as follows:

1. [1]The average grade in the HZB is converted into points ("HZB points") on a scale from 0 to 100, 0 being the worst and 100 the best possible evaluation. [2]A scale should be chosen in which an HZB that is just barely passed gets 40 points (see Appendix 2 for the conversion formula). [3]Candidates who can show evidence that they were unable to achieve a better average grade in their HZB for personal reasons beyond their own control may, upon application, be included in the evaluation process on the basis of the average grade they would have achieved under normal circumstances in the expert opinion of their high school.

2. [1]The result of the evaluation of individual grades in specific subjects according to (1) 2. will, according to 1., be converted into points on a scale of 0 to 100 (see Appendix 2 for the conversion formula). [2]If this number of points is a decimal, it will be rounded up to the nearest full point in the candidate's favor.

3. [1]The total score for the first stage of the assessment process is the sum of the HZB points (see 1.) multiplied by 0.65 and the points from 2. multiplied by 0.35. [2]If this score is a decimal, it will be rounded up in the candidate's favor.

(3) Result of the first stage of the aptitude assessment

[1]Candidates who score 80 points or more in the first stage of the aptitude assessment shall be admitted to the program. [2]This does not apply to candidates who gained their HZB at a non-German-language school outside Germany and whose native language is not German. [3]Even if such candidates achieve the required number of points, they must still demonstrate their subject-related linguistic competence in the second stage of the aptitude assessment process. [4]Nor does admission on the grounds of scoring 80 points or more apply to candidates who are unable to present individual grades for Mathematics and/or German. [5]These candidates must demonstrate their subject-specific aptitude by passing the second stage of the process.

(4) [1]The remaining candidates continue to the second stage of the aptitude assessment process. [2]In this second stage they are invited for interview. [3]Interview appointments will be announced at least one week in advance by the Committee.

(5) [1]Notwithstanding (1) to (3), candidates who are already enrolled in a related degree program are only subject to the second stage of the aptitude assessment process. [2]Such candidates may only apply if they have to date gained at least 15 credits in each semester in which they were registered for courses awarding credits toward their degree [*Fachsemester*].

(6) Notwithstanding (1) to (3), candidates who hold a master's certificate [*Meisterprüfung*] or equivalent vocational training qualification, and graduates of professional academies [*Fachakademien*] and colleges [*Fachschulen*], must demonstrate their subject-related aptitude by passing the second stage of the process.

§ 6
The Aptitude Assessment Process: Stage 2

(1) In the second stage of the aptitude assessment process, the average grade from the HZB and the result of the interview are evaluated, whereby the average grade from the HZB is given at least equal weight in said evaluation.

(2) [1]The interview is not open to the public. [2]The interview takes the form of a group interview conducted by at least two members of the Committee, one of whom must be a member of the professorial faculty according to Art. 2 (3) sentence 1 of the Bayerisches Hochschulgesetz (BayHSchG) [Bavarian Higher Education Act]. [3]With the candidate's approval, a student may also sit in on the interview. [4]The interview lasts approximately ten minutes per candidate. [5]The purpose of the interview is to assess whether the candidate may be expected to attain the goals of the program in a scholarly manner, independently and responsibly. [6]The interview will not check whether the candidate has any specific pre-existing knowledge beyond that expected of someone with a regular secondary education, except in the case of an assessment pursuant to § 5 (5). [7]The interview may also cover the documentation submitted pursuant to § 2 (3). [8]The interview appointment must be kept by the candidate. [9]The interview will focus on the following topics:

1. Current economic policy issues,

2. Mathematical and engineering and/or natural science topics relating to management.

10When evaluating the interview, the individual topics will be weighted as follows:

1. Current economic policy issues (2/5),

2. Mathematical and engineering and/or natural science topics relating to management (3/5).

11On the basis of the weighting given in sentence 10, each member of the Committee will evaluate the interview using the following scale:

Suitability for the Bachelor's program in Management & Technology at TUM	Rating	Points
Ideal	Excellent	91-100
Well-suited	Good	75-90
Suitable, with reservations regarding specific criteria	Satisfactory	60-74
Fairly suitable	Sufficient	40–59
Only suitable to a very limited degree	Inadequate	20-39
Unsuitable	Unsatisfactory	0-19

12The total score will be calculated on the basis of the arithmetic means of the individual scores awarded by Committee members; if necessary, the total score will be rounded up to the nearest whole number.

(4) 1The total score for the second stage of the assessment process is the sum of the HZB points (see § 5 (2) 1.) multiplied by 0.5 and the points from the interview multiplied by 0.5 (see (3)). 2If this score is a decimal, it will be rounded up in the candidate's favor.

(5) 1If the total score according to (4) is 70 or more, the candidate will be deemed suitable on the basis of the second stage of the aptitude assessment process. 2Such candidates will receive an admission notice (§ 7).

(6) Candidates with a total score of 69 or fewer points will be deemed unsuitable for the program.

