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**Only the officially published version is binding**  
**Subject Examination and Study Regulations for the Master's Program  
in Food Chemistry at the  
Technical University of Munich**

**From 2 July 2015**

**Readable version  
as amended by the Collective Amendment Statutes for the Appointment of  
Commission Members in the Qualification Procedure for Master's Degree  
Programs of the TUM School of Life Sciences dated February 1, 2021.**

On the basis of Article 13, Paragraph 1, Sentence 2 in conjunction with Article 58, Paragraph 1, Sentence 1, Article 61, Paragraph 2, Sentence 1 and Article 43, Paragraph 5 of the Bavarian University Act (BayHSchG), the Technische Universität München enacts the following statutes:

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### **§ 34**

#### **Scope, academic degree, equivalence to APOLmCh, Job title**

- (1) <sup>1</sup>The Subject Examination and Study Regulations (FPSO) for the Master's degree program in Food Chemistry supplement the General Examination and Study Regulations for Bachelor's and Master's degree programs at the Technical University of Munich (APSO) dated March 18, 2011, as amended. <sup>2</sup>The APSO has priority.
- (2) <sup>1</sup>On the basis of the successful completion of the Master's examination, the academic degree "Master of Science" ("M.Sc.") is awarded. <sup>2</sup>This academic degree may be awarded with the university suffix "(TUM)".
- (3) <sup>1</sup>The consecutive Master's program in Food Chemistry at the Technical University of Munich, together with the assigned Bachelor's program, imparts the contents specified in Section 18, Paragraph 2, Sentence 1 of the Ordinance on the Training and Examination of State-Certified Food Chemists (APOLmCh) of September 5, 2008, as amended, in conjunction with Appendix 3 to the APOLmCh. <sup>2</sup>Section 20, paragraph 2, no. 2 of the APOLmCh shall apply.
- (4) <sup>1</sup>The qualification acquired in the Master's program in Food Chemistry at the Technical University of Munich corresponds to the second examination section of the state examination according to § 18 APOLmCh, provided that the contents of Annex 4 of this FPSO have been taught. <sup>2</sup>The graduates are therefore entitled to use the professional title "food chemist" (§ 18 para. 4 APOLmCh).

### **§ 35**

#### **Start of studies, standard period of study, ECTS**

- (1) The Master's program in Food Chemistry at the Technical University of Munich generally begins in the winter semester.
- (2) <sup>1</sup>The scope of the credits required for obtaining the Master's degree in the compulsory and elective areas is 90 (at least 70 semester hours), distributed over three semesters. <sup>2</sup>In addition, 30 credits (six months) are required to complete the Master's thesis in accordance with § 46. <sup>3</sup>The scope of the examinations to be taken in the compulsory and elective areas in accordance with Appendix 1 in the Master's degree program in Food Chemistry thus amounts to 120 credits. <sup>4</sup>The standard period of study for the Master's program is four semesters in total.

### **§ 36**

#### **Qualification requirements**

- (1) Qualification for the master's degree in food chemistry is demonstrated by:
  1. a qualified bachelor's degree of at least six semesters obtained at a domestic or foreign university or an at least equivalent degree in food chemistry or comparable courses of study and
  2. passing the suitability procedure according to Annex 2.
- (2) A qualified university degree within the meaning of Para. 1 exists if there are no significant differences with regard to the competencies (learning outcomes) acquired in the scientifically oriented relevant bachelor's degree program in food chemistry at TUM

mentioned in Para. 1 No. 1 on the basis of the APOLmCh according to Annex 3 and these correspond to the subject-specific requirements of the master's degree program.

- (3) <sup>1</sup>The compulsory modules (164 credits) of the bachelor's degree program in Food Chemistry at TUM are used for the determination according to Para. 2 (see Annex 3), from which modules amounting to at least 134 credits must be proven according to Annex 3. <sup>2</sup>According to Annex 3, missing examinations of a total of no more than 30 credits must be successfully passed within one year as additional basic examinations to prove the qualification according to Paragraph 1. <sup>3</sup>Failed basic examinations may only be repeated once on the next examination date. <sup>4</sup>The examination board may make admission to individual module examinations dependent on passing the basic examination. <sup>5</sup>The applicants shall be informed of this after the documents have been reviewed as part of the first stage of the aptitude test.
- (4) The commission for the aptitude procedure decides on the comparability of the study program, on the determination of the special aptitude as well as on the crediting of competences in the examination of university degrees acquired at foreign universities under consideration of Art. 63 Bavarian University Act.
- (5) <sup>1</sup>Departing from para. 1 no. 1, students who are enrolled in a bachelor's degree program named in para. 1 no. 1 may be admitted to the aptitude test upon justified application. <sup>2</sup>The application may only be submitted if, in the case of a six-semester Bachelor's degree program, proof of module examinations amounting to at least 134 credits from the compulsory modules in accordance with Annex 3 is provided at the time the application is submitted. <sup>3</sup>Proof of having passed the bachelor's degree must be provided within one year of commencing the master's program."

