

## Appendix

To the Programme Regulations 2010 of the  
Master's Degree Programme in Micro and Nanosystems

6 July 2010 (Version: 1 November 2011)

*Applies to students who commence the degree programme in Autumn Semester 2011 or later. For those entering the programme before Autumn Semester 2011 the stipulations of the previous Appendix apply.*

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*This is an English translation only. The original German version is the legally binding document.*

This appendix sets out the prerequisites for and further details regarding admission to the Master's degree programme in Micro and Nanosystems. It supplements the stipulations of the Admission Regulations of ETH Zurich and the Directive on Admission to Master's Degree Programmes.

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# 1 Profile of requirements

## *Policy*

For admission to the Master's degree programme in Micro and Nanosystems (subsequently 'the degree programme') all of the following prerequisites must be satisfied.

## 1.1 Degree qualifications

<sup>1</sup> For admission to the degree programme one of the following is required:

- a. a university Bachelor's degree comprising at least 180 ECTS<sup>(1)</sup> credits or an equivalent university degree
- b. a Bachelor's degree from a Swiss university of applied sciences comprising at least 180 ECTS<sup>(2)</sup> credits

in an engineering science discipline in the context of which the academic and performance prerequisites listed in 1.2 and 1.4 have been satisfied. Said disciplines include, in particular (listed alphabetically):

- Electrical Engineering and Information Technology
- Mechanical Engineering
- Microsystems Technology

<sup>2</sup> A Bachelor's degree qualifies its holder for admission to an ETH Master's degree programme only if it also qualifies said holder to enter, without additional requirements, the desired Master's degree programme within the university system where the Bachelor's degree was acquired. The Rector may also demand proof of this, determining whether such proof must come from the home university or from another university in the country where the Bachelor's degree was acquired

## 1.2 Academic prerequisites

### 1.2.1 Knowledge and competences

<sup>1</sup> Attendance of the Master's degree programme in Micro and Nanosystems presupposes basic knowledge and competences in technical and natural sciences which must in content, scope and quality be equivalent to those covered in the ETH Bachelor's degree programmes Mechanical Engineering or Electrical Engineering and Information Technology (discipline requirements profile).

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<sup>1</sup> ECTS: European Credit Transfer System. Credits describe the average time expended to achieve a learning goal. One credit corresponds to 30 hours of work.

<sup>2</sup> A Diploma from a Swiss university of applied sciences is considered equivalent to a Bachelor's degree in the same discipline. A Bachelor's degree from a German or Austrian university of applied sciences is considered equivalent to a Bachelor's degree from a Swiss university of applied sciences.

<sup>2</sup> The **discipline requirements profile** comprises **110 ECTS credits** in total and is based on knowledge and competences covered in the ETH Bachelor's degree programmes in Mechanical Engineering or Electrical Engineering and Information Technology. This includes training in the relevant methodological scientific thinking.

<sup>3</sup> The discipline requirements profile is structured in two parts, as follows. Details regarding the content of the corresponding course units are published in the course catalogue ([www.vvz.ethz.ch](http://www.vvz.ethz.ch)).

### **Part 1: Basic knowledge and competences**

Part 1 comprises 50 credits and covers basic knowledge and competences in the disciplines of Mathematics (Analysis I – III and Linear Algebra), Physics (Physics I and II), Computer Science and Engineering Sciences.

### **Part 2: Subject-specific knowledge and competences**

Part 2 comprises 60 credits and covers subject-specific knowledge and competences in areas of Physics and the Engineering Sciences, with a focus on one or more of the following representative areas:

Electronic Devices and Analogue Integrated Circuits / Electromagnetic Fields and Waves / Functional Materials and Particle Technology / Silicon Processing Technology / Integrated Systems / Mechanics / Mechatronics / Microrobotics and Intelligent Systems / Microsystem technology and Nanotechnology / Nanophysics / Physical Chemistry / Sensor Technology.

## **1.2.2 Admission with additional requirements**

<sup>1</sup> If the academic prerequisites listed in 1.2.1 are not completely satisfied, admission may be granted subject to the acquisition of the missing knowledge and competences in the form of additional credits (admission with additional requirements).

<sup>2</sup> The candidate must provide proof of the acquisition of the additional knowledge and competences required by passing the pertaining performance assessments by set deadlines (see Section 4).

<sup>3</sup> If the candidate fails said performance assessments or does not respect the set deadlines he/she will be regarded as having failed the programme and will be excluded from it.

### 1.3 Language prerequisites

<sup>1</sup> The teaching language of the degree programme is English.

<sup>2</sup> For admission to the programme, proof of sufficient knowledge of English (level C1<sup>(3)</sup>) must be provided.

<sup>3</sup> Applicants to the programme who hold a Bachelor's degree from a university of applied sciences must, according to the pertaining additional requirements (see Section 2.4, Subsection 2), also supply proof of sufficient knowledge of German (level C1).

### 1.4 Performance prerequisites

Admission to the degree programme presupposes a very good study performance record in the preceding course of studies, in particular with regard to Part 1 of the profile of requirements specifications.

### 1.5 Acceptance by a tutor

<sup>1</sup> The degree programme in Micro and Nanosystems is a tutor-led programme.

<sup>2</sup> Admission to the degree programme requires acceptance by a tutor (see the Programme Regulations, Art. 15 Para. 3).

### 1.6 Availability of places on the programme

<sup>1</sup> The number of places on the programme is limited.

<sup>2</sup> If the number of applications exceeds the number of places available, selection will proceed on the basis of performance in the preceding (Bachelor's) degree programme.

