

# EigenSeminar: Notes Template

Your Name Goes Here

September 30, 2014

## Abstract

Your abstract.

## 1 Introduction

Your introduction goes here! Some examples of commonly used commands and features are listed below, to help you get started. If you have a question, please use the help menu (“?”) on the top bar to search for help or ask us a question.

## 2 Some L<sup>A</sup>T<sub>E</sub>X Examples

### 2.1 How to Leave Comments

Comments can be added to the margins of the document using the `todo` command, as shown in the example on the right. You can also add inline comments:

This is an inline comment.

Here's a comment in the margin!

### 2.2 How to Include Figures

First you have to upload the image file (JPEG, PNG or PDF) from your computer to writeLaTeX using the upload link the project menu. Then use the `includegraphics` command to include it in your document. Use the figure environment and the caption command to add a number and a caption to your figure. See the code for Figure 1 in this section for an example.

### 2.3 How to Make Tables

Use the `table` and `tabular` commands for basic tables — see Table 1, for example.

### 2.4 How to Write Mathematics

L<sup>A</sup>T<sub>E</sub>X is great at typesetting mathematics. Let  $X_1, X_2, \dots, X_n$  be a sequence of independent and identically distributed random variables with  $E[X_i] = \mu$  and

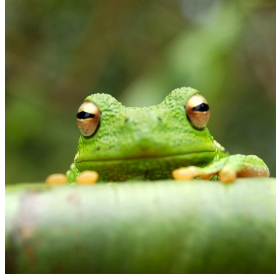


Figure 1: This frog was uploaded to writeLaTeX via the project menu.

Item	Quantity
Widgets	42
Gadgets	13

Table 1: An example table.

$\text{Var}[X_i] = \sigma^2 < \infty$ , and let

$$S_n = \frac{X_1 + X_2 + \cdots + X_n}{n} = \frac{1}{n} \sum_i^n X_i$$

denote their mean. Then as  $n$  approaches infinity, the random variables  $\sqrt{n}(S_n - \mu)$  converge in distribution to a normal  $\mathcal{N}(0, \sigma^2)$ .

You can also create **aligned** equations as follows:

$$a^2 + b^2 = c^2, \tag{1}$$

$$e^{i\theta} = \cos(\theta) + i \sin(\theta). \tag{2}$$

In the code,

```
\begin{align}
&a^2 + b^2 = c^2, \\
&e^{i\theta} = \cos(\theta) + i\sin(\theta).
\end{align}
```

the `&` tells L<sup>A</sup>T<sub>E</sub>X what you want to align.

## 2.5 How to Make Sections and Subsections

Use section and subsection commands to organize your document. L<sup>A</sup>T<sub>E</sub>X handles all the formatting and numbering automatically. Use `ref` and `label` commands for cross-references.

## 2.6 How to Make Lists

You can make lists with automatic numbering ...

1. Like this,
2. and like this.

...or bullet points ...

- Like this,
- and like this.

...or with words and descriptions ...

**Word** Definition

**Concept** Explanation

**Idea** Text

We hope you find write $\text{\LaTeX}$  useful, and please let us know if you have any feedback using the help menu above.