### **§ 37**

#### **Modularization, module examination, courses, language of instruction**

- (1) <sup>1</sup>General regulations on modules and courses are set out in §§ 6 and 8 APSO. <sup>2</sup>In the event of deviations from module specifications, § 12 Para. 8 APSO shall apply.
- (2) The study plan with the modules in the compulsory and elective areas is listed in Appendix 1.
- (3) As a rule, the language of instruction in the Master's program in Food Chemistry is German.

### **§ 38**

#### **Examination deadlines, progress monitoring, missed deadlines**

- (1) Examination deadlines, study progress monitoring and missed deadlines are regulated in § 10 APSO.
- (2) <sup>1</sup>At least one of the module examinations from the Fundamentals listed in Annex 1 A) No. 1 - 8 must be successfully passed by the end of the second semester. <sup>2</sup>If the deadline is exceeded, § 10 para. 5 APSO shall apply.

## § 39 Examination board

The body responsible for decisions in examination matters according to § 29 APSO is the examination board for the Master's degree program in Food Chemistry of the Faculty of Nutritional Science and Food Chemistry of the Faculty of the Weihenstephan Science Center (WZW).

## § 40 Crediting of periods of study, study and examination achievements

The crediting of study periods, study and examination achievements is regulated by § 16 APSO.

## § 41 Study-related examination procedure, forms of examination

- (1) Possible forms of examination according to §§ 12 and 13 APSO are, in addition to written examinations and oral examinations in this degree program, in particular laboratory performances, exercise performances (if applicable, tests), reports, presentations and scientific papers.
- a) <sup>1</sup>An **examination** is written work under supervision with the aim of identifying problems in a limited time using the specified methods and defined aids and finding ways to solve them and, if necessary, being able to apply them. <sup>3</sup>The duration of written examinations is regulated in § 12 Para. 7 APSO.
  - b) <sup>1</sup>Laboratory services include, depending on the discipline, experiments, measurements, work in the field, field exercises, etc. with the aim of carrying out, evaluating and gaining knowledge. <sup>2</sup>Components can be e.g.: practical experimental work, the description of the processes and the respective theoretical basis incl. literature study, the preparation and practical execution, if necessary necessary calculations, their documentation and evaluation as well as the interpretation of the results with regard to the knowledge to be gained. <sup>3</sup>The laboratory performance can be supplemented by a presentation in order to test the communicative competence in presenting scientific topics to an audience. <sup>4</sup>The specific components of the respective laboratory performance and the competencies to be tested with it are listed in the module description.
  - c) <sup>1</sup>The **exercise performance** (if applicable, tests) is the processing of given tasks (e.g. mathematical problems, programming tasks, modeling, etc.) with the aim of applying theoretical content to solve application-related problems. <sup>2</sup>It serves the verification of factual and detailed knowledge as well as its application. <sup>3</sup>The exercise performance can be carried out, among other things, in writing, orally or electronically. <sup>4</sup>Possible forms are, for example, homework, exercise sheets, programming exercises, (E-)Tests, tasks in the context of university internships, etc. <sup>5</sup>The specific components of the respective exercise performance and the competencies to be tested with it are listed in the module description.
  - d) <sup>1</sup>A **report** is a written review and summary of a learning process with the aim of reproducing what has been learned in a structured manner and analyzing the results in the context of a module. <sup>2</sup>The report should prove that the essential aspects have been recorded and can be reproduced in writing. <sup>3</sup>Possible report forms are, for example, field trip reports, internship reports, work reports, etc. <sup>4</sup>The written report can be supplemented by a presentation in order to test the communicative competence in presenting the contents to an audience.
  - e) <sup>1</sup>In the context of a **project work**, a project assignment is to be achieved as a defined goal in a defined time and with the use of suitable instruments in several phases

(initiation, problem definition, role allocation, idea generation, criteria development, decision, implementation, presentation, written evaluation). <sup>2</sup>In addition, a presentation can be part of the project work in order to test the communicative competence in presenting scientific topics to an audience. <sup>3</sup>The concrete components of the respective project work and the competencies to be tested with it are listed in the module description. <sup>4</sup>The project work is also possible in the form of group work. <sup>5</sup>In this case, it should be demonstrated that tasks can be solved in a team. <sup>6</sup>The contribution to be assessed as examination performance must be clearly recognizable and assessable individually. <sup>7</sup>This also applies to the individual contribution to the group result.

