



Technische Universität München

## ZEUGNIS



über die Masterprüfung im Studiengang  
Technologie und Biotechnologie der Lebensmittel

Frau

**VERENA SCHMIDT**

geboren am 12. Mai 1994 in Moosburg a.d.Isar

hat die Masterprüfung mit der Gesamtnote 1,8 und dem Prädikat

**GUT BESTANDEN**

erfolgreich abgeschlossen.

Das Thema der Master's Thesis lautet:

**Entwicklung proteinreicher Frühstückscerealien aus Leguminosen  
und Pseudocerealien-Proteinen mittels Kochextrusion**

Diese Arbeit wurde mit der Note 1,0 bewertet.

Informationen zum Studiengang sowie Einzelergebnisse der  
Masterprüfung sind dem beigefügten Diploma Supplement  
und dem Transcript of Records zu entnehmen.

Freising-Weihenstephan, 28. September 2018

Der Vorsitzende des Prüfungsausschusses

Prof. Dr. rer. nat. Horst-Christian Langowski



Technische Universität München

Die  
Technische Universität München  
verleiht mit dieser Urkunde

Frau

**VERENA SCHMIDT**

geboren am 12. Mai 1994 in Moosburg a.d.Isar  
den akademischen Grad

**MASTER OF SCIENCE**

(M.Sc.)

äquivalent dem akademischen Grad

**DIPLOM-INGENIEURIN (TUM)**

Dipl.-Ing. (TUM)

nachdem sie die vorgeschriebenen wissenschaftlichen Studienleistungen  
nachgewiesen und die Masterprüfung an der Technischen Universität  
München erfolgreich abgelegt hat.

Dieser akademische Grad kann auch mit der  
Herkunftsbezeichnung geführt werden:

**"MASTER OF SCIENCE (TUM)"** bzw. **"M.Sc. (TUM)"**

Das Ergebnis der Masterprüfung ist im Zeugnis dokumentiert.

München, 28. September 2018



Prof. Dr. Dr. h.c. mult. Wolfgang A. Herrmann  
Präsident



## Diploma Supplement

Dieses Dokument gehört zu den Abschlussdokumenten und wird nur in englischer Sprache ausgestellt.  
This supplement is part of the graduation documents and is issued only in the English language.

This model Diploma Supplement was developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient data to improve the international "transparency" and equitable recognition of academic and professional qualifications (diplomas, degrees, certificates, etc.). It is designed to provide a description of the nature, level, context, content and type of the studies pursued and successfully completed by the individual named on the original certificate. The original document must accompany this diploma supplement. It should be free from any value judgements, equivalence statements or recommendation as to recognition. Information should be provided in all eight sections. Where information is not supplied, an explanation for the omission is to be provided.

### 1. Holder of the Qualification

#### 1.1 Family Name/1.2 First Name(s)

Schmidt, Verena

#### 1.3 Date, Place of Birth

12 May 1994, Moosburg a.d.Isar

#### 1.4 Student ID Number or Code

03653937

### 2. Qualification

#### 2.1 Name of Qualification (full, abbreviated; in original language)

Master of Science (M.Sc.)

Title Conferred (full, abbreviated; in original language)

This academic degree may also be used as follows:

'Master of Science (TUM)' or 'M.Sc. (TUM)'.

#### 2.2 Main Field(s) of Study

Food Technology and Biotechnology

#### 2.3 Institution Awarding the Qualification (in original language)

Technische Universität München

Status of Institution Awarding the Qualification (Type/Status (see section 8 below))

University / State Institution

#### 2.4 Institution Administering Studies (in original language)

Technische Universität München

Status of Institution Administering Studies (Type/Status (see section 8 below))

University / State Institution

#### 2.5 Language(s) of Instruction/Examination

German



### 3. Level of the Qualification

- 3.1 **Level** (e.g. bachelor, master, or doctorate)  
Master's program (UNESCO ISCED Code 7)
- 3.2 **Standard Duration of Study**  
2 years (4 semesters)
- 3.3 **Admission Requirements**  
Bachelor degree, Diploma degree or equivalent

### 4. Program Requirements and Learning Outcomes

- 4.1 **Type of Program**  
Full-time study
- 4.2 **Program Requirements/Qualification Profile of the Graduate**  
The Master's programme in food technology and biotechnology provides an advanced scientific education with a focus on mechanical engineering, biotechnology and chemistry. It prepares for a professional career in an industrial or research environment. See the Transcript of Records and the final examination certificate for the list of courses and grades, which offer an overview on the qualification profile of the degree holder.
- 4.3 **Program Details**  
See Transcript of Records enclosed.  
ECTS Credits: 120
- 4.4 **Grading Scale and - if available - grade distribution** (ECTS grading table)  
See Transcript of Records enclosed.
- 4.5 **Overall Grade and Designation** (in original language)  
1,8 gut bestanden

### 5. Formal Qualifications

- 5.1 **Access to Further Study**  
Doctoral program, Postgraduate studies
- 5.2 **Professional Status**  
The Master of Science degree from an university entitles its holder to perform professional work in the field of food technology and biotechnology for which the degree has been awarded.

