



# **Structure and format of the Research Plan**

## **Interdepartamental Doctoral Programme in Environmental Engineering**

**Universitat Politècnica de Catalunya**

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## 1. Object

In agreement with the “Academic regulations for doctoral degree courses” of the Universitat Politècnica de Catalunya (UPC), before the end of his/her first year, the doctoral student must draw up a research plan, which is included in the Doctoral Student Activity Report. This plan, which may be improved throughout the doctoral degree course, must be endorsed by the student's tutor and thesis supervisor. It must describe the methodology and objectives of the student's research.

The aim of the research plan is to identify the basic elements of the thesis and define what is intended to perform during the research step of the thesis in the framework of the PhD in Environmental Engineering.

The present document presents the structure and content that should have the Research Plan, at the same time it gives guidance on the formal aspects to be taken into account for preparing the corresponding document.

## 2. Structure:

1. Cover page:
  - a. Provisional title of the doctoral thesis,
  - b. Forename and surname of the doctoral student,
  - c. Forename and surname of the thesis supervisor and tutor (if they are different),
  - d. Name and location of the institution where the Research Plan is submitted,
  - e. Designation of the doctoral programme where the thesis is being developed,
  - f. Place and date of the document
2. Index of the document + List of Tables + List of Figures (Tables and Figures must be referenced in the text)
3. Summary of the Research Plan
4. Introduction  
(Focus the subject of the thesis, from general to specific aspects, and indicate why the research is needed in this topic).
5. Literature review (critical review of the state of the art of the specific research topic selected)
6. Objectives (to be achieved in the research work to be developed in the doctoral thesis):
  - a. Main
  - b. Specifics, Particulars
  - c. Complementary
  - d. Secondary
7. Methods / Methodologies (detailed description and justification of how these objectives are intended to attain)

8. Work plan with work Schedule indication
9. References
10. Relation of papers and other publications submitted in this field (if there had been any)

Approximate Length: around 50 pages, maximum 75.

### 3. Graphic design

Two fundamental typeface styles should be used:

- Titles of significance (chapters, sections): use a sans serif typeface such as Arial or Helvetica.
- Lesser titles (sub\_sections): for these titles and the text in general, use a serif typeface, such as Times.

We suggest a range of sizes, distributed according to the level of the information (see Table 1).

**Table 1 Range of letter sizes according to the level of information**

Division	Typeface	Size	Variation
<b>Title of the Thesis Proposed</b>	<b>Arial</b>	<b>18</b>	<b>Bold</b>
<b>Chapter (1)</b>	<b>Arial</b>	<b>14</b>	<b>Bold</b>
<b>Section (1.1)</b>	<b>Arial</b>	<b>12</b>	<b>Bold</b>
<b>Sub-section 1 (1.1.1)</b>	<b>Times</b>	<b>11</b>	<b>Bold</b>
<i>Sub-section 2 (1.1.1.1)</i>	<i>Times</i>	<i>11</i>	<i>Italic</i>
Main text	Times	11	Normal
Dedication, motto, index	Times	10	Normal
<b>Title of table or figure</b>	<b>Arial</b>	<b>9</b>	<b>Bold</b>
Text of table or figure	Arial Narrow	10	Normal
Acknowledgments page	Times	9	Normal
Footnote	Times	8	Normal

### 4. Margins, paragraphs and pagination

- Space between lines: we recommend line spacing of 1.5 to make reading easier
- Margins for A4 paper: top 25 mm; bottom 20 mm; left 25 mm; right 20 mm.
- Text alignment: justified

## 5. Submission of the research plan

### Printed document

- 1 copy to be deposited at the Academic Office of the Research Institute for Sustainability (administrative manager of the doctoral program) at least 15 days before the date fixed for the defence of the Research Plan. The printed document must include a PDF version in a CD-ROM/DVD, attached in the inner back cover.
- At least 1 copy for each member of the jury (3 copies in total), to be delivered the day of the defence.

All copies must be in A4 paper, printed in portrait / vertical format (210x297 mm), which is the general standard and also the default format in most word processors, and be spiral bound.

### Electronic version

The student must also provide an electronic version identical to the printed version:

- 1 copy in PDF format by e-mail to the thesis director/s
- 1 copy in PDF format by e-mail to each member of the jury, 15 days before the date of the defence.

The registration and deposit can be completed at any time during the academic year, 15 days before the date fixed for the defence.

The following criteria must be taken into account (see Table 2).

**Table 2 Criteria for delivery the electronic versions of the Research Plan**

Format	<ul style="list-style-type: none"> <li>• PDF is preferred (but other formats such as Word).</li> </ul>
Identification	<ul style="list-style-type: none"> <li>• On the outside of the CD/DVD, you must indicate the name of the author of the Research Plan, the title and the year of publication, or use the annexed cover</li> <li>• In the file containing the Research Plan, the first page must contain the name of the author, the title and the department, and/or identify the title of the thesis and the name of the author in the page header.</li> </ul>
Security	<ul style="list-style-type: none"> <li>• The file submitted must not have any type of technological protection.</li> </ul>
Name and file size	<ul style="list-style-type: none"> <li>• If the size of the thesis file is larger than 10 MB, we recommend that you divide it into different files, keeping chapters together.</li> </ul>