- f) <sup>1</sup>The **scientific paper** is a written performance in which a challenging scientific or scientific-application-oriented question is independently processed using the scientific methods of the respective discipline. <sup>2</sup>It should be demonstrated that a question corresponding to the learning outcomes of the respective module can be completely processed in compliance with the guidelines for scientific work - from analysis to conception to implementation. <sup>3</sup>Possible forms, which differ in their respective level of demand, are e.g. thesis paper, abstract, essay, study paper, seminar paper, etc. <sup>4</sup>The scientific elaboration can be accompanied by a presentation and, if necessary, a colloquium in order to test the communicative competence of presenting scientific topics in front of an audience. <sup>5</sup>The concrete components of the respective scientific elaboration and the competences to be examined with it are listed in the module description.
- g) <sup>1</sup>A **presentation** is a systematic, structured and visually supported oral presentation using suitable media (such as beamers, transparencies, posters, videos), in which specific topics or results are illustrated and summarized and complex issues are reduced to their essential core. <sup>2</sup>The presentation is intended to demonstrate the ability to work on a specific topic in a given time in such a way that it can be presented to an audience in a clear, concise and comprehensible manner. <sup>3</sup>In addition, it should be demonstrated that questions, suggestions or discussion points of the audience can be dealt with in an informed manner in relation to the respective subject area. <sup>4</sup>The presentation may be supplemented by a short written preparation. <sup>5</sup>The presentation may be given individually or in groups. <sup>6</sup>The contribution to be assessed as an examination performance must be clearly recognizable and assessable individually. <sup>7</sup>This also applies to the individual contribution to the group result.
- h) <sup>1</sup>An **oral examination** is a time-limited examination discussion on specific topics and concrete questions to be answered. <sup>2</sup>In oral examinations, it should be demonstrated that the qualification objectives documented in the module descriptions have been achieved and that the interrelationships of the examination area have been recognized and special questions can be placed in these interrelationships. <sup>3</sup>The oral examination can be conducted as an individual examination or as a group examination. <sup>4</sup>The duration of the examination is regulated in § 13 Para. 2 APSO.
- (2) <sup>1</sup>The module examinations are usually taken during the course of study. <sup>2</sup>The type and duration of a module examination are specified in Annex 1. <sup>3</sup>In the event of deviations from these stipulations, § 12 Para. 8 APSO must be observed. <sup>4</sup>For the evaluation of the module examination, § 17 APSO shall apply. <sup>5</sup>The grade weights of partial module examinations correspond to the weighting factors assigned to them in Annex 1. <sup>6</sup>The modules marked with (#) in Annex 1 are only passed if each module sub-examination is passed.
- (3) If Appendix 1 specifies for a module examination that it is written or oral, the examiner shall announce the binding type of examination to the students in an appropriate manner no later than the beginning of the lecture.
- (4) At the request of the students and with the approval of the examiners, examinations can be taken in English for German-language modules.

## § 42

### Registration and admission to the Master's examination

- (1) <sup>1</sup>Upon enrollment in the Master's degree program in Food Chemistry, students are considered admitted to the module examinations of the Master's examination. <sup>2</sup>Students who take additional examinations within the framework of the consecutive bachelor's degree program in Food Chemistry at the Technical University of Munich in accordance with § 49 a of the subject examination and study regulations for the bachelor's degree program in Food Chemistry at the Technical University of Munich, as amended from time to time, are also considered admitted to individual module examinations. <sup>3</sup>If the taking of additional basic examinations has been made a requirement in accordance with Section 36, Paragraph 3, Sentence 2, the examination board shall inform the students in writing for which module examination, in deviation from Sentence 1, proof of passing the basic examinations is a prerequisite for admission.
- (2) <sup>1</sup>Registration for a module examination in the compulsory and elective areas is governed by § 15 Para. 1 APSO. <sup>2</sup>Registration for a corresponding repeat examination in a failed compulsory module is governed by § 15 Para. 2 APSO.

## § 43

### Scope of the Master's examination

- (1) The master's examination includes:
1. the module examinations in the corresponding modules according to par. 2,
  2. the Master's Thesis according to § 46
  3. as well as the study achievements listed in § 45.
- (2) <sup>1</sup>The module examinations are listed in Appendix 1. <sup>2</sup>Evidence must be provided for 82 credits in the compulsory modules and at least 5 credits in the elective modules. <sup>3</sup>When choosing the modules, § 8 para. 2 APSO must be observed.

## § 44

### Repeat, failure of examinations

- (1) The repetition of examinations is regulated in § 24 APSO.
- (2) The failure of examinations is regulated by § 23 APSO.

## § 45

### Study achievements

In addition to the examination achievements mentioned in § 43, the successful completion of study achievements in the modules to the extent of 3 credits, which are described accordingly in Appendix 1, must be proven.

## § 45a

### Multiple choice procedure

The implementation of multiple-choice procedures is regulated in § 12 a APSO.

## **§ 46 Master's Thesis**

- (1) <sup>1</sup>Pursuant to § 18 APSO, students must prepare a Master's thesis as part of the Master's examination. <sup>2</sup>The Master's thesis can be issued and supervised by expert examiners according to sentence 3 (topic presenter). <sup>3</sup>Expert examiners are university professors, junior fellows, and lecturers of the Technical University of Munich who are involved in compulsory modules in the Master's degree program in Food Chemistry. <sup>4</sup>The Examination Committee may also appoint other expert examiners as topic presenters at the request of the student.
- (2) <sup>1</sup>The completion of the Master's Thesis module should normally represent the last examination performance. <sup>2</sup>Students may be admitted to the Master's Thesis prematurely upon application if the goal of the Thesis as defined in § 18 Para. 2 APSO can be achieved in consideration of the previous course of study.
- (3) <sup>1</sup>The time from issuance to delivery of the Master's Thesis may not exceed six months. <sup>2</sup>The Master's Thesis shall be deemed to have been taken and not passed if it is not delivered on time without valid reasons recognized in accordance with § 10 Para. 7 APSO. <sup>3</sup>The Master's thesis can be written in German or English.
- (4) The Master's Thesis module consists of a written scientific paper and an assessed presentation on its content of at least 30 minutes.
- (5) <sup>1</sup>If the Master's Thesis has not been evaluated with at least "sufficient" (4.0), it can be repeated once with a new topic. <sup>2</sup>It must be re-registered no later than six weeks after the notification of the result.

