

**Statutes  
about the suitability determination  
for the Bachelor's degree program in Life Sciences Nutritional Science  
at the Technical University of Munich**

**From 20 May 2021**

Based on Art. 13 Para. 1 Sentence 2 in conjunction with Art. 44 Para. 4 Sentence 7 of the Bavarian University Act (BayHSchG) and § 34 of the Qualification Ordinance (QualV) (BayRS 2210-1-1-3-K/WK), the Technische Universität München issues the following statute:

**§ 1**

**Purpose of the determination**

- (1) <sup>1</sup>Admission to the bachelor's degree program in Life Sciences Nutritional Science at the Technical University of Munich in the first or a higher semester requires a special qualification. <sup>2</sup>The Bachelor's degree program in Life Sciences Nutritional Science has a special program profile, which is described in Annex 1. <sup>3</sup>In addition to the prerequisites listed in the Fachprüfungs- und Studienordnung (FPSO) in the current version, proof of suitability must be provided in accordance with the following regulations.
- (2) <sup>1</sup>The purpose of the procedure is to determine whether, in addition to the qualification demonstrated by the acquisition of the higher education entrance qualification, the aptitude for the special qualitative requirements of the Bachelor's degree program in Life Sciences Nutritional Sciences is present. <sup>2</sup>For this study program, the following study program-specific competencies (aptitude requirements) must be met in addition to the university entrance qualification (HZB):
  1. scientific, mathematical and technical aptitude as well as the ability to combine knowledge acquired in school and beyond from different disciplines.
  2. Ability to understand life processes as processes that can be described and quantified using the scientific disciplines of chemistry, physics, and mathematical and statistical methods.
  3. Knowledge of current, socially relevant and publicly discussed challenges in nutrition science, medicine and economics, as well as current approaches to solutions and research topics.

**§ 2**

**Procedure**

- (1) The procedure for determining eligibility is carried out semi-annually once in the summer semester for the following winter semester and in the winter semester, but only for applications for higher semesters for the following summer semester.

- (2) Applications for admission to the assessment procedure for the respective following winter semester must be submitted to the Technische Universität München in the online application procedure by July 15 and for the summer semester by January 15 (cut-off deadlines).
- (3) Applications and determination of eligibility are in German.
- (4) The application must be accompanied by:
  1. Tabular resume;
  2. Documents required in accordance with § 7 Para. 3 of the statutes of the Technical University of Munich concerning enrollment, re-registration, leave of absence and exmatriculation (ImmatS), as amended;
  3. HZB details;
  4. if applicable, evidence of vocational training specific to the course of study or other practical work experience, of extracurricular qualifications relevant to the course of study or additional qualifications (e.g. participation in a research competition, voluntary internships relevant to the course of study).

### **§ 3 Commission**

<sup>1</sup>The suitability assessment is carried out by a commission appointed by the dean. <sup>2</sup>The size of the commission depends on the number of applicants and consists of more than half university lecturers within the meaning of Art. 2 Para. 3 Sentence 1 BayHSchPG, and the remainder of academic staff. <sup>3</sup>One or more students nominated by the student council shall participate in the commission in an advisory capacity. <sup>4</sup>The Academic Program Director chairs the commission. <sup>5</sup>In all other respects, the procedural rules from Art. 41 BayHSchG apply. <sup>6</sup>The commission members are appointed for two years; extension is possible.

### **§ 4 Admission requirement**

<sup>1</sup>Admission to the assessment procedure requires that the documents specified in § 2 Para. 4 have been submitted to the Technical University of Munich in due form and time and in their entirety. <sup>2</sup>If this is not the case, admission to the assessment procedure will not be granted.

### **§ 5 Implementation: First stage**

- (1) In the first stage of the suitability determination procedure, an evaluation is carried out from the following criteria
  1. Average grade of the HZB and

2. subject-specific individual grades

<sup>1</sup>The grades listed in the HZB in the subjects mathematics and the best continued natural science (chemistry, biology or physics) acquired in the last four semesters before acquiring the HZB, including, if applicable, Abitur grades in these subjects listed in the HZB. <sup>2</sup>If no half-year grades are shown, the average grades shown in the HZB shall be used accordingly. <sup>3</sup>These are added together and divided by the (weighted) number of individual grades; the grades for the seminar paper or subject work or a comparable achievement are not taken into account. <sup>4</sup>If no grade is shown for a named subject in the HZB, the divisor shall be reduced by the corresponding number. <sup>5</sup>If there are no grades in the subjects chemistry, biology or physics for the last four half-years, the basic understanding in these areas is to be proven in this case according to para. 3 no. 1 sentence 2 and sentence 3 by participation in the second stage;

