

**Doctoral Program in Materials Science and Engineering
Program Regulations for the Candidacy Examination**

Preamble

The following regulations have been extracted from legally binding documents and provide specific details for the candidacy exam in the Doctoral Program in Materials Science and Engineering. They are intended to ensure the good and due conduct of the candidacy exam.

1. Field of Application

The present regulations apply to all doctoral candidates enrolled in the Doctoral Program in Materials Science and Engineering at the EPFL as and from 1st September 2008.

2. The candidacy exam

2.a Enrolment for the exam

12 months after the enrolment in the doctoral program, the PhD candidate has to pass a candidacy examination. For this, the candidate needs to complete the jury proposal form on the personal portal IS-Academia two months before the candidacy exam and to submit a proposal draft, maximum 15 pages PRL style (Font size : 12 pt Arial or Times New Romans) – not including references - to EDMX electronically two weeks before the date of the examination. Please note that thesis proposals longer than 15 pages will not be accepted by EDMX.

In the first version of the jury proposal form, the jury president is not yet determined and will be given by the EDMX administration after submission.

2.b Prerequisites for the exam

- (i) The candidate has to follow 10 seminar talks (7 for EMPA Thun) during the first year by attending the mandatory Master course MSE-470 “IMX Colloquium” with the completion of an attendance list. The 2 credits are facultative.
External candidates must attend the Master course MSE-470 “IMX Colloquium” if available on videoconference or if not possible a similar course in another institute.
- (ii) The thesis director has agreed on a date for the candidacy exam with the candidate and the jury members. The enrollment following 2.a was performed.
- (iii) The candidate has submitted his/her research proposal to EDMX no later than 15 days prior to the date of the exam with the IS-Academia cover page. The EDMX administration distributes the document to the other members of the jury no later than 10 days prior to the date of the examination.

- (iv) The submitted research proposal (max 15 pages – not including the references) contains: title, abstract, statement of the problem, critical review of the relevant literature (with appropriate references), objectives of the thesis and statement of the novelty of the proposed work, description of the preliminary work done by the applicant, the proposed research program (including approach, new model(s) / technique(s) / idea(s), hypothesis and anticipated results, risks and contingency plans, time frame), a statement on data management and open science policy.

2.c Jury for the exam

The jury is composed of a member of the doctoral program committee (with the exception of the doctoral student thesis director or co-director, and with the exception of the doctoral students' representative) who acts as the jury president and ensures the fair and good conduct of the candidacy exam, the thesis director (and the thesis co-director, when applicable) and an additional expert who is a confirmed EPFL thesis director (called herein 'the additional expert'). The additional expert will not be a member of the same research unit (chair or laboratory) as the thesis director.

Upon request, a second expert can take part at the candidacy exam. She/he may be a lecturer at EPFL. She/he accepts that she/he cannot contribute to the candidacy exam and will be considered as an auditor.

The composition of the jury is subject to the approval of the director of the doctoral program.

2.d Exam format

The candidacy exam includes an oral presentation by the candidate of his/her research proposal and is followed by questions from the jury members.

The presentation lasts maximally 20 minutes. The presentation consists primarily of an outline of the candidate's thesis project (the research proposal), including:

- the general context of the thesis subject
- the state of the art of research in the area
- the objective of the thesis
- the position of the candidate's work within the research area
- preliminary research results of the candidate
- the plan and research methodology of the thesis project
- the timeframe for the research work

During his/her presentation, the candidate will demonstrate the originality of his/her thesis subject, the objectives and methods envisaged, as well as the hypothesis and the related scientific arguments. The presentation will be followed by a question-and-answer session lead by the jury members (up to 45 minutes).

2.e Evaluation criteria

The jury evaluates the candidate's potential ability to conduct research leading to a PhD degree on the basis of the following principal criteria:

- the pertinence and originality of the thesis subject
- the quality of scientific arguments
- the clarity and rigour of the research plan
- the candidate's responses to the jury's questions

After the presentation, the jury deliberates in the absence of the candidate.

The jury will decide whether the candidate has passed or failed the exam, and may provide recommendations to the candidate.

The final decision is taken by a majority of the jury after its deliberation. If the jury cannot come to a majority decision, the Jury President will decide the success or failure of the candidacy exam. The jury will define, where applicable, the conditions to be fulfilled by the candidate in re-taking the exam and will fix the time schedule.

2.f Record of the exam

The jury president will complete the Minutes. He/she will forward this record to the administration of the doctoral program, for approbation by the EDMX program director within one week of the exam.

2.g Communication of the result

The jury president verbally informs the candidate of the result of the candidacy exam immediately thereafter. The specific comments/recommendation are transmitted to the candidate.

The decision is advised to SAC by the administration of the doctoral program.

2.h Possibility to re-take the exam

In case of failure of the candidacy exam, the program administration will provide a date to the candidate for a second and final attempt. This date will be within 15 months of the enrolment.

In principle, the format and the jury members of the second candidacy exam will be the same as those for the first.

Second failure leads to exmatriculation.

3. One-Year Follow-Up

Approximately a year after the candidacy exam, the doctoral candidate organizes a scientific discussion with the expert, the Thesis Director and if applicable the Thesis Co-Director.