## **§ 47 Passing and assessment of the Master's examination**

- (1) The master's examination is passed if all examinations to be taken within the framework of the master's examination according to § 43 Para. 1 have been passed and a point account balance of at least 120 credits has been achieved.
- (2) <sup>1</sup>The module grade is calculated according to § 17 APSO. <sup>2</sup>The overall grade of the Master's examination is calculated as the weighted grade average of the modules according to § 43 para. 2 and the Master's Thesis. <sup>3</sup>The grade weights of the individual modules correspond to the assigned credits. <sup>4</sup>The overall grade is expressed by the predicate according to § 17 APSO.

## **§ 48 Certificate, Diploma Supplement, Certificate of Equivalency**

<sup>1</sup>If the Master's examination is passed, a certificate, a certificate and a Diploma Supplement with a Transcript of Records shall be issued in accordance with § 25 Para. 1 and § 26 APSO. <sup>2</sup>The date of the certificate shall be the date on which all examination and study achievements have been completed. <sup>3</sup>In addition to the documents mentioned in sentence 1, graduates shall receive a certificate of exemption from the first and second examination sections of the state examination in accordance with Section 20 (3) APOLmCh. <sup>4</sup>The certificate in accordance with sentence 3 shall be signed by the chairperson of the examination board. <sup>5</sup>The certificate shall also contain the overall grade calculated in accordance with Section 12 (2) APOLmCh for the second examination

section in accordance with APOLmCh; the assessment of the examination performance and the grade calculation shall be based here on Section 11 APOLmCh. <sup>6</sup>Annex 4 of this FPSO shows a sample for this certificate of equivalence.

**§ 49**  
**Entry into force\*)**

<sup>1</sup>These Statutes shall enter into force on the day following their publication. <sup>2</sup>It applies to all students who begin their studies at the Technical University of Munich from the winter semester 2015/2016 onwards.

\*) This provision concerns the entry into force of the Articles of Association in the original version of July 2, 2015. The date of entry into force of the amendments is specified in the amending Articles of Association.

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## Appendix 1: Examination modules

### A) Compulsory modules

No.	Module number	Subject name	Sem.	SWS /Teaching form	Credits	Form of examination	Exam duration	Weighting factors
1	WZ1900	Special food chemistry	1+2	4V	6	K	180	
2	WZ1901	Structural analysis of natural products	1	4V	6	K	120	
3	WZ1902	Nutritional physiology and molecular biosciences	1	4V	6	K	120	
4	WZ1903	Practical course food chemical bioanalysis	1	7P	7	L		
5	WZ1904	Chemistry, technology and analytics of consumer goods, cosmetics, tobacco products, water for human consumption and feedstuffs	1	3V	5	K	120	
6	WZ1905	Practical course special food chemistry with seminar	2	1S+6P	7	L		
7	WZ1906	Food toxicology and environmental chemistry	2	3V	5	K	120	
8	WZ1907	Food toxicology practical course	2	7P	7	L		
9	WZ1908	Law of foodstuffs, cosmetics, consumer goods and food contact materials, animal feed, tobacco products and related legal areas	1-2	4V	5	M	60	
10	WZ1909	Quality management and quality assurance, including visits to relevant companies	3	4V	5	K+SL	120	
11	WZ1910	Molecular sensing	2	4V+1T	8	K	180	
12	WZ1911	Project work / Integrated research internship	3	15P	15	L+WA		4 : 1
<b>Total</b>				<b>67</b>	<b>82</b>			
13	WZ1912	Master's Thesis (#)	4	30	30	WA+PR		4 : 1

### B) Elective modules

No.	Module/subject name	Sem.	SWS /Teaching form	Credits	Form of examination	Exam duration	Weighting factors
1	WZ1913	3	2V+1T	5	KPA	60	1 : 1
1a	Special business management of food (#)	3	2V				
1b	Business administration in theory and practice Project work	3	1Ü				
2	WZ1914	3	1V+2P	5	K+L	120	2 : 1
3	WZ1915	3	2V+2T	5	K	90	
4	WZ2487	3	2V+2T	5	M+PR(SL)	20	
5	WZ2488	3	2V+2T	5	M+PR(SL)	20	
<b>Total</b>			min. 3	min. 5			

The Examination Committee continuously updates the catalog of subjects for the elective modules. The examination board publishes the current catalog on its website at the beginning of each academic year. This catalog has an exemplary character.

### C) Study achievements

No.	Subject name	Sem.	SWS /Teaching form	Credits	Form of examination	Exam duration	Weighting factors
1	Superdisciplinary basics (soft skills) *)	1-4	VÜPS	3	SL	-	-

\*) Students choose from a catalog of courses published by the Faculty of Studies for a total of 3 credits. The examination board continuously updates the course catalog. Changes are announced on the Examination Committee's website at the beginning of the semester at the latest.