3. extracurricular qualifications or additional qualifications relevant to the course of study

<sup>1</sup>A maximum of one relevant vocational training or apprenticeship, an internship of at least four weeks relevant to the subject, and successful participation in the "Jugend forscht" (Youth Research) competitions shall be taken into account for each applicant as extracurricular qualifications or additional qualifications relevant to the course of study. <sup>2</sup>The qualifications must be verifiable by the applicant, and corresponding documents must be attached to the application in accordance with § 2 Para. 4. <sup>3</sup>The Commission shall decide on the recognition of the stated extracurricular qualifications or additional qualifications.

(2) The following applies to the conduct of the evaluation:

1. <sup>1</sup>The average grade of the HZB is converted into points (HZB points) on a scale from 0 to 100, where 0 is the worst conceivable grade and 100 is the best possible grade. The scale is to be chosen in such a way that an HZB that has just been passed is assessed with 40 points (for conversion formula, see appendix). <sup>3</sup>Whoever claims to have been prevented from achieving a better average grade in the HZB for reasons for which he/she is not personally responsible shall, upon application, be involved in the procedure with the average grade as evidenced by school reports.
2. <sup>1</sup>The result of the evaluation of the subject-specific individual grades according to Para. 1 No. 2. <sup>2</sup>If this value is not an integer, it shall be rounded up to the next highest whole number in favor of the applicant.
3. Those applicants who would be rejected in the first stage due to their achieved score, but who can prove an extracurricular qualification relevant to the study program or additional qualification according to paragraph 1 No. 3, will also participate in the second stage.
4. <sup>1</sup>The total evaluation of the first stage is the sum of the HZB points multiplied by 0.5 (see No. 1) and the points from No. 2 multiplied by 0.5 (<sup>2</sup>If this value is not an integer, it will be rounded up to the next whole number in favor of the applicant).
5. <sup>1</sup>Departing from No. 1 and No. 2, in the case of graduates of the master craftsman's examination and of further vocational training examinations equated to the master craftsman's examination by the Ministry of State, the criterion according to No. 1 shall be replaced by the criterion of the arithmetic mean of the individual grades of the respective examination parts and the criterion according to No. 2 shall be replaced by the criterion of the named subject-specific individual grades in the subjects mathematics and best continued natural science (biology, physics or chemistry) of this examination. <sup>2</sup>In the case of graduates of technical colleges and technical academies, in deviation from No. 1 and No. 2, the criterion according to No. 1 shall be replaced by the criterion of the overall examination grade or, if no overall examination grade is shown, by the criterion of the arithmetic mean of the individual grades of the subjects (excluding elective subjects) of the final certificate and the criterion according to No. 2 shall be replaced by the criterion

of the subject-specific individual grades in the subjects mathematics and best continuing natural science in the final certificate. <sup>3</sup>If no grade is shown for a named subject, the divisor is to be reduced by the corresponding number; in this case, basic understanding in the areas named in § 1 is to be demonstrated by participation in the second stage in accordance with § 5 para. 3 no. 1 sentence 2 and sentence 3.

- (3) Result of the first stage of the suitability determination
1. <sup>1</sup>Whoever achieves 88 points or more in the first stage is admitted. <sup>2</sup>This does not apply if the continued subject-specific individual grades in the subjects mathematics and best continued natural science (biology, physics or chemistry) were not shown in the HZB. <sup>3</sup>Even if the score is achieved, the subject-specific aptitude must be proven by passing the second stage of the procedure.
  2. <sup>1</sup>If the point value calculated in accordance with Para. 2 is 65 points or less, applicants shall be deemed unsuitable. <sup>2</sup>This also applies if applicants lack individual subject-specific grades.
- (4) <sup>1</sup>The remaining applicants shall proceed to the second stage of the aptitude testing procedure. <sup>2</sup>In the second stage of the aptitude testing procedure, an online test (performance survey in written and anonymous form) shall be invited. <sup>3</sup>The date for the online test will be announced by the commission at least one week in advance.
- (5) In deviation from paras. 1 to 3, applicants who were enrolled in the same or a related degree program and who are not to be admitted directly according to the criteria for the first stage shall participate in the second stage of the aptitude assessment procedure, provided they can prove at least 20 credits per semester already completed.
- (6) <sup>1</sup>Departing from paras. 1 to 3, those applicants who submit a hardship application shall also be admitted to the second stage as an exception. <sup>2</sup>All documents must be enclosed with the application. <sup>3</sup>The applicant must prove that he or she has such serious health, social or family reasons that, applying particularly strict standards, it is not proportionate for the applicant to be rejected in the first stage.