§ 7
Admission/Rejection Notices

1The candidate will be notified of the result of the aptitude assessment process, as determined by the Committee, in the form of a notice signed by the President of the Technical University of Munich. 2Notwithstanding sentence 1, a decision by the Committee is not required for the first stage where no margin of discretion exists for the Committee in determining the overall score. 3Rejection notices must specify the reasons for the rejection and provide information on legal remedies. 4The President may delegate signatory power.

§ 8
Record

[1]The aptitude assessment process must be documented, including the date, duration and location of the assessment, the names of the Committee members, the candidate's name, and the decision of the members of the Committee as well as the total score. [2]This record must also contain the key topics discussed at the interview in note form.

§ 9
Repetition

[1]Candidates who fail to demonstrate aptitude for the program in question may register to repeat the aptitude assessment process once, in the following year. [2]In exceptional cases (for example, where evidence of sickness or vocational training is presented), registration for a later date is possible. [3]Further repetitions of the process are not possible.

§ 10
Entry into Force*)

[1]These regulations will enter into force on April 1, 2010. [2]They shall apply from winter semester 2010/2011. [3]At the same time, the Regulations of March 16, 2009 will cease to be in effect.

*) This provision relates to the entry into force of the Regulations in their original version of April 1, 2010. The date of entry into force of the amendments is determined on the basis of the amendment statue.

Appendix 1

Profile of the Bachelor's Program in Management & Technology at the Technical University of Munich

[1]The Bachelor's Program in Management & Technology (TUM-BWL) is aimed at school leavers with a higher education entrance qualification (HZB) who are interested in the field of management and at the same time wish to gain a basic understanding of engineering or natural sciences. [2]The interdisciplinary program demands of the students both secure language skills and good abilities in the field of mathematics and engineering or natural sciences.

[3]In the Bachelor's Program in Management & Technology, students are first taught the basics of management, economics, law and mathematics/methodology. [4]Building on this, they then select one of the four management focus areas on offer (Finance & Accounting, Innovation & Entrepreneurship, Marketing, Strategy & Leadership, or Operations & Supply Chain Management) and one subject in the field of engineering or natural sciences (Chemistry, Electronics and Information Technology, Computer Science, or Mechanical Engineering). [5]In the engineering and natural science subjects, students attend the same classes as undergraduates taking degrees in those subjects, so they need a strong interest and skills in these areas in order to keep up with the program.

[6]This distribution of subjects makes the Bachelor's Program in Management & Technology the commercial counterpart to a traditional degree in Industrial Engineering. [7]Whereas graduates in Industrial Engineering have a focus on technical subjects (usually 70% engineering/natural sciences and only 30% business administration), in the Bachelor's Program in Management & Technology the business content is firmly in the foreground (with approximately 70% business administration/economics/law and 30% engineering/natural sciences). [8]This weighting also sets the Bachelor's Program in Management & Technology apart from pure Business degrees, which lack an engineering or science component. [9]Interdisciplinary courses, a Project Studies module and the Bachelor's thesis make the program complete.

[10]In today's companies, the various interdependencies between corporate divisions and the ongoing blurring of traditional departmental boundaries calls for workers and managers who can take an interdisciplinary approach. [11]Such employees are particularly in demand at the interface of commercial and technological areas. [12]The Bachelor's Program in Management & Technology gives students the ideal preparation for meeting these new challenges at the interface of management and engineering/natural sciences. [13]The program's integration of management and engineering or natural sciences enables them to better understand the different conceptual worlds of people from these different disciplines – and to make good use of this knowledge in their future careers.

Appendix 2

Conversion formulas

Different grading scales are converted into points on a scale of 0 to 100 as stipulated in 1. to 3. below. A score of 100 points corresponds to the best possible evaluation, a score of 40 points to a bare pass in the original grading system.

1. German grading system
in which 1 is the best grade and 6 the worst

Points = 120 - 20 x grade.

Grades 1, 2, 3, 4, 5 and 6 are thus equivalent to 100, 80, 60, 40, 20 and 0 points respectively.

As the HZB grades on German certificates are given to one decimal place, no rounding is necessary when using this formula.

2. German points system (e.g. *Kollegstufe*)
in which 15 is the best possible number of points and 0 the worst

Points = 10 + 6 x number of points.

3. Other numerical grading systems
with grade N, whereby N_{opt} is the best grade and N_{pass} is a bare pass

$$\textbf{Points} = 100 - 60 \times (N_{opt} - N) / (N_{opt} - N_{pass}).$$

If the resulting number of points is a decimal, it is rounded up to the next whole number in the candidate's favor.

Example: In the Bulgarian grade system, $N_{opt} = 6$, $N_{pass} = 3$, and 1 is the worst grade possible. The above formula can be simplified as follows: points = 100 - 20 x (6 - N).

Issued on the basis of the resolution by the Senate of the Technical University of Munich of March 22, 2010 and approved by the President of the Technical University of Munich on April 1, 2010.

Munich, April 1, 2010

Technical University of Munich

Wolfgang A. Herrmann
President

These regulations were laid down at the University on April 1, 2010 and notice thereof published at the University on April 1, 2010. The date of publication is therefore April 1, 2010.