

# REGULATION OF THE APPLICATION OF THE CONTROL OF THE STUDIES OF THE SECTION OF LIFE SCIENCES ENGINEERING

for the 2021-2022 academic year  
May 26, 2021

*The management of the Swiss Federal Institute of Technology Lausanne*

Having regard to the ordinance on education leading to the bachelor's and master's degrees of the EPFL of June 14, 2004,

Having regard to the ordinance on the control of studies leading to the bachelor's and master's degrees at EPFL of June 30, 2015,

having regard to the study plan of the Life Sciences Engineering section

*stop:*

## Art. 1 - Scope of application

The present regulation establishes the rules of application for the supervision of Bachelor's and Master's studies in the Life Sciences Engineering section for the academic year 2021-2022.

## Art. 2 - Training stages

1 The bachelor's degree is composed of two successive stages of training:

- the one-year propaedeutic cycle, the successful completion of which results in 60 credits acquired at once, a condition for entry into the bachelor's cycle.

- the two-year Bachelor's program, which requires 120 credits to enter the Master's program.

2 The master's degree is composed of two successive stages of training:

- the master's program, which lasts 3 semesters and requires the acquisition of 90 credits, a condition for the master's project.

- the Master's project, which lasts 17 weeks at EPFL, or a choice of 17 or 25 weeks outside EPFL, and which results in the acquisition of 30 credits. It is placed under the responsibility of a professor or MER affiliated to one of the EPFL faculties.

## Art. 3 - Examination sessions

1 Sessional courses are examined during the winter or summer sessions. They are mentioned in the study plan with the mention H or E.

2 Semester courses are taken in the fall or spring semester. They are indicated in the syllabus as sem A or sem P.

3 An annual branch, i.e., one that is titled on a single line in the study plan, is examined as a whole during the summer session (E).

4 For the sessional branches, the written or oral form of the examination indicated for the session may be supplemented by written or oral tests of knowledge during the semester, as indicated by the instructor.

## Chapter 1: Preparatory Cycle

### Art. 4 - Preliminary examination

1 The propaedeutic examination includes "Polytechnic" subjects with 44 coefficients and "Specific" subjects with 16 coefficients, distributed over two blocks.

2 The first and second blocks of branches correspond to 30 coefficients-

3 The propaedeutic examination is passed when:  
- the student has obtained, at the end of the winter semester, a grade point average equal to or greater than 3.50 in the first block, which is a requirement for entry into the spring semester, and  
- they have obtained, at the end of the summer session, an average of 4.00 or more in each of the two blocks, which is a condition for entry into the bachelor's program.

4 A student who fails the propaedeutic examination will not be allowed to repeat the following year the semester branches for which he/she has obtained a mark equal to or higher than 4.00.

## Chapter 2: Bachelor's Degree

### Art. 5 - Organization

The courses of the Bachelor's degree in Life Sciences Engineering are divided into 8 blocks.

#### **Art. 6 - Prerequisites**

Compulsory and elective courses may require prerequisites that are explicitly mentioned in the course description. The prerequisite course is validated if the corresponding credits are acquired for the course or by block average.

#### **Art. 7 - 2<sup>ème</sup> year examination**

- 1 Block 1 "Mathematics and Physics" is passed when the **30 credits** of the study plan are obtained.
- 2 Block 2 "Life Sciences and Computer Science" is passed when the **credits26** of the study plan are obtained.

#### **Art. 8 - 3<sup>ème</sup> year examination**

- 1 Block 3 "Engineering / Ingénierie" is passed when the **16 credits** of the study plan are obtained.
- 2 Block 4 "Bio-Engineering" is passed when the **credits 8** of the study plan are obtained.
- 3 Block 5 "Life Sciences / Fundamentals of Life Sciences" is passed when **8 credits** of the study plan are obtained.
- 4 Block 6 "Quantitative biology & data" is passed when the **credits 8** of the study plan are obtained.
- 5 Block 7 "Physiology" is passed when the **16 credits** of the study plan are obtained.

#### **Art. 9 - 2nd and 3rd year examination**

Block 8 "SHS and Cross-Curricular MGT" is passed when the **8 credits** of the study plan are obtained.

### **Chapter 3: Master Cycle**

#### **Art. 10 - Organization**

- 1 The master's degree courses are divided into :
  - a "Core courses" group
  - an "Options" group
  - an "Industry internship" group
  - a "Scientific thinking" group
  - a "Law, organization and economics" group
  - a "SHS" group
- 2 At the beginning of the Master's program, the student has the opportunity to complete his or her curriculum by choosing one of the proposed specializations or a minor.
- 3 External master students can only validate a maximum of 30 credits (in addition to the engineering internship) outside EPFL.
- 4 It is not possible to validate more than 38 credits in industry (max. master project in industry + mandatory internship of 8 credits). Validation of more than 8 credits in industry during the master's cycle implies that the master's project must be carried out in an academic environment.

