# The Elements of Theses 

by

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Chair
Date

Date

Date

University of California at Berkeley

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## A bstract

## The Elements of Theses

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Professor Ignatius A rrogant, Chair

Theses have elements. Isn't that nice?

Professor Ignatius A rrogant
Dissertation Committee Chair

To myself,

Perry H. Disdainful,
the only person worthy of my company.

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## A cknowledgements

I want to "thank" my committee, without whose ridiculous demands, I would have graduated so, so, very much faster.

## Part I

First Part

## Chapter 1

## A bout This Shell

This shell document provides a sample layout of a University of California Thesis.
The front matter has a number of sample entries that you should replace with your own. Replace the text in this shell with your own.

Changes to the typeset format of this shell and its associated ${ }_{L A} T_{E X}$ formatting ..le (ucthesi s. cl s) are not supported by MacK ichan Software, Inc. If you wish to make such changes, please consult the $\operatorname{LAT} T_{E X}$ manuals or a local $L A T_{E X}$ expert.

If you modify this document and save it as "Thesis - University of California Thesis.shl" in the Shel I snOt her DocunentsnSWdirectory, it will become your new Thesis - University of California Thesis shell.

The typesetting speci..cation selected by this shell document uses the default class options. There are a number of class options supported by this this typesetting speci..cation. The available options include setting the paper size and the point size of the font used in the body of the document. Select Typeset, Options and Packages, the Class Options tab and
then click the Modify button to see the class options that are available for this typesetting speci..cation.

## Chapter 2

## Features of this Shell

### 2.1 Section

Use the Section tag for major sections, and the Subsection tag for subsections.

### 2.1.1 Subsection <br> Use the Section tag for major sections, and the Subsection tag for subsections.

## Subsubsection

This is just some harmless text under a subsubsection.

Subsubsubsection This is just some harmless text under a subsubsubsection.

Subsubsubsubsection This is just some harmless text under a subsubsubsubsection.

### 2.2 Tags

You can apply the logical markup tag Emphasized.
You can apply the visual markup tags B old, Italics, Roman, Sans Serif, Slanted, Small Caps, and Typewriter.

You can apply the special, mathematics only, tags BLACK BOARD BOLD, CALLI GRAPF and fraktur. Note that blackboard bold and calligraphic are correct only when applied to uppercase letters A through Z.

You can apply the size tags tiny, scriptsize, footnotesize, small, normalsize, large,

## Large, LARGE, huge and Huge

This is a Body Math paragraph. Each time you press the Enter key, Scienti..c W orkP lace switches to mathematics mode. This is convenient for carrying out "scratchpad" computations.

Following is a group of paragraphs marked as Body Quote. This environment is appropriate for a short quotation or a sequence of short quotations.

The buck stops here. Harry Truman
Ask not what your country can do for you; ask what you can do for your country.
J ohn F K ennedy
I am not a crook. Richard Nixon
It's no exaggeration to say the undecideds could go one way or another. George Bush

I did not have sexual relations with that woman, M iss Lewinsky. Bill Clinton

The Quotation tag is used for quotations of more than one paragraph. Following is the beginning of Alice's Adventures in W onderland by Lewis Carroll:

Alice was beginning to get very tired of sitting by her sister on the bank, and of having nothing to do: once or twice she had peeped into the book her sister
was reading, but it had no pictures or conversations in it, 'and what is the use of a book,' thought Alice 'without pictures or conversation?'

So she was considering in her own mind (as well as she could, for the hot day made her feel very sleepy and stupid), whether the pleasure of making a daisy-chain would be worth the trouble of getting up and picking the daisies, when suddenly a White Rabbit with pink eyes ran close by her.

There was nothing so very remarkable in that; nor did Alice think it so very much out of the way to hear the R abbit say to itself, 'Oh dear! Oh dear! I shall be late!' (when she thought it over afterwards, it occurred to her that she ought to have wondered at this, but at the time it all seemed quite natural); but when the Rabbit actually took a watch out of its waistcoat-pocket, and looked at it, and then hurried on, A lice started to her feet, for it $\ddagger$ ashed across her mind that she had never before seen a rabbit with either a waistcoat-pocket, or a watch to take out of it, and burning with curiosity, she ran across the ..eld after it, and fortunately was just in time to see it pop down a large rabbit-hole under the hedge.

