Universidad Complutense de Madrid
Universidad Politécnica de Madrid

Doctorate Programme in Mathematical Engineering, Statistics and Operations Research (IMEIO)

El Plan de Investigación/The Research Plan

Centro Excelencia
Internacional
Campus
Moncloa

Begoña Vitoriano (Coordinadora UCM)
Salvador Jiménez (Coordinador UPM)

Activities sequence (1st year)

Sep./Oct.: acceptance, tutor designation and inscription

First semester: initial research courses

↔ 3 months after beginning: designation of PhD advisor

Second semester: preparation of Research Plan

Mid/end of Sept.: presentation of Research Plan

Research Plan (art. 11 RD99/2011)

6. Before the end of the first year, the student will create a Research plan that must include at least the methodology to be used and the objectives to be reached as well as the means and the temporal planning to achieve them. The Plan could be improved by the student during all the years in the programme. The Plan should be vouched for by the Tutor and the Advisor.

7. Every year the Academic Comission of the programme will assess the research Plan and the activities document, which have to be endorsed both by the Tutor and the Advisor. A positive assessment will be compulsory to continue in the programme. In case of a negative assessmente, that has to be duly motivated, *the student will be assessed a second time before six months. To this effect, the student will prepare a new research Plan. In case of a second negative assessment the student will be expelled from the programme.*

Specific guidelines research Plan. IMEIO

- **It has to include the objectives to be reach, the methodology to be used, the means and the time planning.**
- **The objectives and the methodology have to be strongly supported by the state of the art in the field. The Plan has to include a deep revision of the literature on the topic and a development planning containing some preliminary results.**
- **For part-time students the level of requirements will be scaled proportionaly, provided that enough knowledge on the topic and its relevance is attained.**
- **The plan should take the form of a research paper (review), preferably in English, with an extension of 20 to 50 pages.**
- **The plan can be increased each year to become the PhD thesis.**
- **Estimated dedicaction ↔ 30 credits ECTS.**

Suggested contents of the reserach Plan

- **INTRODUCTION (brief; to which field it corresponds, what is the final goal comtempleted, what is the motivation/interest of the proposed topic).**

- **STATE OF THE ART (detailed description of the state of the art with many references such as to make clear the novelty of the proposal or that it covers an unexplored part of knowledge on the topic.**

- **OBJECTIVES (list of specific goals) .**

- **METHODOLOGY (detailed description of the methods to be used in the developing the PhD Thesis to attain the goals proposed).**

- **WORK PLAN (tasks planning and their time span).**

- **RESOURCES (data sources, software, … – to be used and grants, labs...).**

- **REFERENCES (complete list of references).**

Process of supervision and control:

- **The Plan will be developed under the supervision of the PhD advisor and the endorsement of the Tutor.**

- **It will be presented in a public session, with the endorsement of the Advisor and the Tutor. Duration: 20 min. + 10 min. questions (1st year), 10 min. + 5 min. questions (2nd and following years).**

- **Presentations as a seminar, that all student have to attend, mid-end of September, each year. It will count as an activity.**

- **Evaluation according to law, point 7 in art. 11 of RD 99/2011:**
  - **Positive assessment required to continue in the programme.**
  - **Negative assessment: new Plan presented within 6 months.**
  - **Second negative assessment: expulsion from the programme.**