#### **Art. 11 - Prerequisites**

Branches may require prerequisites or equivalents (external bachelor's degree) which are mentioned in the course description. The prerequisite course is validated if the corresponding credits have been acquired for the course or by block average.

#### **Art. 12 - SHS Education**

The two SHS branches are each worth 3 credits. The fall semester course introduces the spring semester project. The College of Humanities and Social Sciences may depart from this organization if it considers that the reason is justified. It may also authorize a student to carry out his or her project in a semester that does not immediately follow the semester in which the introductory teaching takes place.

#### **Art. 13 - Specializations**

- 1 In order to acquire in-depth knowledge in a specific subfield of his or her discipline, the student may choose a specialization proposed in the study plan.
- 2 In the group "Options" the student selects the elective courses corresponding to a specialization. Courses from group 1 "Core courses" can be counted in group 2 "Options" for a specialization if they are not validated in group 1.

3 The proposed specializations are described in the study plan.

4 The student announces the choice of a specialization to his or her section no later than the end of the first semester of the Master's program.

5 A specialization of the Master in Life Sciences Engineering is successful when at least **credits 30** are obtained among the endorsed branches of one of the specializations of the "Options" group.

#### **Art. 14 - Minors**

1 In order to deepen a particular aspect of his or her training or to develop interfaces with other EPFL sections, the student may choose to follow the training offered in the framework of a minor included in the EPFL offer.

2 The Life Sciences Engineering minor cannot be chosen by students in the Life Sciences Engineering section.

3 The selection of courses that comprise a minor recommended by the Life Sciences Engineering section is made with the minor leader. These courses are taken in lieu of electives in Group 2.

4 The student announces the choice of a minor to his or her section no later than the end of the first semester of master's studies.

5 A minor is successful when a minimum of 30 credits are earned from the endorsed branches.

6 If a minor is dropped during the course of the program, the Life Sciences Engineering section determines the number of validated credits to be transferred to the option group.

#### **Art. 15 - Master's degree examination**

1 Group 1 "Core courses" is passed when a minimum of **15 credits** of the study plan are obtained.

2 Group 2 "Options" is passed when **52 credits** of the study plan are obtained. The 52 credits include the 30 credits of a minor.

3 The "Industry internship" group<sup>3</sup> is passed when **8 credits** of the study plan are obtained.

4 Group 4 "Scientific thinking" is passed when the **5 credits** are obtained.

4 Group 5 "Law, organization and economics" is passed when **credits 4** are obtained.

5 Group 6 "SHS" is passed when all **6 credits** are obtained.

6 Courses in Group 1 "Core courses" and Group 5 "Law, organization and economics" (except MTE courses) may be counted in Group 2 "Options" if they are not validated in Group 1 or 5 respectively.

### **Chapter 4: Internship**

#### **Art. 16 - Industry internship**

1 Students must complete an industry internship of at least 8 weeks and no more than 6 months between the end of the Bachelor's program and the beginning of the Master's project.

2 The person in charge of the internship of the section evaluates the internship, by the appreciation "passed" or "failed".

3 The organization of the internship and the criteria for its validation are the subject of an internal directive of the section and must meet the conditions defined in the EPFL regulations for engineering internships.

### **Chapter 5: Mobility**

#### **Art. 17 - Authorized periods of mobility**

Students of the Life Sciences Engineering section can carry out a mobility stay in the 3rd year of their Bachelor's degree and/or as part of their Master's project.

#### **Art. 18 - Conditions**

1 For a mobility in the 3rd year of the Bachelor program, the student must have passed the propaedeutic exam with a minimum average of 4.5 if the destination is in Europe, or 5.0 if the destination is outside of Europe, and must not be behind in the acquisition of the 60 credits of the 2nd year of the Bachelor program. The student must acquire at least the following equivalences:  
-Block 3 (4 credits equivalent to Electrical and Electronic Systems I, 8 credits equivalent to Signals and Systems I and II, 4 credits equivalent to Dynamic Systems in Biology).

2 For a mobility to the master project, the student can be conditionally admitted if he/she has no more than 8 missing credits in the master cycle.

3 Specific conditions exist depending on the destination. The agreement of the academic advisor for exchanges is necessary to go on a mobility trip.

On behalf of the EPFL management

The President, M. Vetterli  
Academic Vice President, J. S. Hesthaven

Lausanne, May 26, 2021