

## **University of Tübingen exam regulations for the study program in Biomedical Technologies culminating in an examination for a Master of Science (M.Sc.) degree – Special Provisions –**

In accordance with §§ 19 (1) sentence 2 no. 9, 32 (3) of the law governing institutions of higher education, LHG of 1 January 2005 (GBl. p. 1), in the version published 1 April 2014 (GBl. p. 99) most recently amended by article 8 of the law dated 7 February 2023 (GBl. pp. 26, 43), the University of Tübingen Senate on 16.11.2023 passed the Special Provisions of these exam regulations for the study program in Biomedical Technologies at the University of Tübingen culminating in an examination for a Master of Science (M. Sc.) degree.

Approved by the President on 16.12.2023

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### **A. Validity of General Provisions and admission requirements**

#### **§ 1 Validity of General Provisions**

The MRPO - the General Provisions of the University of Tübingen exam regulations for Master's degree programs culminating in an examination for a Master of Science (M.Sc.) / Master of Arts (M. A.) degree - as amended are part of these exam regulations, insofar as no other special regulations have been made.

#### **§ 2 Requirements for admission to program**

(1) <sup>1</sup>A prerequisite for studies in this Master's program is a grade of 3.0 (satisfactory) or better in a Bachelor's degree in the subject of Medical Technologies, in a related program covering basically the same material, or an equivalent degree. <sup>2</sup>The responsible examination board decides on the equivalency of a degree. <sup>3</sup>The board of examiners may transfer the making of this decision revocably to the head of the board. <sup>4</sup>If there is a restricted number for admission, the articles may specify that the selection committee formed for the relevant selection process decides instead.

(2) To take part in the Master's program, applicants must also document knowledge of English at least at the level of C1 of the Common European Framework of Reference for Languages (CEFR).

## **B. Goals, content and structure of the program**

### **§ 3 Goals and contents of program, regular duration of study, scope of program**

(1) <sup>1</sup>Studies in Master of Science program (M. Sc.) in Biomedical Technologies (hereinafter: the program) enable students to acquire the specific qualifications, competencies, knowledge, abilities and skills required for a Master's degree in the subject of Biomedical Technologies under § 7 (1) of the Master's degree framework exam regulations. <sup>2</sup>The objective of the program is to deepen or expand the knowledge acquired in the Bachelor's degree, thus providing the basis for the development and/or application of the student's own ideas (application or research-oriented); graduates possess a broad, detailed and critical understanding at the cutting edge of knowledge in one or more specialized fields

- and are able to apply their knowledge and understanding as well as their problem-solving skills in new and unfamiliar situations related to their field of study in a wider or multidisciplinary context (instrumental competencies),
- to integrate knowledge and deal with complexity,
- and to make academically sound decisions on the basis of incomplete or limited information, taking into account social, academic and ethical findings resulting from the application of their knowledge and from their decisions,
- to acquire new knowledge and skills independently and to carry out largely self-directed and/or autonomous independent research- or application-oriented projects (systemic competencies)
- to communicate their conclusions and the information and motives underlying them to experts in the subject and laypersons alike, in a clear and unambiguous manner in accordance with the latest research and practice; to exchange information, ideas, problems and solutions with both experts and laypersons on an academic level and to assume prominent responsibility in a team (communicative competencies).

<sup>3</sup>Further details of the course objectives are set out in the module handbook.

(2) <sup>1</sup>The regular duration of study for this degree program is 4 semesters. <sup>2</sup>The program comprises 120 ECTS credit points (CP).

(3) Over and above the number of credit points prescribed for the degree program according to these regulations, students may obtain additional credit points from the degree program modules specified in § 5 (1); in all other respects, § 2 (5) of the Master's degree framework exam regulations (MRPO) applies.

### **§ 4 Academic degree**

The academic degree "Master of Science" (abbr. "M.Sc.") is conferred on the basis of a successful completion of the program.