### 6. Additional Information

- 6.1 **Additional Information**
- 6.2 **Further Information Sources**  
TUM School of Life Sciences Weihenstephan  
[www.wzw.tum.de](http://www.wzw.tum.de) or [www.studienfakultaet.de](http://www.studienfakultaet.de)

TU München: Since its foundation in 1868, the Technische Universität München (TUM) has established a sound reputation as a leading institution of higher education. To date, the university boasts some 17 Nobel laureates among its professorial staff and alumni. The spectrum of disciplines offered at the TUM includes the natural sciences, engineering sciences, medicine, life sciences, economics and professional education. Today, TUM comprises 14 departments, 6 integrative research centers and 7 corporate research centers, which serve as the academic home of its approximately 40,800 students (some 27% international) and 545 professors, together with roughly 10,100 academic and non-academic staff. As one of Germany's top-ranking universities, TUM was a recipient of excellence awards in both 2006 and 2012 for its institutional strategies within the parameters of the "Excellence Initiative" of the German Federal Government.

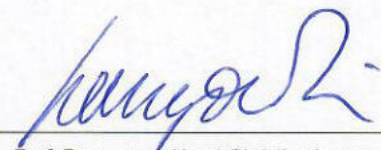
[www.tum.de](http://www.tum.de)

#### 7. Certification

This Diploma Supplement refers to the following original documents:

Urkunde/Diploma  
Zeugnis/Certificate  
Transcript of Records

Certificate Date                      28 September 2018



Prof. Dr. rer. nat. Horst-Christian Langowski  
Chair, Examination Board

#### 8. National Higher Education System

The information on the national higher education system provided on the following pages explains the level of qualification and status of the awarding institution.

**6. Information on the German Higher Education System<sup>1</sup>**

**8.1 Types of Institutions and Institutional Status**

Higher education in Germany is offered at three different types of institutions.<sup>2</sup>

- *Universitäten* (Universities) including various specialized institutions, offer the entire range of academic disciplines. German universities traditionally focus on basic research so that advanced stages of study are, above all, both theoretical and research-oriented.

- *Fachhochschulen* (Universities of Applied Sciences) offer degree programs focused mainly on engineering and other technical disciplines, business-related studies, applied social sciences, and design. The common mission of applied research and development implies the distinct application-oriented focus and professional character of their studies, which include integrated and supervised internships in industry, at companies or other relevant institutions.

- *Kunst- und Musikhochschulen* (Universities of Art/Music) offer studies in the fine arts, performing arts and music; in such fields as directing, producing and writing in theater, film, and other media; and in a variety of design areas, architecture, media and communication.

Institutions of higher education are either state or state-recognized institutions. In their operations, including the organization of studies and the designation and awarding of degrees, both types of institutions are subject to higher education legislation.

**8.2 Types of Programs and Degrees Awarded**

Studies at all three types of institutions have traditionally been offered in the form of integrated continuous (one-tier) programs completed by a *Staatsprüfung* (State Examination) or awarding of the *Diplom* or *Magister Artium* degree.

Within the framework of the Bologna-Process one-tier degree programs are being replaced by a two-tier system. Since 1998, a scheme of first- and second-level degree programs (Bachelor and Master) was introduced to be offered parallel to or instead of traditional programs. These programs are designed to provide greater variety and flexibility to students in planning and pursuing educational objectives. They also enhance the international compatibility of studies.