Notes and explanations:

Sem. = semester; SWS = semester hours per week; Type: V=lecture, Ü=exercise, P=practicum, S=seminar, HA=term paper

Form of teaching: V=lecture, P=practical course, S=seminar, Ü=exercise

Type of examination: K=exam, L=laboratory performance, M=oral examination, WA=research paper, PR=presentation, PA=project work, SL=ungraded study performance

In the column Examination Duration, the examination duration in minutes is listed for written and oral examinations.

Modules marked with (#) are passed only if each module subtest is passed.

Additional Notes:

Regarding A) No. 1: according to § 2 para. 2 sentence 2 APOLmCh in conjunction with. No. II. 2. letter a) of Annex 1 and No. I. 1. of Annex 3 to APOLmCh

A) No. 3: according to § 2 para. 2 sentence 2 APOLmCh in conjunction with. No. II. 2. letter e) of Annex 1 and No. I. 3. of Annex 3 to APOLmCh

Regarding A) No. 4: according to § 2 para. 2 sentence 2 APOLmCh in conjunction with. No. II. 1. letter a) as well as No. II. 2. letter a) of Annex 1 and No. I. 1. of Annex 3 to APOLmCh

Re A) No. 5: according to § 2 para. 2 sentence 2 APOLmCh i.V.m. No. II. 2. letters a) - d) of Annex 1 and No. I. 1. and I. 2. of Annex 3 to APOLmCh

Regarding A) No. 6: according to § 2 para. 2 sentence 2 APOLmCh in conjunction with. No. II. 1. letter a) as well as No. II. 2. letter a) of Annex 1 and No. I. 1. of Annex 3 to APOLmCh

Regarding A) No. 7: pursuant to § 2 para. 2 sentence 2 APOLmCh in conjunction with. No. II. 2. letter g) of Annex 1 and No. I. 5. of Annex 3 to APOLmCh

Regarding A) No. 8: according to § 2 para. 2 sentence 2 APOLmCh in conjunction with. No. II. 1. letter d) as well as No. II. 2. letter g) of Annex 1 and No. I. 5. of Annex 3 to APOLmCh

Regarding A) No. 9: according to § 2 para. 2 sentence 2 APOLmCh in conjunction with. No. II. 2. letters h) - j) of Annex 1 and No. I. 6. letters a) and b) of Annex 3 to APOLmCh

Regarding A) No. 10: according to § 2 para. 2 sentence 2 APOLmCh in conjunction with. No. I. 6. letter. c) of Annex 3 to APOLmCh, as well as pursuant to § 2 para. 2 sentence 2 APOLmCh in connection with No. II. 1. No. II. 1. letter e) of Annex 1 to the APOLmCh

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## Appendix 2: Suitability procedure

### Aptitude Test for the Master's Degree in Food Chemistry at the Technical University of Munich

#### 1. purpose of the procedure

<sup>1</sup>In addition to the requirements of Section 36, Paragraph 1, No. 1, qualification for the Master's degree program in Food Chemistry requires proof of suitability in accordance with Section 36, Paragraph 1, No. 2, subject to the following regulations. <sup>2</sup>The special qualifications and abilities of the applicants should correspond to the professional field of food chemistry. <sup>3</sup>Individual suitability parameters are:

- 1.1 Ability to work in a scientific or basic and methodological manner,
- 1.2 Existing specialist knowledge from the first degree in food chemistry based on the bachelor's degree program in food chemistry at the Technical University of Munich,
- 1.3 Ability to solve complex and difficult problems,
- 1.4 Interested in application problems.

#### 2. procedure for checking the suitability

- 2.1 The procedure for the examination of suitability is carried out annually by the Faculty of Nutritional Science and Food Chemistry of the Faculty of the Weihenstephan Science Center (WZW).
2. <sup>2</sup>Applications for admission to the procedure must be submitted to the Technische Universität München together with the documents according to 2.3.1 up to and including 2.3.5 for the winter semester in the online application procedure by May 31 (cut-off deadlines).
2. <sup>3</sup>The application shall be accompanied by:
  - 2.3.1 A Preliminary Transcript of Records with modules totaling at least 134 credits; the Transcript of Records must be issued by the responsible examination authority or the responsible study secretariat,
  - 2.3.2 A Curricular Analysis derived from the Transcript of Records must be completed as part of the online application process and attached as a hard copy to the application materials,
  - 2.3.3 A tabular resume,
  - 2.3.4 a written justification of no more than one to two DIN A4 pages for the choice of the Food Chemistry program at the Technical University of Munich, in which the applicants explain which specific talents and interests make them particularly suitable for the Master's program in Food Chemistry at the Technical University of Munich. Applicants should explain which specific talents and interests make them particularly suitable for the Master's program in Food Chemistry at the Technical University of Munich; the special willingness to perform should be substantiated, for example, by explanations of professional training specific to the program, internships, stays abroad, or subject-related further education in the Bachelor's program that went beyond attendance times and compulsory courses; this should be supported by attachments, if necessary,
  - 2.3.5 an assurance that the justification for the choice of the course of study was prepared independently and without outside help and that the ideas taken from outside sources are marked as such.