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<sup>3</sup> The required language level is measured according to the Common European Framework of Reference for Languages (EFR) scale: *Common European Framework of Reference for Languages*, p. 23f. [www.coe.int/t/dg4/linguistic/Source/Framework\\_EN.pdf](http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf)

## **2 Specific stipulations for admission and entering the degree programme**

### **2.1 General regulations**

#### *Application*

All interested parties should apply through the ETH Zurich Admissions Office for admission to the programme and are subject to the admissions procedure set out in Section 3.

### **2.2 Application with a Bachelor's degree from ETH Zurich**

#### *Admission*

<sup>1</sup> For admission to the programme all of the prerequisites set out in Section 1 must be satisfied.

<sup>2</sup> Admission may be subject to additional requirements.

<sup>3</sup> Admission is not possible if, to satisfy the academic prerequisites,

- a. any credits from Part 1 of said academic prerequisites must be acquired, or
- b. more than 30 credits from Part 2 of said academic prerequisites must be acquired.

#### *Entering the Master's degree programme*

<sup>4</sup> Students from an ETH Bachelor's degree programme who have been granted admission can enrol in the programme once they have acquired that number of credits which would qualify them to enrol in the Master's degree programme consecutive to their original subject.<sup>(4)</sup>

<sup>5</sup> For all Bachelor's degree students who are already matriculated at ETH Zurich and who progress to the ETH Master's degree programme, the following applies:

- a. The normal ETH enrolment dates and deadlines apply.
- b. Admission is provisional until the Bachelor's degree is issued. Admission will be revoked if the Bachelor's degree is not or cannot be issued.

### **2.3 Application with a Bachelor's degree from another university**

#### *Admission*

<sup>1</sup> For admission to the programme all of the prerequisites set out in Section 1 must be satisfied.

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<sup>4</sup> The permitted number of missing credits is set out in the Study Regulations of the respective consecutive Master's degree programme (e.g., B.Sc. Physics > M.Sc. Physics).

<sup>2</sup> Admission may be subject to additional requirements.

<sup>3</sup> Admission is not possible if, to satisfy the academic prerequisites,

- a. any credits from Part 1 of said academic prerequisites must be acquired, or
- b. more than 30 credits from Part 2 of said academic prerequisites must be acquired.

#### *Entering the Master's degree programme*

<sup>4</sup> Candidates whose applications are accepted may enter the programme when they have successfully completed the preceding Bachelor's degree course.

### **2.4 Application with a Bachelor's degree from a Swiss university of applied sciences**

#### *Admission*

<sup>1</sup> For admission to the programme all of the prerequisites set out in Section 1 must be satisfied.

<sup>2</sup> Admission is always subject to the acquisition of the missing academic and methodological knowledge and competences in the form of additional studies comprising at least 40 credits from Parts 1 and 2 of the academic prerequisites (see Section 1.2.1).

<sup>3</sup> Admission is not possible if the number of additional credits required to satisfy the academic prerequisites exceeds 60.

#### *Entering the Master's degree programme*

<sup>4</sup> Candidates who have been granted admission may enter the programme when they have successfully completed the preceding Bachelor's degree programme.

## **3 Application and admission procedure**

<sup>1</sup> All interested parties must submit an application for admission to the degree programme. The specifications for application, in particular the documents required and the dates/deadlines for submission, are published on the website of the ETH Zurich Admissions Office ([www.admission.ethz.ch](http://www.admission.ethz.ch)).

<sup>2</sup> Application may be made even if the required preceding degree has not yet been issued.

<sup>3</sup> The admissions committee of the degree programme determines how far the background of the candidate corresponds to the requirements profile and submits an application for admission/rejection to the Director of Studies.

<sup>4</sup> The Rector makes the final decision regarding admission without additional requirements, admission with additional requirements, or rejection.

<sup>5</sup> The candidate receives a written admissions decision which includes relevant information concerning any additional admission requirements.

## **4 Fulfilling additional admission requirements**

### **4.1 General regulations**

<sup>1</sup> Candidates who are admitted subject to the fulfilment of additional requirements must acquire the required additional knowledge and competences before or during the Master's programme via self-study or by attending classes. The corresponding individual performance assessments must take place by set deadlines.

<sup>2</sup> If the candidate fails said performance assessments or does not respect the set deadlines he/she will be regarded as having failed the programme and will be excluded from it.

<sup>3</sup> The deadlines and conditions for undergoing said performance assessments depend upon the background of the candidate (see Sections 4.2 and 4.3).

### **4.2 Candidates with a university Bachelor's degree**

<sup>1</sup> Candidates holding a university Bachelor's degree must undertake all of the performance assessments pertaining to the additional admission requirements by the end of the first year of the Master's programme at the latest. All additional requirements, including any assessment repetitions, must be fulfilled within 18 months of the start of the Master's programme at the latest.

<sup>2</sup> A pass grade in each individual performance assessment is required.

<sup>3</sup> A failed performance assessment may be repeated once.

### **4.3 Candidates with a Bachelor's degree from a Swiss university of applied sciences**

<sup>1</sup> Candidates holding a Bachelor's degree from a Swiss university of applied sciences must undertake all of the performance assessments pertaining to the additional admission requirements by the end of the first year of the Master's programme at the latest. All additional requirements, including any assessment repetitions, must be fulfilled within two years of the start of the Master's programme at the latest.

<sup>2</sup> The performance assessments may be undertaken as examination blocks. A pass grade in the examination block is achieved if the average of the individual grades is at least a 4.

<sup>3</sup> A failed performance assessment or a failed examination block may be repeated once. Repeating an examination block entails repeating all of the performance assessments belonging to it.