PhD Thesis Plan Evaluation Criteria

PhD Program in Computer Science
Departamento de Informática — FCT NOVA

April 4, 2018

1   Objectives of the Curricular Unit

The objective of the Curricular Unit *Elaboração do Plano de Tese de Doutoramento* is the elaboration, oral presentation and public discussion of a Thesis Plan. A Thesis Plan is a document produced by the student, under the guidance of the supervisor, addressing the aspects, and following the general structure, described in the "Guidelines for the preparation of the PhD Thesis Plan" document (proposed in September 2009; revised in February 2018).

The student's workload associated with this Curricular Unit is defined to be 30 ECTS units. Presentation, discussion and approval of the Thesis Plan by the Thesis Advisory Committee (*Comissão de Acompanhamento de Tese*, or CAT) shall be concluded before the student proceeds to the research phase of the Doctoral Program.

2   Submission Process and Requirements

There are two possible submission dates in each academic year, and two corresponding evaluation periods. A Thesis Plan submitted up to a given submission deadline must be evaluated before the next evaluation deadline.

Semester	Submission Deadline	Evaluation Deadline
1st	February, 15	May, 30
2nd	July, 15	November, 30

Important requirement: a Thesis Plans may only be submitted for evaluation after the student obtained an average grade of at least 14 points (*valores*) in the set of PhD courses conforming to the study plan (requirements) determined at the PhD program admission time.

3   Evaluation Process

The Thesis Plan is evaluated by a committee composed of the members of the thesis CAT, and the coordinator of the PhD Program (DINF), who chairs the discussion session. The coordinator of DINF may delegate this role in the evaluation

committee to another member of the Scientific Committee of the PhD Program (DINF CC), subject to approval by the DINF CC. Delegation is mandatory when the DINF coordinator is a member of the Thesis Advisory Committee (CAT).

The evaluation consists of a public session that should not exceed 1h30m in its entire duration. This session starts with a 20 minute presentation by the student. The remaining time is used for discussion, and must be evenly split between the evaluation committee members and the candidate, according to the usual practices in thesis examinations. Once the discussion is concluded, the public session ends and the evaluation committee meets privately to grade the work based on the written document, its presentation and subsequent discussion. When the evaluation committee decides on a grade, an appropriate evaluation form and scoring spreadsheet must be filled, and signed by all the evaluation committee members. The result is then communicated to the candidate by the evaluation committee chair.

To set up a Thesis Plan evaluation session, the supervisor must schedule the session date, taking into account the appropriate deadline, and coordinating with the members of the advisory committee and with the DINF CC. To support this administrative process, the appropriate form should be filled and submitted to the DI secretariat (attn: `di.secretariado@fct.unl.pt`).

4 Evaluation

4.1 Partial Evaluation Criteria

The following partial evaluation criteria should be considered, each to be graded with 3 (very good), 2 (good), 1 (fair) or 0 (unsatisfactory):

A.	Quality of the state of the art survey
B.	Innovation potential of the proposed ideas
C.	Relevance of the proposed research
D.	Methodology
E.	Planning of Activities
F.	Oral presentation and discussion

A. Quality of the state of the art survey Evaluates the completeness of the survey and of the bibliography, the knowledge of the main research issues in the field, the ability to situate the proposed research in a broader context, the ability to relate it with the state of the art, and the presence of a critical attitude, identifying limitations and opportunities. Grade 3 (Very Good) should only be assigned if all these aspects are well addressed.

B. Innovation potential of the proposed ideas Evaluates the motivation for the problem or problems to be addressed, the identification of the challenges to overcome, and the justification of the novelty of the expected results. Grades 2-3 mean that the research problem is clearly formulated, and that there is convincing

evidence that the plan already hints to novel techniques and approaches that differ and go beyond the existing ones.

C. Relevance of the planned research Evaluates the motivation of the research themes, and justifies the scientific relevance, technical depth, and potential impact of the expected results. An important component of this item is the assessment of the research choices with respect to the current trends in the international research community, and of the publication potential of the results to be obtained.

D. Methodology Evaluates the identification and presentation of the technical approaches and methods to be followed, how these relate to the established body of knowledge and current approaches in the scientific community, and the identification of appropriate publication venues.

E. Planning of activities Evaluates the structure and feasibility of the proposed plan of activities.

F. Oral Presentation and Discussion Evaluates the quality of the student presentation and arguing skills.

4.2   Global Evaluation Levels

According to the Portuguese legislation, the student must be graded by a quantitative score in the scale [0–20] in any Curricular Unit. Given the special nature of the course *Elaboração do Plano de Tese de Doutoramento*, and for calibration and information purposes, the global evaluation levels, described next, should be assigned to quantitative intervals according to the following table:

19–20:	Exceptional
17–18:	Excellent
16–17:	Very Good
14–16:	Good
R:	Fair/Fail

These global evaluation levels offer a typical characterisation that should be taken as a reference only, as some overlap at the boundaries is to be expected.