### 3. commission on the suitability procedure

- 3.1 <sup>1</sup>The aptitude test is carried out by a commission, which usually consists of the Dean of Studies responsible for the Master's program in Food Chemistry, at least two university professors and at least one research assistant. <sup>2</sup>At least half of the committee members must be university professors. <sup>3</sup>A student representative shall participate in the commission in an advisory capacity.
- 3.2 <sup>1</sup>The appointment of the members shall be made by the Dean in consultation with the Associate Dean for Academic Affairs. <sup>2</sup>At least one university lecturer shall be appointed as a deputy member of the commission. <sup>3</sup>The commission is usually chaired by the Dean of Studies. <sup>4</sup>Article 41 of the BayHSchG, as amended, applies to the course of business.
- 3.3 <sup>1</sup>If the commission acts in accordance with these statutes, the revocable assignment of certain tasks to individual commission members is permissible. <sup>2</sup>If, pursuant to sentence 1, only one commission member is active in the performance of certain tasks, this member must be a university lecturer. <sup>3</sup>If, 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 professors. <sup>4</sup>The commission shall ensure an appropriate allocation of responsibilities. <sup>5</sup>If there is room for maneuver in the evaluation of an assessment criterion of the suitability procedure and at least two commission members are active in the evaluation of this criterion, the commission members 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 qualification procedure

4. <sup>1</sup>Admission to the qualification procedure requires that the documents specified in No. 2.3 are submitted in due time and in full.
- 4.2 Whoever fulfills the necessary requirements will be examined in the suitability procedure according to No. 5.
- 4.3 Anyone who is not admitted shall receive a notice of rejection with reasons and instructions on how to appeal.

### 5. performance of the suitability procedure

#### 5.1 First stage of the implementation of the suitability procedure:

- 5.1.1 <sup>1</sup>On the basis of the written application documents required in accordance with No. 2.3, the commission shall assess whether the applicants have the suitability for the study program in accordance with No. 1 (first stage of the implementation of the suitability procedure). <sup>2</sup>First, the commission determines according to Annex 3 whether the applicant has the professional qualification (§ 36 Para. 1 No. 1 in conjunction with Para. 2) for the Master's degree program in Food Chemistry. <sup>3</sup>If the applicant has the professional qualification according to sentence 2, the commission evaluates the submitted documents on a scale from 0 to 30 points, whereby 0 is the worst and 30 the best result to be achieved.

The following evaluation criteria are included:

#### a) Final grade

<sup>1</sup>The competencies tested for the professional qualification are used to create a credit-weighted average grade as follows:

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<sup>2</sup>A maximum of the credits specified in Annex 3 are taken as a basis. <sup>3</sup>In determining the grade, one digit after the decimal point is taken into account; all

other digits are deleted without rounding. <sup>4</sup>For each tenth of a grade that the average grade calculated in this way is better than 3.0, the applicant receives one point. <sup>5</sup>The maximum number of points is 20. <sup>6</sup>Negative points are not awarded. <sup>7</sup>For foreign degrees, the grade converted using the Bavarian formula is used.

#### **b) Justification letter**

<sup>1</sup>The written statement of reasons is evaluated by two commission members on a scale of 0 to 10 points. <sup>2</sup>The content of the letter of justification is evaluated according to the following criteria:

1. can formulate his application request in a factual yet appealing manner in German,
2. Can present the connection between personal interests and the content of the course of study in a well-structured manner,
3. can convincingly justify his/her particular suitability for the Master's program by means of arguments and meaningful examples,
4. can emphasize key points of his/her rationale in appropriate language.

<sup>3</sup>The commission members independently evaluate each of the four criteria, with the criteria being weighted equally. <sup>4</sup>The score is the arithmetic mean of the individual scores, rounded up to whole numbers of points.

5.1.2 <sup>1</sup>The score for the first stage is the sum of the individual scores. <sup>2</sup>Digits that do not disappear are to be rounded up.

5.1.3 Whoever has achieved at least 15 points shall receive a confirmation of having passed the aptitude test, which shall also contain any conditions imposed in accordance with Section 36, Paragraph 3, Sentences 2 and 3.

5.1.4 <sup>1</sup>Unsuitable applicants with a total score of less than 5 points shall receive a rejection notice with reasons and instructions on how to appeal, which must be signed by the head of the university. <sup>2</sup>The authority to sign may be delegated.

#### **5.2 Second stage of the implementation of the suitability procedure**

5.2.1 <sup>1</sup>The remaining applicants are invited to a selection interview. <sup>2</sup>In the second stage of the aptitude test, the qualification acquired in the first degree program and the result of the selection interview shall be evaluated, whereby the qualification acquired in the first degree program shall be given at least equal consideration. <sup>3</sup>If the points stipulated in No. 5.1.3 are not achieved, this shall also apply to applicants for whom a requirement has been stipulated in accordance with Section 36, Paragraph 3, Sentences 2 and 3. <sup>4</sup>The date for the selection interview shall be announced at least one week in advance. <sup>5</sup>Time slots for any selection interviews to be held must be set before the application deadline. <sup>6</sup>The date set for the interview must be observed by the applicants. <sup>7</sup>Anyone who is prevented from attending the selection interview for reasons for which he or she is not responsible may, upon justified application, be given a subsequent appointment no later than two weeks before the start of lectures.