### **§ 5 Program Structure**

(1) Students complete a program to earn credit points as set out in § 3 (2); the program consists of the following modules:

Semester no.	Module no.	P/WP	Module title	Work for assessment	CP
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Mandatory Modules					
1	M1	P	Biomedical Technologies in Diagnostic and Therapy I and II	K	6
1	M2	P	Laboratory Techniques and Methods	K	3
2	M3	P	Regulatory Affairs of Medical Devices	PF	3
2	M4	P	Clinical Cases and Consequences for Medical Devices	K	6
Required electives: Specialization Areas (see paragraph 2)					
1-2	S1V	WP	Bioimaging – Lecture and Seminar	foP	6
1-2	S1P	WP	Bioimaging – Labwork	PF	9
3	S1PWE	WP	Bioimaging – Practical Work Experience	H	15
1-2	S2V	WP	NanoBioAnalytics – Lecture and Seminar	foP	6
1-2	S2P	WP	NanoBioAnalytics – Labwork	PF	9
3	S2PWE	WP	NanoBioAnalytics – Practical Work Experience	H	15
1-2	S3V	WP	Biomedical Engineering – Lecture and Seminar	foP	6
1-2	S3P	WP	Biomedical Engineering – Labwork	PF	9
3	S3PWE	WP	Biomedical Engineering – Practical Work Experience	H	15
Required electives: Elective Modules (see paragraph 3)					
1-2	-	WP	Elective Modules (Modules from the degree program in accordance with the module handbook)	depending on module chosen, s. module handbook	12
Final Module area					
4	MT	P	Master's thesis (final module)	Master's thesis and mP	30

**Abbreviations:** FS = recommended semester (subject to availability and change, see module handbook); module no. = current module no. or abbreviation (subject to change, see module handbook); P = compulsory; WP = required elective; CP = credit points; K = written exam; H = assignment; mP = oral examination; PF = portfolio examination; foP = formative assessment.

**Note:** The information given in the table as the recommended semester is in reference to a start of full-time studies in the winter semester. If the program may also be started in a different semester, information on the recommended study plan is given in the module handbook or may be obtained from the relevant subject-related counselling service.

(2) <sup>1</sup>Two of the three specialization areas “Bioimaging”, “NanoBioAnalytics” and “Biomedical Engineering” must be selected. <sup>2</sup>In their specialization areas, these include the modules “Lecture and Seminar”, “Labwork” and “Practical Work Experience”, together 30 CP. The modules S1PWE, S2PWE and S3PWE may - with the approval of the examination board - be completed at another institution at or outside the University of Tübingen; the assessed coursework will be appraised by a person authorized to conduct examinations under § 14 MRPO.

(3) <sup>1</sup>Enough compulsory elective modules must be selected - in accordance with the module handbook - so that a total of 12 credit points may be earned from the selectable modules; students may complete the Lecture and Seminar module in the specialization area they did not select.

<sup>2</sup>Furthermore, Stuttgart University modules may be credited to a maximum of 12 credit points, insofar as these modules are offered to University of Tübingen students by Stuttgart University. <sup>3</sup>The only Stuttgart University modules which may be credited are those listed in the module handbook published for the semester. <sup>4</sup>If such modules are selected, the provisions of the degree program from which the modules originate apply to module coursework.

## **§ 6 Module coursework**

<sup>1</sup>Details of the module coursework required in each of the modules is set out in the module table in these regulations (§ 5) and in the module handbook. <sup>2</sup>Assessment must be clearly specified as to its type and scope, if this is not set out in the module table. <sup>3</sup>For the modules in the elective modules area, students may be directed to the module handbook of the respective department in which the modules originate.

## **§ 7 Languages of instruction and examination**

(1) <sup>1</sup>English is the language of instruction and examination in this degree program. <sup>2</sup>Classes may also be conducted in the following languages:

- German.

<sup>3</sup>At the discretion of the teachers, module coursework may be required and carried out in those languages in which the module classes are taught. <sup>4</sup>Examinations are usually conducted in the language in which the relevant classes were held; other assessment is usually conducted in the language in which the relevant classes were held. <sup>5</sup>In accordance with the current state of research and teaching, content from other languages may also be dealt with in classes. <sup>6</sup>It is therefore assumed that students have sufficient proficiency in the relevant languages.