## § 6

### Implementation: Second stage

- (1) In the second stage of the aptitude test procedure, the average grade of the HZB and the result of the online aptitude test are evaluated, whereby the average grade of the HZB is to be considered at least equally.
- (2) <sup>1</sup>The time slot for the online test to be conducted must be set before the application deadline. <sup>2</sup>The set date of the test must be adhered to.
- (3) <sup>1</sup>The performance survey in written form lasts 30 minutes and comprises approx. 10-15 questions. <sup>2</sup>The test is intended to show whether the applicant has a level of scientific, mathematical and technical knowledge that can be expected to successfully complete a bachelor's degree.
 

<sup>3</sup>For this purpose, the applicant is required to have

  - a) can link knowledge acquired in school and beyond from different disciplines,
  - b) can describe and quantify life science processes using the natural science disciplines of biology, chemistry, physics, and mathematical and statistical methods,

- c) has knowledge of current, socially relevant and publicly discussed challenges in science, especially nutrition science, medicine and economics and can describe current approaches to solutions and research topics.

<sup>4</sup>In the test, the applicants must show that they are suitable for the course of study. <sup>5</sup>The maximum score achievable in the performance survey is 100. <sup>6</sup>For the solution of the tasks, no prior knowledge is required that will only be acquired during the course of study.

<sup>7</sup>The test is scored according to the following scale:

Predicate	Points
Excellent	91-100
Good	75-90
Satisfactory	60-74
Sufficient	40-59
Poor	20-39
Insufficient	0-19

<sup>8</sup>The competence areas a), b) and c) contribute to the result with the following weighting:

- a) 30 points
  - b) 35 points
  - c) 35 points
- (4) <sup>1</sup>The total score of the second stage is the sum of the HZB points multiplied by 0.5 (see § 5 para. 2 no. 1) and the points of the online aptitude test multiplied by 0.5 (see para. 2). <sup>2</sup>If this value is not an integer, it shall be rounded up to the next highest number in favor of the applicant.
- (5) If the total score formed in accordance with paragraph 4 is 80 or higher, the suitability is established on the basis of the result of the second stage of the suitability determination procedure.
- (6) Applicants or candidates with an overall score of 79 or less are unsuitable for the program.

## § 7 Notices

<sup>1</sup>The result of the suitability assessment procedure shall be communicated by notice. <sup>2</sup>If there is no leeway in the assessment of the individual criteria or in the determination of the overall results of the first and second stages, the Commission need not pass a resolution. <sup>3</sup>Refusal notices shall state the reasons and be accompanied by instructions on how to appeal.

## § 8 Documentation

<sup>1</sup>The course of the aptitude testing procedure shall be documented. <sup>2</sup>A record must be made of the test, showing the external course of events (day, place, start and end of the test, the names of the members of the commission present and the names of the applicants, as well as any special incidents).

**§ 9**  
**Repeat**

<sup>1</sup>Whoever has not provided proof of suitability for the intended course of study may re-register once for the suitability assessment procedure. <sup>2</sup>A further repetition is not possible. <sup>3</sup>In justified exceptional cases (written proof of e.g. illness), registration for a further date is possible.

**§ 10**  
**Entry into force**

<sup>1</sup>These Statutes shall enter into force with effect from May 15, 2021. <sup>2</sup>It shall apply from the winter semester 2021/22.

Only the German version is legally binding

## Attachment 1

### Study program profile Life Sciences Nutritional Science

The bachelor's degree program in Life Sciences Nutritional Science at TUM is located in terms of content and methodology with a focus on molecular nutritional research at the interfaces of a wide range of disciplines in the natural and life sciences, in particular human medicine and food science. Food, nutrition and human metabolism are current and central topics for the future, which, in view of the "One Health" approach of the TUM School of Life Sciences, contribute as important mosaic building blocks to securing the foundations of healthy life.