5.2.2 <sup>1</sup>The selection interview must be conducted individually for each applicant. <sup>2</sup>The interview shall last a minimum of 20 minutes and a maximum of 30 minutes per applicant. <sup>3</sup>The content of the interview shall cover the following main topics:

1. special willingness to perform for the master's program in food chemistry according to the criteria mentioned in No. 2.3.3 for the evaluation of the letter of justification:

Evidence through a convincing presentation of the connection between personal interests and course content, as well as plausible arguments, meaningful examples, and relevant personal experience,

2. own assessment of the personal suitability profile:

Evidence through a convincing presentation of the resilience and performance required for the course of study, as well as the professional, comparative examination of one's own educational profile and the recognition of one's own strengths and weaknesses,

3. understanding of food chemistry issues by outlining solutions to exemplary problems.

<sup>4</sup>The subject matter can also be the documents submitted according to 2.3. <sup>5</sup>Scientific knowledge that is to be imparted only in the master's degree program in food chemistry is not decisive. <sup>6</sup>With the consent of the applicants, a member of the student group may be admitted to the audience.

5.2.3 <sup>1</sup>The selection interview is conducted by two members of the commission. <sup>2</sup>The commission members independently evaluate each of the three focal points, with the three focal points being weighted equally and each being given a score of 0 to 5, where 0 is the worst and 5 is the best score to be achieved. <sup>3</sup>Each of the members records the result of the selection interview on the point scale from 0 to 15, where 0 is the worst and 15 is the best result to be achieved. <sup>4</sup>The score is the arithmetic mean of the individual scores. <sup>5</sup>Non-vanishing decimal places shall be rounded up.

5.2.4 <sup>1</sup>The total score for the second stage is the sum of the points from 5.2.3 and points 5.1.1 a) (final grade). <sup>2</sup>Whoever has achieved 10 or more points is classified as suitable. <sup>3</sup>Unsuitable applicants with a total score of less than 10 points will receive a rejection notice with reasons and instructions on how to appeal.

5.2.5 <sup>1</sup>The result of the suitability procedure determined by the commission shall be communicated in writing - if necessary, together with the conditions specified in accordance with § 36 para. 3 sentence 3. <sup>2</sup>The notification shall be signed by the management of the university. <sup>3</sup>The authority to sign may be delegated. <sup>4</sup>A notice of rejection shall be accompanied by reasons and instructions on how to appeal.

5.2.6 Admissions to the master's degree program in food chemistry apply to all subsequent applications to this program.

## 6. transcript

<sup>1</sup>A record must be made of the course of the suitability procedure, showing the date, duration and location of the suitability procedure, the names of the commission members, the names of the applicants and the assessment of the commission members as well as the overall result. <sup>2</sup>The minutes must show the main reasons for and topics of the interview with the applicants; the main reasons and topics may be listed in brief.

## 7. repetition

Students who have not provided proof of eligibility for the master's program in food chemistry may re-apply once for the eligibility process.

### Annex 3: Professional qualification according to APOLmCh

**Required professional qualification according to the Ordinance on the Training and Examination of State-certified Food Chemists (APOLmCh) of September 5, 2008, as amended from time to time.**

The curricular analysis is not carried out by schematic comparison of the modules, but on the basis of competencies. It is based on the elementary subject groups of the bachelor's degree program in food chemistry at the Technical University of Munich listed in the following table.

Subject group	CreditsTUM
<b>1. teaching areas</b>	
<b>Inorganic and Analytical Chemistry</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. I. 2. letter a) of Annex 1 and No. 1. of Annex 2 to APOLmCh) General and Inorganic Chemistry5Inorganic Molecular Chemistry5Basics of Analytical Chemistry5	15
<b>Organic chemistry</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. I. 2. letter b) of Annex 1 and No. 2. of Annex 2 to APOLmCh) Structure of organic compounds5Reactivity of organic compounds5Organic synthesis5Advanced analytical techniques5	20
<b>Physical chemistry</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. I. 2. letter c) of Annex 1 and No. 3. of Annex 2 to APOLmCh) Fundamentals of Physical Chemistry5	5
<b>Physics</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. I. 2. letter d) of Annex 1 and No. 4. of Annex 2 to APOLmCh) Experimental physics 1 & 24+4	8
<b>Biology</b> (according to § 2 Abs. 2 Satz 2 APOLmCh i.V.m. Nr. 5. der Anlage 2 zur APOLmCh) Biology for Chemists4	4
<b>Mathematics</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. I. 2. letter f) of Annex 1 to APOLmCh) Mathematical Methods in Chemistry I5Introduction to Statistics3	8
<b>Biochemistry</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. II. 2. letter e) of Annex 1 and No. I. 3. of Annex 3 to APOLmCh) Biochemistry5	5
<b>Chemistry and analytics of food and feed, as well as commodity science and technology of food and feed.</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. II. 2. letters a) - d) of Annex 1 and No. I. 1. and 2. of Annex 3 to APOLmCh) Fundamentals of Food Chemistry 1 & 26+6Chemistry , Analytics and Technology of Food 11	23