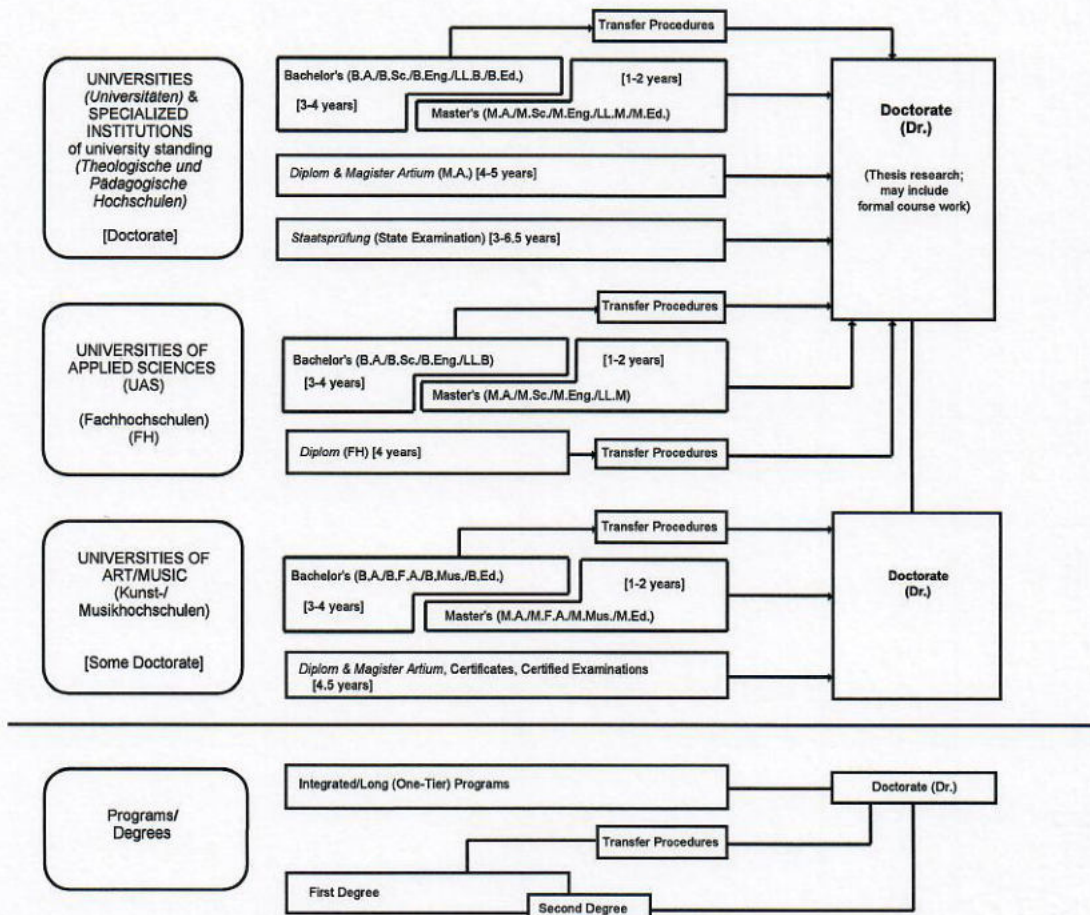
The German Qualification Framework for Higher Education Degrees<sup>3</sup>, the German Qualifications Framework for Lifelong Learning<sup>4</sup> and the European Qualifications Framework for Lifelong Learning<sup>5</sup> describes the degrees awarded with the German Higher Education System. It contains the classification of the qualification levels as well as the resulting qualifications and competencies of the graduates.

For details cf. Sec. 8.4.1, 8.4.2, and 8.4.3 respectively. Table 1 provides a synopsis.

**8.3 Approval/Accreditation of Programs and Degrees**

To ensure the quality and comparability of qualifications, the organization of studies and general degree requirements must conform to the standards and regulations established by the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany (KMK)<sup>6</sup>. In 1999, a system of accreditation for programs of study was introduced at the national level and placed under the control of an Accreditation Council at national level. All new programs must be accredited in compliance with this system; after successful accreditation, programs receive the quality-label of the Accreditation Council.<sup>7</sup>

**Table 1: Institutions, Programs and Degrees in German Higher Education**



#### 8.4 Organization and Structure of Studies

The following programs apply to all three types of institutions. Bachelor's and master's programs may be completed consecutively, at various higher education institutions, at different types of higher education institutions and with phases of professional work between the first and the second qualification. The organization of the programs makes use of modular components and of the European Credit Transfer and Accumulation System (ECTS) with 30 credits corresponding to one semester.

##### 8.4.1 Bachelor's

Bachelor's degree programs lay the academic foundations, provide methodological skills and lead to qualifications related to the professional field. The bachelor's degree is awarded after 3 to 4 years.

The bachelor's degree program includes a thesis requirement. Programs leading to the bachelor's degree must be accredited according to the "Law for the Establishment of the Foundation: Foundation for the Accreditation of Degree Programs in Germany" [Gesetz zur Errichtung einer Stiftung: "Stiftung zur Akkreditierung von Studiengängen in Deutschland"]<sup>2</sup>

First degree programs (bachelor's) lead to Bachelor of Arts (B.A.), Bachelor of Science (B.Sc.), Bachelor of Engineering (B.Eng.), Bachelor of Laws (LL.B.), Bachelor of Fine Arts (B.F.A.), Bachelor of Music (B.Mus.) or Bachelor of Education (B.Ed.).

The Bachelor degree corresponds to level 6 of the German Qualifications Framework/ European Qualifications Framework.

##### 8.4.2 Master's

The master's is the second degree following an additional 1 to 2 years of study. Master's programs can be differentiated by two profile types, those with greater emphasis on practice and those with greater emphasis on research. Institutions of higher education define the profile of each master's program.

Master's programs include a thesis requirement. Programs leading to the master's degree must be accredited according to the "Law for the Establishment of the Foundation: Foundation for the Accreditation of Degree Programs in Germany" [Gesetz zur Errichtung einer Stiftung: "Stiftung zur Akkreditierung von Studiengängen in Deutschland"]<sup>3</sup>

Second degree programs (master's) lead to Master of Arts (M.A.), Master of Science (M.Sc.), Master of Engineering (M.Eng.), Master of Laws (LL.M.), Master of Fine Arts (M.F.A.), Master of Music (M.Mus.) or Master of Education (M.Ed.). Master's programs designed for continuing education may carry other designations (e.g. MBA). The Master degree corresponds to level 7 of the German Qualifications Framework/ European Qualifications Framework.