As a unique selling point, the focus of this distinctly interdisciplinary degree program is aligned along fundamental and applied research questions in nutrition science. The production of novel foods and the diagnosis and therapy of diet-related diseases such as obesity, diabetes mellitus and cancer require a high quality of knowledge and the ability to integrate all areas of food science, nutrition science and medicine. The focus is on issues of nutritional medicine, focusing on the challenges of personalized nutrition rather than on blanket nutritional recommendations.

Suitable applicants should thus have a very good grounding in the classical disciplines of natural and life sciences combined with a keen interest in applied research in the context of nutritional medicine. The Life Sciences Nutritional Science program provides knowledge in inorganic and organic chemistry of micro- and macronutrients, the effects of technological processes on food content and texture, the analytical methods of food chemistry, the microbiological aspects of food safety, the biochemical and cell biological processes of digestion, absorption and metabolism of food ingredients, and the physiological effects of all these processes on human nutrition and health.

In order to meet the interdisciplinary requirement profile of this degree program and to guarantee a sustainable high quality of the applicants and -graduates, and in order to enable the applicants to successfully complete a Bachelor's degree, the applicants must meet the highest standards in the natural sciences and mathematics. The best continued science up to the Abitur is included in the calculation of the 1st stage of the aptitude test procedure with a multiplier of 0.5, as is the subject of mathematics.

Due to its interdisciplinary nature, applicants should have a basic knowledge of **biology**. Human genetics, cytology / histology, anatomy and physiology as well as basics of biochemical processes of food processing serve the understanding of the study contents of nutrition science.

Good knowledge of the subject **chemistry** is crucial for a successful study of life sciences nutritional science. This subject, together with the knowledge of inorganics and organics, forms the basis for understanding biochemistry and nutritional physiology as well as pharmacology and toxicology and thus for all metabolic processes relevant to the course of study. Without a sound knowledge of this subject, structural interactions within or between metabolic metabolites are inconceivable.

Basic knowledge of **physics** is the basis for understanding biophysical, biochemical, and physiological relationships in the fundamental subjects in the undergraduate life sciences nutrition curriculum.

**Mathematics** is also a significant factor in student success. Differential and integral calculus as well as linear algebra are required as an important foundation in the Life Sciences Nutritional Science program. In addition, good and very good performance in this subject also plays an important role in biostatistics as an essential prerequisite for understanding and evaluating epidemiological studies and clinical intervention studies.

The bachelor's degree program in Life Sciences Nutritional Sciences is designed for applicants who appear suited for an interdisciplinary, research-driven study of human nutrition with many practical elements, following the guiding principles of the natural and life sciences and medicine

## Enclosure 2

### Conversion formulas

The conversion of different grading scales into points on a scale from 0 to 100 is done according to the regulations 1. to 3. 100 points correspond to the best possible evaluation and 40 points to a performance just rated as passed in the respective initial grading system.

- 1. German grading system**  
with 1 as best and 6 as worst grade

$$\text{Points} = 120 - 20 * \text{Grade.}$$

Grades 1, 2, ..., 5 and 6 consequently correspond to 100, 80, ..., 20 and 0 points. Grade 4 corresponds to 40 points.

Since HZB grades are given to one decimal place in German certificates, no rounding to whole numbers is required when applying the formula of No. 1.

- 2. German point system (e.g. Kollegstufe)**  
with 15 as best and 0 as worst point value

$$\text{Points} = 10 + 6 * \text{Point value.}$$

- 3. any numeric staff system**  
with grade N, where  $N_{opt}$  is the best score and grade  $N_{best}$  is just enough to pass.

$$\text{Points} = 100 - 60 * (N_{opt} - N) / (N_{opt} - N_{best}).$$

If the score calculated according to the given formula is not an integer, it will be rounded up to the nearest whole number in favor of the applicant.

Example: In the Bulgarian grading system,  $N_{opt} = 6$ ,  $N_{best} = 3$  and 1 is the worst possible grade. The given formula simplifies to:  $\text{Points} = 100 - 20 * (6 - N)$ .

Issued on the basis of the resolution of the Academic Senate of the Technical University of Munich dated March 24, 2021 and the approval by the President of the Technical University of Munich dated May 20, 2021.

Munich, May 20, 2021

Munich University of Technology

Thomas F. Hofmann  
President

These bylaws were filed at the college on May 20, 2021; notice of the filing was posted at the college on May 20, 2021. The date of announcement is therefore May 20, 2021.