

## **University of Tübingen exam regulations for the study program in Nano-Science culminating in an examination for a Master of Science (M.Sc.) degree**

### **– Special Provisions –**

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

University of Tübingen exam regulations for the study program in Nano-Science culminating in an examination for a Master of Science (M.Sc.) degree – General Provisions – as amended are part of these exam regulations, insofar as no other special provisions have been made.

##### **I. Goals, contents and structure of the program**

#### **§ 2 Contents and goals, prescribed minimum period for completion, volume, and start date of program**

(1) The Master's program is a research-oriented program following on from the six-semester Bachelor's degree in Nano-Science. The M. Sc. in Nano-Science program enables students to acquire academic qualifications based on a systematic, critical process of gaining knowledge and expanding upon it at an advanced level. The program provides a high-quality, scientifically based professional qualification built on the Bachelor's degree and overlapping with Biology, Chemistry and Physics, with specific links to Nanosciences and Nanotechnology. Students obtain in-depth knowledge in Biology, Chemistry and Physics which enable them to analyze and process nanoscientific problems and applications. They also develop personal skills such as the ability to conduct professional, independent academic work, teamwork, efficiency, oral and written presentation, work safety, and responsible behavior regarding society and the environment.

(2) <sup>1</sup>The prescribed minimum period of study in the Nano-Science Master's program is set out in § 1 (5) of the General Provisions of these exam regulations. <sup>2</sup>A total of 120 credit points must be obtained to successfully complete this M.Sc. degree program. <sup>3</sup>The start of the program (winter or summer semester) is set out in the regulations governing admission and enrollment at the University of Tübingen, as amended.

(3) <sup>1</sup>A prerequisite for enrollment in this Master's program is a

- Bachelor's or equivalent degree
- in Nano-Science or related subject with reference to Nano-Science, or in Physics or Chemistry or Biology - in these subjects with documentation of basic knowledge and basic experience in the nanoscientific core disciplines (quantum mechanics, physics of soft matter, physical chemistry, biophysics, special microscopy, nanotechnology, nanostructural sciences) set at at least 18 ECTS credits,
- with a grade of 3.0 or better in each.

<sup>2</sup>The examination board will decide on the equivalency of any degree under (1) and the related subjects under (1) as well as whether the minimum requirements under (1) have been met. <sup>3</sup>The board of examiners may transfer this decision revocably to the head of the board. <sup>4</sup>If there is a set number for admission, the statutes may specify that the selection committee formed for the relevant selection process decides instead.

### **§ 3 Structure**

(1) <sup>1</sup>The Master's degree program in Nano-Science is structured as a two-year program. <sup>2</sup>It concludes with the Master's examination.

(2) <sup>1</sup>Students complete a program of 120 credit points. The program consists of the following modules: (V=lecture, Ü=exercise, S=seminar, P=practical work):

<b>Recommended semester (subject to availability and change, see module handbook)</b>	<b>Module code</b>	<b>Module description</b>	<b>Class type (subject to availability and change, see module handbook)</b>	<b>Type of assessment</b>	<b>ECTS credits</b>
1-2	M1	Basic Module Biology	V + S + Ü	see module handbook	9
1-2	M2	Basic Module Chemistry	V + S + Ü	see module handbook	9
1-2	M3	Basic Module Physics	V + S + Ü	see module handbook	9
1-2	M4	Focus Module 1	V + S + Ü + P	see module handbook	9
1-2	M5	Focus Module 2	V + S + Ü + P	see module handbook	9
1-2	M6	Focus Module 3	V + S + Ü + P	see module handbook	9
1-2	M7	Nano-Science IV	V + S	see module handbook	6

3	M8	Independent Studies	P	see module handbook	27
3-4	M9	Master's seminar	S	see module handbook	6
4	M10	Master's thesis		Master's thesis plus any further coursework provided for in module handbook	27

(3) <sup>1</sup>Modules/ classes passed in a Bachelor's degree program which this Master's program builds upon or which were part of a completed Bachelor's degree cannot be selected/ completed in the Master's program regulated by these exam regulations. <sup>2</sup>In borderline cases in which the content of the modules/ classes overlaps to a large degree, the examination board is to decide on whether the module/ class may be selected/ completed as part of the program. <sup>3</sup>The examination board may in individual cases define another appropriate module or class to replace a module or class which is excluded, if otherwise on the basis of these exam regulations and the module handbook there would not be module yielding the necessary credits for an individual student to complete the program.

## **II. Teaching of material**

### **§ 4 Types of classes within the modules**

<sup>1</sup>Classes of the following types in particular are scheduled regularly:

1. Lectures
2. Seminars and colloquia
3. Exercises
4. Internships

<sup>2</sup>For classes completely or primarily composed of elements of the class types set out in (1)(2-4), admission numbers may be limited under § 30 (5)(1) LHG, if training could not otherwise be guaranteed in accordance with the regulations or a limitation is necessary for other reasons of research, teaching or patient care. <sup>3</sup>Subject-related techniques in particular are to be taught in these classes along with interdisciplinary, professionally-oriented qualifications. <sup>4</sup>In addition, students are to have the opportunity to work in small groups to develop the ability to present the knowledge obtained both verbally and in written form. <sup>5</sup>In addition, within the framework of § 30 (5)(1) LHG the right to participate in classes may be restricted or admission to part of the course may be made dependent on the completion of certain coursework, if training could not otherwise be guaranteed in accordance with the regulations or a limitation is necessary for other reasons of research, teaching or patient care.

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

<sup>1</sup>German and English are the languages of instruction and examination in the Nano-Science Master's degree program. <sup>2</sup>Classes and exams may be conducted in German or English; exams are usually conducted in the language in which the relevant classes were held; students are required to be sufficiently competent in German and English. <sup>3</sup>In classes aimed at teaching skills in a language other than German, the teaching and exams may be conducted in the relevant language. <sup>4</sup>The degree may also be obtained by completing the parts of the program offered in English; it is possible to gain enough credit points in the program's English-language classes to complete the degree, with all compulsory classes held in English and in

*NB: This is a courtesy translation. The sole legally binding document is the German Studien- und Prüfungsordnung der Universität Tübingen für den Studiengang Nano-Science mit akademischer Abschlussprüfung Master of Science (M. Sc.)*

these mandatory and elective classes the coursework may be assessed in English.

## **§ 6 Types of assessment**

The assessed coursework required in each of the modules is set out in the module handbook.

## **III. Organization of program**

### **§ 7 Volume of material**

The required volume of study arises from the General Provisions of the exam regulations, the structure of the program and the modules - particularly from § 3 of the Special Provisions of the exam regulations.

## **IV. Master's examination and overall grade**

### **§ 8 Nature and execution of Master's examination**

In addition to the prerequisites set out in the General Provisions of these exam regulations, a prerequisite for admission to the Master's thesis process and other possible oral examinations to be completed in the final phase of the program under § 15 of the General Provisions is:

- regular and successful participation in the modules M1-M8.

### **§ 9 Master's thesis**

Provisions governing the Master's thesis are set out in § 17 of the General Provisions of these exam regulations.

## **§ 10 Calculation of the Master's overall grade**

The overall grade of the Master's examination is calculated on 40% of the grade for the Master's thesis module M10 and 60% of the average (as weighted by credit points) of the grades of the other graded modules except M8, taking account of the further provisions in § 21 of the General Provisions of these exam regulations.

## **V. Closing remarks**

### **§ 11 Effective date**

<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 2014-15.

Tübingen,