## **C. Assessment in the program**

### **I. General Provisions for assessed coursework**

## **§ 8 Multiple-choice procedure**

(1) <sup>1</sup>Written assessment in the form of examinations may, in the following cases, be wholly or partly conducted in such a way that the candidate must indicate which of the answers - presented with the examination questions - he or she considers to be correct (multiple-choice procedure). <sup>2</sup>The conditions for the conducting of examinations including multiple-choice questions are:

- the examination tasks are set by the person or persons acting as the examiner, and
- the examinations, after they have been completed, are corrected in their entirety by the person or persons acting as examiners, and
- the examinations are graded by the person or persons acting as examiners according to their respective individual grading scheme according to § 19 MRPO.

<sup>3</sup>Prior to correction of examinations, no final determination may be made regarding certain assessments, such as the setting of certain grades if a certain proportion of the examination questions are answered correctly or if a certain number of points is achieved.

(2) Regarding assessment conducted via online attendance in accordance with § 12 MRPO, (1) applies accordingly.

## **II. Special provisions for the final module**

### **§ 9 Final module**

(1) <sup>1</sup>In the final module, 30 credit points must be obtained. <sup>2</sup>Of these, 24 CP are obtained in the Master's thesis and 6 CP in the oral examination in the final module - in the form of an lecture on the contents of the Master's thesis. <sup>3</sup>The Master's thesis and the oral examination in the final module are regulated in § 28 MRPO.

(2) The time limit for writing a Master's thesis - from the issuing of the topic to submission of the thesis - is six months.

(3) The grade for the final module is calculated on the Master's thesis (weighted with 80 percent) and the oral exam in the final module (weighted with 20 percent).

### **§ 10 Subject-specific provisions for admission to final module**

In addition to the prerequisites set out in the MRPO, the subject-related requirements for admission to the Master's thesis and the oral exam in the final module are:

- the successful completion of modules worth a total of at least 60 ECTS credits, fully completing the specialization areas.

## **D. Deadlines for examinations in the program**

### **§ 11 Deadline for completion of studies**

<sup>1</sup>All coursework and assessment required under the exam regulations for the module coursework must be completed by the end of the student's 8th semester in the subject. <sup>2</sup>If this time limit is exceeded, the student's right to be examined is lost, unless the failure to meet the deadline is beyond the control of the student.

## **E. Master's overall grade**

### **§ 12 Calculation of overall grade**

The overall grade for the program is calculated from the average of all graded modules, as weighted by credit points.

## **F. Closing remarks**

### **§ 13 Effective date and transitional arrangements**

<sup>1</sup>These exam regulations come into effect on the date of their publication in the University of Tübingen's official bulletin, the Amtliche Bekanntmachungen. <sup>2</sup>Their first semester of validity is the winter semester 2024/2025.

<sup>3</sup>Students who commenced their studies at the University of Tübingen prior to the semester specified in sentence 2 are - subject to the following provisions - entitled to complete their module coursework in this degree program at the University of Tübingen by 30.09.2028 under the previously valid rules; however, regarding the examination board, § 6 MRPO applies. <sup>4</sup>After the deadline specified in sentence 3 the module coursework in the degree program must be completed under these current regulations. <sup>5</sup>Module coursework completed previously will only be accredited according to the new exam regulations and the corresponding module handbook, subject to the following provisions.

*This is a courtesy translation. The German original is legally binding.*

<sup>6</sup>These exam regulations do not grant any new or additional right to be assessed in an area already assessed; any fails in assessed work under the previous exam regulations will be included. <sup>7</sup>Furthermore the responsible board of examiners may agree suitable transitional arrangements in individual cases, particularly if previous classes are no longer offered as before or if certain classes have been completed, possibly offering partial accreditation and/or requiring certain conditions to be fulfilled, particularly if a “learning agreement” is to be considered.

Tübingen, 16.12.2023

Professorin Dr. Dr. h.c. (Dōshisha) Karla Pollmann  
President