Fail A sub standard proposal, inferior to the Fair level, or a repetition of a Fair level, after re-submission.

Fair The proposed Thesis Plan contributes with a good overview of the research topics and issues, but neither the document nor the discussion resulted in convincing evidence about the potential of novelty and/or technical depth of the proposed research, or the adequate preparation of the candidate to address the identified issues at the required level, as witnessed by low scores (1–0) in

several of the partial evaluation criteria A–D, in particular B–C. Probably, the candidate is not ready yet to proceed to the research phase of the PhD program, and should resubmit the Thesis Plan after revision.

Good   The relevance of the proposed ideas are sensibly justified, and the presentation and discussion provided convincing evidence that the candidate is well aware of the scope of the proposed research plan. The proposed methodology and state of the art review also provide credible evidence that the candidate is ready to proceed with the proposed research, and that novel and technically sound results may be reached. However, the Thesis Plan document and the discussion revealed noticeable weaknesses in a few important aspects (as witnessed by at most one score of 1, but none of 0, in the partial evaluation criteria A–D).

Very Good   The novelty, relevance, and technical depth of the proposed ideas were solidly justified, and both the presentation and discussion provided convincing evidence that the candidate is well prepared and understands the relevance and challenges of the proposed research plan. The discussion of the methodology and the state of the art also show that the candidate is able to situate the work plan in a broad context, and knows what tools and technical approaches should be applicable. These, if correctly followed, may certainly lead to good publications. All scores in the partial evaluation criteria A–D except perhaps two are ranked 3, and all partial evaluation criteria are in the range 3–2.

Excellent   A very good Thesis Plan document. The presentation and discussion were performed at an outstanding level. Work with a clear potential of impact, leading to full publications in top-tier conferences and journals.

Exceptional   A truly rare and exceptional case. An exceptionally good Thesis Plan that presents an extremely well laid out research proposal which is believed to be truly disruptive and shape the future state of the art. Additionally, the presentation and discussion revealed a candidate that not only excelled in every aspect of the evaluation, but was also capable of presenting the underlying ideas in a compelling way, even to an audience of a different research area.

4.3   Methodology

The final quantitative grade is determined by the following process:

1. The evaluation committee agrees on a numerical score for each of the partial evaluation criteria A—F.

2. The final score is given by formula (1), while ensuring that the qualitative level corresponding to this final score is consistent with the global evaluation levels characterized in the previous discussion.

$$SCORE = 0.6 \cdot (A + B + C + D) + 0.3 \cdot (E + F) + 8.5 \qquad (1)$$

The evaluation committee may consider awarding the top grades of 19 and 20 to a rare outstanding Thesis Plan with indisputable potential to shape the future state of the art, and whose candidate excelled in discussing the underlying ideas in a compelling way, even to an audience of a different research area.

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Thesis Plan Evaluation Form

Quality of the state of the art survey (weight: 20%). Evaluates the completeness of the survey and of bibliography, the knowledge of the main research issues in the field, the ability to situate the proposed research in a broader context, the ability to relate it with the state of the art, and the presence of a critical attitude, identifying limitations and opportunities. Grade 3 (Very Good) should only be assigned if all these aspects are well addressed.

☐ 0-Insufficient ☐ 1-Fair ☐ 2-Good ☐ 3-Very Good

Innovation potential of the proposed ideas (weight: 20%). Evaluates the motivation for the problem or problems to be attacked, the identification of the kind of challenges to be overcome, and the justification of the novelty of the expected results. Grades 2-3 mean that the research problem is clearly formulated, and that there is convincing evidence that the plan already hints to novel techniques and approaches, that differ and go beyond existing approaches.

☐ 0-Insufficient ☐ 1-Fair ☐ 2-Good ☐ 3-Very Good

Relevance of the planned research (weight: 20%). Evaluates the motivation of the research themes, and the justification of the scientific relevance, technical depth, and potential impact of the expected results. An important component of this item is the assessment of the research choices in terms of the current trends in the international research community, and of the publication potential of the results to be obtained.

☐ 0-Insufficient ☐ 1-Fair ☐ 2-Good ☐ 3-Very Good

Methodology (weight: 20%). Evaluates the identification and presentation of the technical approaches and methods to be followed, how these relate to the established existing body of knowledge and current approaches in the scientific community, and the identification of appropriate publication venues.

☐ 0-Insufficient ☐ 1-Fair ☐ 2-Good ☐ 3-Very Good

Planning of activities (weight: 10%) Evaluates the structure and feasibility of the proposed plan of activities.

☐ 0-Insufficient ☐ 1-Fair ☐ 2-Good ☐ 3-Very Good

Oral Presentation and Discussion (weight: 10%). Evaluates the quality of the student presentation and arguing skills.

☐ 0-Insufficient ☐ 1-Fair ☐ 2-Good ☐ 3-Very Good