In another moment down went Alice after it, never once considering how in the world she was to get out again.

Use the Verbatim tag when you want $\operatorname{LA}^{2} \mathrm{EX}$ to preserve spacing, perhaps when
including a fragment from a program such as:

```
# ncl ude < ostream> // <> is used for standard libraries. Nb ''.h'' necess
voi d nai n(voi d) // '' nai n'' nethod al ways gets cal l ed first.
{
    cout <<''Hello Wbrld.''; // Send ''Hello Wbrld.'' string to output stream
}
```


## 2.3 $M$ athematics and Text

Let H be a Hilbert space, C be a closed bounded convex subset of $\mathrm{H}, \mathrm{T}$ a nonexpansive self map of $C$. Suppose that as $n!1, a_{n} ; k!0$ for each $k$, and ${ }^{\circ}{ }_{n}=$ $P_{k=0}^{1}\left(a_{n ; k+1} i \quad a_{n ; k}\right)^{+}!0$ : Then for each $x$ in $C, A_{n} x=P_{k=0}^{1} a_{n ; k} T^{k} x$ converges weakly to a ..xed point of T .

The numbered equation

$$
\begin{equation*}
u_{t t} i \nmid u+u^{5}+u j u j^{p_{i} 2}=0 \text { in } R^{3} £[0 ; 1[: \tag{2.1}
\end{equation*}
$$

is automatically numbered as equation 2.1.

### 2.4 List Environments

You can create numbered, bulleted, and description lists using the tag popup at the bottom left of the screen.

1. List item 1
2. List item 2
(a) A list item under a list item.

The typeset style for this level is dixerent than the screen style. The screen shows a lower case alphabetic character followed by a period while the typeset style uses a lower case alphabetic character surrounded by parentheses.
(b) J ust another list item under a list item.
i. Third level list item under a list item.
A. Fourth and ..nal level of list items allowed.
${ }^{2}$ Bullet item 1
${ }^{2}$ Bullet item 2

- Second level bullet item.
$\propto$ Third level bullet item.
\$ Fourth (and ..nal) level bullet item.

Description List Each description list item has a term followed by the description of that term. Double click the term box to enter the term, or to change it.

Bunyip Mythical beast of Australian Aboriginal legends.

### 2.5 Theorem-like Environments

The following theorem-like environments (in alphabetical order) are available in this style.

A cknowledgement 1 This is an acknowledgement

Algorithm 2 This is an algorithm

Axiom 3 This is an axiom

Case 4 This is a case

Claim 5 This is a claim

Conclusion 6 This is a conclusion

Condition 7 This is a condition

Conjecture 8 This is a conjecture

Corollary 9 This is a corollary

Criterion 10 This is a criterion

De..nition 11 This is a de..nition

Example 12 This is an example

Exercise 13 This is an exercise

Lemma 14 This is a lemma

Proof. This is the proof of the lemma.

Notation 15 This is notation

Problem 16 This is a problem

Proposition 17 This is a proposition

Remark 18 This is a remark

Solution 19 This is a solution

Summary 20 This is a summary

Theorem 21 This is a theorem

Proof of the $M$ ain Theorem. This is the proof.

## Chapter 3

## Introduction

Every dissertation should have an introduction. You might not realize it, but the introduction should introduce the concepts, background, and goals of the dissertation.

| Title | Author |
| :--- | ---: |
| War A nd P eace | Leo Tolstoy |
| The Great Gatsby | F. Scott Fitzgerald |

Table 3.1: A normalsize table. There has been a complaint that table captions are not single-spaced. This is odd because the code indicates that they should be.

Table 3.2: A small table.

| Title | A uthor |
| :--- | ---: |
| War A nd P eace | Leo Tolstoy |
| The Great G atsby | F. Scott Fitzgerald |

## Chapter 4

## Previous Work

## Some other research was once performed.

A void LaTeX errors caused by an empty ..gure environment.

Figure 4.1: A ..rst ..gure.

A void LaTeX errors caused by an empty ..gure environment.

Figure 4.2: A second ..gure.

## Chapter 5

## Conclusion

## Appendix A

## Some A ncillary Stuæ

A ncillary material should be put in appendices, which appear after the bibliography.