##### 8.4.3 Integrated "Long" Programs (One-Tier):

###### *Diplom, Magister Artium, Staatsprüfung*

An integrated course of study is either mono-disciplinary (*Diplom* degrees, most programs completed by a *Staatsprüfung*) or comprises a combination of either two major, or one major and two minor fields (*Magister Artium*). The first stage (1.5 to 2 years) is designed to provide students with broad and fundamental knowledge of their field(s) of study. An intermediate examination (*Diplom-Vorprüfung* for *Diplom* degrees; *Zwischenprüfung* or credit requirements for the *Magister Artium*) is prerequisite to enter the second stage of advanced studies and specializations. Degree requirements include submission of a thesis (up to 6 months duration) and comprehensive final written and oral examinations. Similar regulations apply to studies leading to a *Staatsprüfung*. The level of qualification is equivalent to the master's.

- The standard duration of study for integrated programs at *Universitäten (U)* is 4 to 5 years (*Diplom, Magister Artium*) or 3 to 6.5 years (*Staatsprüfung*). The *Diplom* is awarded in engineering disciplines, the natural sciences as well as economics and business. In the humanities, the corresponding degree is generally the *Magister Artium* (M.A.). In the social sciences, practice varies as a matter of institutional tradition. Studies preparing for the legal, medical, pharmaceutical and teaching professions are completed by a *Staatsprüfung*.

The three qualifications (*Diplom, Magister Artium* and *Staatsprüfung*) are academically equivalent and correspond to level 7 of the German Qualifications Framework/ European Qualifications Framework. They qualify the holder to apply for admission to doctoral studies. Further prerequisites for admission may be defined by individual institutions of higher education, cf. Sec. 8.5.

- The standard duration of study for integrated programs at *Fachhochschulen (FH)*/Universities of Applied Sciences (UAS) is 4 years. These programs lead to a *Diplom (FH)* which corresponds to level 6 of the German Qualifications Framework/ European Qualifications Framework. While the *FH/UAS* are not entitled to offer doctoral programs, qualified graduates may apply for admission to doctoral studies at institutions entitled to do so, cf. Sec. 8.5.

- The organization and structure of studies at *Kunst- and Musikhochschulen* (Universities of Art/Music etc.) varies according to the student's field and individual objectives. In addition to *Diplom/Magister* degrees, the integrated programs at these institutions may award certificates and certified examinations for specialized areas and professional purposes.

##### 8.5 Doctorate

Universities and specialized institutions of university standing, as well as some Universities of Art/Music, are entitled to offer doctoral studies. Formal prerequisite for admission to doctoral studies is a qualified Master's (UAS and U), a *Magister*, a *Diplom*, a *Staatsprüfung*, or a foreign equivalent. Particularly qualified holders of a Bachelor's or a *Diplom (FH)* may also be admitted to doctoral studies without having acquired a Master's or equivalent, provided that they pass an aptitude test. The universities and other institutions entitled to offer doctoral programs determine admission and aptitude testing requirements. Admission to doctoral programs is also subject to the prior approval of the thesis topic by a supervising professor. The doctoral degree corresponds to level 8 of the German Qualifications Framework/ European Qualifications Framework.

#### 8.6 Grading Scale

The grading scale in Germany generally comprises five levels (with numerical equivalents; intermediate grades may be given): "Sehr Gut" (1) = Very Good; "Gut" (2) = Good; "Befriedigend" (3) = Satisfactory; "Ausreichend" (4) = Sufficient; "Nicht ausreichend" (5) = Insufficient/Fail. The minimum passing grade is "Ausreichend" (4). In some cases, as well as for the designation of doctoral degrees, verbal descriptions of the numerical grades may vary. Some institutions additionally employ the ECTS grading scale.

#### 8.7 Access to Higher Education

The General Higher Education Entrance Qualification (*Allgemeine Hochschulreife, Abitur*) awarded after 12 to 13 years of schooling, qualifies students to apply for university studies in all disciplines. Subject-specific entrance qualifications (*Fachgebundene Hochschulreife*) qualify students only for particular disciplines. Access to *Fachhochschulen* (UAS) is also possible with a *Fachhochschulreife*, which is generally awarded after 12 years of schooling. Admission to universities of Art/Music may be contingent upon other prerequisites or require additional evidence of special aptitude.

Applicants with a vocational qualification but without a school-based higher education entrance qualification are entitled to a general higher education entrance qualification and thus to access to all study programmes, provided they have obtained advanced further training certificates in particular state-regulated vocational fields (e.g. Meister/Meisterin im Handwerk, Industriemeister/in, Fachwirt/in (IHK und HWK), staatlich geprüfte/r Betriebswirt/in, staatliche geprüfte/r Gestalter/in, staatlich geprüfte/r Erzieher/in). Vocationally qualified applicants can obtain a *Fachgebundene Hochschulreife* after completing a state-regulated vocational education of at least two years' duration plus professional practice of normally at least three years' duration, after having successfully passed an aptitude test at a higher education institution or other state institution; the aptitude test may be replaced by successfully completed trial studies of at least one year's duration<sup>10</sup>. Additional admissions requirements may apply in certain cases for some institutions of higher education.