<p><b>Microbiology</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. II. 2. letter f) of Annex 1 and No. I. 4. of Annex 3 to APOLmCh) Microbiology and food hygiene<sup>4</sup></p>	4
<b>2. internships</b>	
<p><b>Inorganic and Analytical Chemistry</b> (according to § 2 Abs. 2 Satz 2 APOLmCh i.V.m. Nr. I. 1. Buchst. a) der Anlage 1 und Nr. 1. der Anlage 2 zur APOLmCh) Inorganic chemistry practical course 1 &amp; 28+5</p>	13
<p><b>Organic chemistry</b> (according to § 2 Abs. 2 Satz 2 APOLmCh i.V.m. Nr. I. 1. Buchst. b) der Anlage 1 und Nr. 2. der Anlage 2 zur APOLmCh) Organic chemistry practical course<sup>15</sup></p>	15
<p><b>Physical chemistry</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. I. 1. letter c) of Annex 1 and No. 3. of Annex 2 to APOLmCh) Phys.-chem. Practical course<sup>5</sup></p>	5
<p><b>Physics (Physics practical course)</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. I. 1. letter d) of Annex 1 and No. 4. of Annex 2 to APOLmCh) Physics practical course<sup>3</sup></p>	3
<p><b>Botany and microscopy</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. I. 1. letter e) and No. I. 2. letter e) of Annex 1 and No. 5. of Annex 2 to APOLmCh) Botany for Food Chemists and Microscopy of Crops and Microscopic Studies of Food and Feed<sup>7</sup></p>	7
<p><b>Food Chemistry</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. II. 1. letter a) of Annex 1 and No. I. 1. of Annex 2 to APOLmCh) Basic food chemistry practical course<sup>6</sup> Instrumental food and feed analysis practical course 1 &amp; 29+5</p>	20
<p><b>Microbiology</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. II. 1. letter b) of Annex 1 and No. I. 4. of Annex 3 to APOLmCh) Microbiology practical course<sup>4</sup></p>	4
<p><b>Biochemistry</b> (according to § 2 para. 2 sentence 2 APOLmCh in connection with No. II. 1. letter c) of Annex 1 and No. I. 3. of Annex 3 to APOLmCh) Biochemical practical course<sup>5</sup></p>	5



**ANNEX 4: Certificate of equivalence****Certificate of equivalence**

Pursuant to Section 20 (3) APOLmCh, the equivalence of the examination for the degree of Master of Science (M. Sc.) in Food Chemistry at the Technical University of Munich with the contents of the second examination section according to APOLmCh of September 5, 2008 is hereby certified and exemption from the first and second examination sections is granted.

The overall grade corresponding to the second examination section of the state examination according to § 12 para. 2 APOLmCh is:

"Note"

in words

"Note in words"

Place, date Signature of the

Chairman of the  
Examination Board M. Sc. Food Chemistry

**Explanation:**

The calculation of the overall grade for the Second Section of the State Examination shall include:

Examination subjects according to § 2 para. 2 sentence 2 APOLmCh in conjunction with Appendix 3 to APOLmCh):	Exams at TUM		Note	Weighting	Factor according to § 12 para. 2 in connection with Annex 6 to APOLmCh
1. chemistry and analytics of foodstuffs including water for human consumption, cosmetic products, consumer goods, tobacco products and feedstuffs	Fundamentals of food chemistry 1	*)		1	
	Fundamentals of Food Chemistry 2	*)		1	
	Chemistry, analytics and technology of food	*)		2/3	
	Chemistry, technology and analytics of consumer goods, cosmetics, tobacco products, water for human consumption and feedstuffs	Appendix 1 Section A No. 5 FPSO		2/3	
	Special food chemistry	Appendix 1 Section A No. 1 FPSO		1	
Weighted grade $[(\text{grade} \times \text{weighting})/(\text{weighting})]$ of the above examinations, result rounded according to § 11					2/11
Para. 1 APOLmCh					
2. technology of foodstuffs including water for human consumption, cosmetics, commodities, tobacco products and feedstuffs	Chemistry, analytics and technology of food	*)		1/3	
	Chemistry, technology and analytics of consumer goods, cosmetics, tobacco products, water for human consumption and feedstuffs	Appendix 1 Section A No. 5 FPSO		1/3	
Weighted grade $[(\text{grade} \times \text{weighting})/(\text{weighting})]$ of the above examinations, result rounded according to § 11					1/11

Para. 1 APOLmCh				
3. applied biochemistry including dietetics	Nutritional physiology and molecular biosciences	Appendix 1 Section A No. 3 FPSO		1/11
4. microbiology and food hygiene	Microbiology and food hygiene	*)		1/11
5. toxicology and environmental analysis	Food toxicology and environmental chemistry	Appendix 1 Section A No. 7 FPSO		1/11
6. basics of food law and official supervision	Law of foodstuffs, cosmetics, consumer goods and food contact materials, animal feed, tobacco products and related legal areas	Appendix 1 Section A No. 9 FPSO		1/11
7. scientific thesis	Master's Thesis	Appendix 1 Section A No. 13 FPSO		4/11
Overall grade calculated according to § 12 para. 2 APOLmCh i. V.m. Section 11 (3) sentence 1 APOLmCh				

\*) These examinations are not part of the Master's degree program in Food Chemistry. The successful completion of these examinations must be documented (including the grade) as part of the determination of the professional qualification according to § 36 FPSO.

Only the German version is legally binding