#### 8.8 National Sources of Information

- *Kultusministerkonferenz (KMK)* [Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany]; Graurheindorfer Str. 157, 53117 Bonn; Phone: +49.228.501.0; Fax: +49.228.501.777

- Central Office for Foreign Education (ZaB) as German NARIC; www.kmk.org; Email: zab@kmk.org

- "Documentation and Educational Information Service" as German EURYDICE-Unit, providing the national dossier on the education system (www.kmk.org/dokumentation/deutsche-eurydice-stelle-der-laender.html; Email: eurydice@kmk.org)

- *Hochschulkrektorenkonferenz (HRK)* [German Rectors' Conference]; Alhrstr. 39, D-53175 Bonn; Phone: +49.228.887.0; Fax: +49.228.887.110; www.hrkd.de; Email: post@hrkd.de

- "Higher Education Compass" of the German Rectors' Conference features comprehensive information on institutions, degree programs, etc. (www.higher-education-compass.de)

<sup>1</sup> The information provided here covers only aspects related to the Diploma Supplement. All information was last updated on January 2015.

<sup>2</sup> *Berufsakademien* exist only in some of the *Länder* and are not considered to be institutions of higher education. These institutions offer educational programs in close cooperation with private companies. Students receive formal certification and complete an apprenticeship at the company. Some *Berufsakademien* offer bachelor's programs which are recognized as academic degrees, if they are accredited by a German accreditation agency.

<sup>3</sup> German Qualification Framework for Higher Education Degrees (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 21 April 2005).

<sup>4</sup> German Qualifications Framework for Lifelong Learning (DQR). Joint resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany, the German Federal Ministry of Education and Research, the German Conference of Economics Ministers and the German Federal Ministry of Economics and Technology (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 15 November 2012). More information at www.dqr.de.

<sup>5</sup> Recommendation of the European Parliament and the European Council on the establishment of a European Qualifications Framework for Lifelong Learning of 23 April 2008 (2008/C 111/01 - European Qualifications Framework for Lifelong Learning - EQF)

<sup>6</sup> Common structural guidelines of the *Länder* for the accreditation of Bachelor's and Master's study courses (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 10 October 2003, as amended on 2 April 2010).

<sup>7</sup> "Law establishing a Foundation 'Foundation for the Accreditation of Study Programmes in Germany'", entered into force as from 26 February 2005, GV. NRW. 2005, No. 5, p. 45 in connection with the Declaration of the *Länder* to the Foundation "Foundation: Foundation for the Accreditation of Study Programmes in Germany" (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 16 December 2004).

<sup>8</sup> See note No. 7.

<sup>9</sup> See note No. 7.

<sup>10</sup> Access to higher education for applicants with a vocational qualification, but without a school-based higher education entrance qualification (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 6 March 2009).

# Transcript of Records

Familienname/Family Name:  
**Schmidt**

Vorname(n)/First Name(s):  
**Verena**

Geburtsdatum/Date of Birth:  
**12. Mai 1994**  
 12 May 1994

Geschlecht/Sex:  
**weiblich**  
 female

Geburtsort/Place of Birth:  
**Moosburg a.d.Isar**

Matrikelnummer/Student ID Number:  
**03653937**

Studiengang/Degree Program:  
**Technologie und Biotechnologie der Lebensmittel**  
 Food Technology and Biotechnology

Akademischer Grad/Academic Title:  
**Master of Science (M.Sc.)**

Zeugnisdatum/Certificate Date:  
**28. September 2018**  
 28 September 2018

Modul-ID Module ID	Modulbezeichnung Module Title	Semester Semester	Note Grade	Credits Credits
	<b>Technologie und Biotechnologie der Lebensmittel</b> Food Technology and Biotechnology		1,8	122
	<b>Berufspraktikum</b> Internship			
	Berufspraktikum Teil 1 (12 Wochen) Internship Part 1 (12 weeks)	16W	BE	0
	Berufspraktikum Teil 2 (6 Wochen) Internship Part 2 (6 weeks)	17S	BE	0
	<b>Pflichtmodule: Prüfungsleistungen</b> Compulsory Modules: Examinations			85
<b>WZ5037</b>	<b>Lebensmittelbioprozesstechnik</b> Food Bioprocess Engineering			
	Lebensmittelbioprozesstechnik Food Bioprocess Engineering	16W	1,7	5
<b>WZ5128</b>	<b>Rheologie</b> Rheology			
	Rheologie Rheology	16W	2,7	5
<b>WZ5088</b>	<b>Verpackungstechnik - Maschinelle Prozesse</b> Packaging Technology - Mechanical Processes			



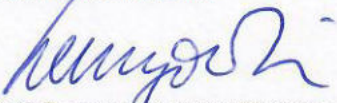


<b>Modul-ID</b> Module ID	<b>Modulbezeichnung</b> Module Title	<b>Semester</b> Semester	<b>Note</b> Grade	<b>Credits</b> Credits
	Verpackungstechnik - Maschinelle Prozesse Packaging Technology - Mechanical Processes	16W	2,0	5
<b>WZ5309</b>	<b>Lebensmittelverfahrenstechnik</b> Food Process Engineering			
	Lebensmittelverfahrenstechnik Food Process Engineering	17S	3,0	5
<b>WZ5012</b>	<b>Hygienic Processing 2 (Aseptik und Sterilprozesstechnik)</b> Hygienic Processing 2			
	Hygienic Processing 2 (Aseptik und Sterilprozesstechnik) Hygienic Processing 2	17S	3,3	5
<b>WZ5070</b>	<b>Innovative Lebensmittelkonzepte und -technologien</b> Innovative Technologies for Foods			
	Innovative Lebensmittelkonzepte und -technologien Innovative Technologies for Foods	17S	2,3	5
<b>WZ5134</b>	<b>Simulation von Produktionssystemen</b> Process Simulation			
	Simulation von Produktionssystemen Process Simulation	17W	1,7	5
<b>WZ5089</b>	<b>Lebensmittelwissenschaftliches Seminar</b> Seminar Food Science			
	Lebensmittelwissenschaftliches Seminar Seminar Food Science	17W	1,3	5
<b>WZ5043</b>	<b>Mikro- und Makrostrukturen in Lebensmitteln</b> Food Structure			
	Mikro- und Makrostrukturen in Lebensmitteln Food Structure	17W	2,0	5
<b>MA9611</b>	<b>Wissenschaftlich-technisches Rechnen</b> Introduction to Scientific Computing			
	Wissenschaftlich-technisches Rechnen Introduction to Scientific Computing	17W	3,0	5
<b>WZ5907</b>	<b>Master's Thesis</b> Master's Thesis			
	Vortrag zur Master's Thesis Master's Colloquium	18S	1,0	0
<b>CH6000</b>	<b>Physikalische Chemie</b> Physical Chemistry		2,5	5
	Grundlagen der Physikalischen Chemie 1 Basic Principles of Physical Chemistry 1	17S	1,7	0
	Physikalische Chemie 2 Physical Chemistry 2	17W	3,3	0
	<b>Wahlpflichtmodule: Studienleistungen</b> Elective Modules: Practical Courses			6

<b>Modul-ID</b> Module ID	<b>Modulbezeichnung</b> Module Title	<b>Semester</b> Semester	<b>Note</b> Grade	<b>Credits</b> Credits
<b>WZ5100</b>	<b>Praktikum Alkoholfreie Getränke und Mischgetränke</b> Lab Course Carbonated Soft Drinks			
	Praktikum Alkoholfreie Getränke und Mischgetränke Lab Course Carbonated Soft Drinks	16W	BE	3
<b>WZ5107</b>	<b>Praktikum Lebensmittelverfahrenstechnik und Bioprozesstechnik</b> Lab Course Food Process and Bioprocess Engineering			
	Praktikum Lebensmittelverfahrenstechnik und Bioprozesstechnik Lab Course Food Process and Bioprocess Engineering	17S	BE	3
<b>WZ5116</b>	<b>Praktikum Technologie der Milch und Milchprodukte</b> Lab Course Dairy Technology			
	Praktikum Technologie der Milch und Milchprodukte Lab Course Dairy Technology	17W	BE	3
<b>WZ5105</b>	<b>Praktikum Weintechnologie</b> Lab Course Wine Technology			
	Praktikum Weintechnologie Lab Course Wine Technology	17S	BE	0
	<b>Wahlpflichtmodule: Prüfungsleistungen</b> Elective Modules: Examinations			31
<b>WZ5051</b>	<b>Enzymtechnologie</b> Enzyme Technology			
	Enzymtechnologie Enzyme Technology	17S	1,0	5
<b>WZ5005</b>	<b>Werkstoffkunde</b> Materials Engineering			
	Werkstoffkunde Materials Engineering	16W	1,3	5
<b>WZ5142</b>	<b>Technologie der Milch und Milchprodukte</b> Dairy Technology			
	Technologie der Milch und Milchprodukte Dairy Technology	17S	2,3	6
<b>WZ5143</b>	<b>Technologie des Weines</b> Technology of Wine Making			
	Technologie des Weines Technology of Wine Making	16W	3,7	5
<b>WZ5412</b>	<b>Technologie pflanzlicher Lebensmittel</b> Plant-derived Food Products			
	Technologie pflanzlicher Lebensmittel Plant-derived Food Products	17W	1,0	5
<b>WI000316</b>	<b>Marketing in der Konsumgüterindustrie</b> Marketing of Consumer Goods			
	Marketing in der Konsumgüterindustrie Marketing of Consumer Goods	17W	2,3	5

<b>Master's Thesis</b> Master's Thesis	18S	1,0	30
Thema: Entwicklung proteinreicher Frühstückscerealien aus Leguminosen und Pseudocerealien-Proteinen mittels Kochextrusion			
Topic: Development of high protein breakfast cereals of legume and pseudocereal proteins by low moisture extrusion-cooking			
<b>Gesamtnote:</b> Overall Grade:		1,8	
<b>Prädikat:</b> Designation:		<b>gut bestanden</b> passed with merit	

Der Vorsitzende des Prüfungsausschusses  
Chair, Examination Board



Prof. Dr. rer. nat. Horst-Christian Langowski

Prüfungsamt der Technischen Universität München  
Examination Office of the Technische Universität München



Angela Schwarz

**Erläuterungen**

1. Die Bewertung der Modulprüfungen wird durch folgende Noten ausgedrückt:

Note 1 "sehr gut"  
 Note 2 "gut"  
 Note 3 "befriedigend"  
 Note 4 "ausreichend"  
 Note 5 "nicht ausreichend"

Zur differenzierteren Bewertung können die Notenziffern um 0,3 erniedrigt oder erhöht werden.

Die Note 4,3 gilt als "nicht ausreichend".  
 Die Noten 0,7 und 5,3 sind ausgeschlossen.

2. Die Modulnote lautet

von 1,0 bis 1,5 "sehr gut"  
 von 1,6 bis 2,5 "gut"  
 von 2,6 bis 3,5 "befriedigend"  
 von 3,6 bis 4,0 "ausreichend"  
 von 4,1 bis 5,0 "nicht ausreichend"

Wird ein Modul durch Modulteilprüfungen abgeschlossen, so errechnet sich die Modulnote aus dem gewichteten Durchschnitt der einzelnen Teilprüfungen. Die erste Stelle nach dem Komma wird berücksichtigt, alle weiteren werden ohne Rundung gestrichen.

3. Das Prädikat lautet bei einer Gesamtnote

von 1,0 bis 1,2 "mit Auszeichnung bestanden"  
 von 1,3 bis 1,5 "sehr gut bestanden"  
 von 1,6 bis 2,5 "gut bestanden"  
 von 2,6 bis 3,5 "befriedigend bestanden"  
 von 3,6 bis 4,0 "bestanden"

4. Bei der Berechnung der Gesamtnote wird nur die erste Nachkommastelle berücksichtigt. Genauere Informationen zur Gewichtung der Modulnoten und zur Berechnung der Gesamtnote sind in der Fachprüfungs- und Studienordnung (FPSO) für diesen Studiengang zu finden.

5. Folgende weitere Abkürzungen und Begriffe wurden in diesem Dokument verwendet:  
 BE: bestanden  
 Credits: gemäß dem European Credit Transfer System (ECTS) Maßeinheit für die Arbeitsbelastung eines Studierenden; ein Credit entspricht der Arbeitszeit von 30 Stunden

6. Das Zeugnisdatum entspricht dem Datum der letzten Leistung.

7. \*) = anerkannt  
 \*\*) = enthält anerkannte Leistungen

**Explanations**

1. The grades for module examinations are assigned according to the following scale:

grade 1 "very good"  
 grade 2 "good"  
 grade 3 "satisfactory"  
 grade 4 "sufficient"  
 grade 5 "fail"

For the purpose of a more differentiated assessment, the above grades may be raised or lowered by 0,3.

A grade of 4,3 means "fail".  
 The grades 0,7 and 5,3 are not possible.

2. The module grade is assigned according to the following scale:

1,0 to 1,5 "very good"  
 1,6 to 2,5 "good"  
 2,6 to 3,5 "satisfactory"  
 3,6 to 4,0 "sufficient"  
 4,1 to 5,0 "fail"

If completion of a module requires more than one examination component, the grade for the module represents the weighted average of the individual examination components. The first decimal place following the decimal separator will be taken into account without rounding. All subsequent decimal places are insignificant.

3. The designation is awarded according to the following scale:

1,0 to 1,2 "passed with high distinction"  
 1,3 to 1,5 "passed with distinction"  
 1,6 to 2,5 "passed with merit"  
 2,6 to 3,5 "passed"  
 3,6 to 4,0 "conceded pass"

4. The first decimal place following the decimal separator will be taken into account in calculating the overall grade. The Academic and Examination Regulations (FPSO) of the relevant degree program contain detailed information regarding the weighting of module grades and the calculation of the overall grade.

5. The following additional abbreviations and terms were used in this document:  
 BE: pass  
 Credits: a unit of measure within the European Credit Transfer System (ECTS) representing student workload. A credit is equal to 30 hours of work.

6. The certificate date is identical to the date of completion of the last exam.

7. \*) = accredited  
 \*\*) = contains accredited exams

## Grading-Tabelle

Grading Table

Familienname/Family Name:

**Schmidt**

Vorname(n)/First Name(s):

**Verena**

Geburtsdatum/Date of Birth:

**12. Mai 1994**

12 May 1994

Geschlecht/Sex:

**weiblich**

female

Geburtsort/Place of Birth:

**Moosburg a.d.Isar**

Matrikelnummer/Student ID Number:

**03653937**

Studiengang/Degree Program:

**Technologie und Biotechnologie der  
Lebensmittel**

Food Technology and Biotechnology

Prädikat/Designation:

**gut bestanden**

passed with merit

Akademischer Grad/Academic Title:

**Master of Science (M.Sc.)**

Gesamtnote/Overall Grade:

**1,8**

Erfassungszeitraum/Data Collection Period:

**28. September 2016 bis 28. September  
2018**

28 September 2016 to 28 September 2018

Zeugnisdatum/Certificate Date:

**28. September 2018**

28 September 2018

### Abschlüsse pro Prädikat/Degrees per Designation:

Gesamtnote Overall Grade	Prädikat Designation	Anzahl Number	(I) (I)	(II) (II)
$1,0 \leq x \leq 1,2$	mit Auszeichnung bestanden passed with high distinction	5	3,2%	3,2%
$1,2 < x \leq 1,5$	sehr gut bestanden passed with distinction	26	16,5%	19,6%
$1,5 < x \leq 2,5$	gut bestanden passed with merit	120	76,0%	95,6%
$2,5 < x \leq 3,5$	befriedigend bestanden passed	7	4,4%	100,0%
$3,5 < x \leq 4,0$	bestanden conceded pass	0	0,0%	100,0%
<b>Anzahl der Abschlüsse/Number of Degrees Awarded:</b>		<b>158</b>		

Anzahl der erfolgreich abgelegten Abschlüsse pro Prädikat in Relation zu der Zahl der Absolventen, die dieses Prädikat erzielt haben (I) bzw. die dieses oder ein besseres Prädikat erzielt haben (II)

Number of awarded degrees per designation in relation to the percentage of total graduates in the reference period earning the same score (I) or earning the same or higher score respectively (II)

**Abschlüsse pro Gesamtnote/Degrees per Overall Grade:**

Gesamtnote Overall Grade	Anzahl Number	(I) (I)	(II) (II)	Gesamtnote Overall Grade	Anzahl Number	(I) (I)	(II) (II)
1,0	0	0,0%	0,0%	2,6	2	1,3%	96,8%
1,1	0	0,0%	0,0%	2,7	3	1,9%	98,7%
1,2	5	3,2%	3,2%	2,8	1	0,6%	99,4%
1,3	5	3,2%	6,3%	2,9	0	0,0%	99,4%
1,4	10	6,3%	12,7%	3,0	1	0,6%	100,0%
1,5	11	7,0%	19,6%	3,1	0	0,0%	100,0%
1,6	21	13,3%	32,9%	3,2	0	0,0%	100,0%
1,7	20	12,7%	45,6%	3,3	0	0,0%	100,0%
1,8	17	10,8%	56,3%	3,4	0	0,0%	100,0%
1,9	10	6,3%	62,7%	3,5	0	0,0%	100,0%
2,0	9	5,7%	68,4%	3,6	0	0,0%	100,0%
2,1	13	8,2%	76,6%	3,7	0	0,0%	100,0%
2,2	10	6,3%	82,9%	3,8	0	0,0%	100,0%
2,3	9	5,7%	88,6%	3,9	0	0,0%	100,0%
2,4	4	2,5%	91,1%	4,0	0	0,0%	100,0%
2,5	7	4,4%	95,6%				
<b>Anzahl der Abschlüsse/Number of Degrees Awarded:</b>					<b>158</b>		

Anzahl der erfolgreich abgelegten Abschlüsse pro Gesamtnote in Relation zu der Zahl der Absolventen, die dieselbe Gesamtnote erzielt haben (I) bzw. die dieselbe oder eine bessere Gesamtnote erzielt haben (II)

Number of awarded degrees per overall grade in relation to the percentage of total graduates in the reference period earning the same score (I) or earning the same or higher score respectively (II)

**Erläuterungen**

Für jede Gesamtnote wird im Rahmen des Bologna-Prozesses zusätzlich zur individuellen Benotung die Angabe der Notenverteilung sowie der Rangfolge in einer charakteristischen Vergleichsgruppe gefordert. Dies erleichtert die Vergleichbarkeit von Gesamtnoten, die an verschiedenen Universitäten erbracht wurden. Die Technische Universität München verpflichtet sich mit dem im Folgenden dargestellten Vorgehen zu größtmöglicher Transparenz.

Dem erzielten Prädikat bzw. der Gesamtnote wird die Häufigkeit ihres Auftretens in der jeweiligen Vergleichsgruppe gegenübergestellt. Die in den obenstehenden Tabellen ausgewiesenen Prozentzahlen geben an, wie viele Abschlüsse in der Vergleichsgruppe ebenso gut (I) bzw. ebenso gut wie oder besser als die zugeordnete(n) Note(n) (II) ausgefallen sind.

Die Vergleichsgruppe ergibt sich aus der Summe aller zum Ausstellungsdatum dieser Grading Tabelle vorliegenden und im Referenzzeitraum bestandenen Abschlüsse.

**Explanations**

In compliance with the requirements of the Bologna Process, information on grade distribution and the student's ranking within a characteristic comparison group is reported in addition to the student's individual overall grade. This information facilitates the comparison of overall grades achieved at different universities. The Technische Universität München aims to provide maximum transparency by means of the procedure described below.

The individual student's overall grade and designation are considered in relation to the frequency of their occurrence in the respective comparison group. The percentages shown in the above grading tables indicate how many scores in the comparison group were as good as (I) and as good as or better than (II) the score indicated in the first column.

The comparison group is the total of all degrees awarded within the reference period and included in this grading table up to and including its date of issue.

Ausstellungsdatum/Issue Date: 15.10.2018