Your name here

Your title here

Metropolia Ammattikorkeakoulu

Tutkinto

Koulutusohjelma

Insinöörityö

09.04.2018

Metropolia

Tekijä(t)	Your name here
Otsikko	Otsikko
Sivumäärä	6 pages + 2 appendices
Aika	09.04.2018
Tutkinto	Tutkinto
Koulutusohjelma	Koulutusohjelma
Suuntautumisvaihtoehto	Suuntautumisvaihtoehto
Ohjaaja(t)	Ohjaajat
Tiivistelmä	
Avainsanat	avainsana

Metropolia

Author(s)	Your name here
Title	Your title here
Number of Pages	6 pages + 2 appendices
Date	9. huhtikuuta 2018
Degree	Bachelor of Engineering
Degree Programme	Name of your degree programme
Specialisation option	Name of your specialisation option
Instructor(s)	First name Last name, Title (for example: Project Manager)
	First name Last name, Title (for example: Principal Lecturer)
Abstract content	
Keywords	Keywords

Metropolia

Sisällys

Lyhenteet

OMG   Oh my god

WTF   What the F
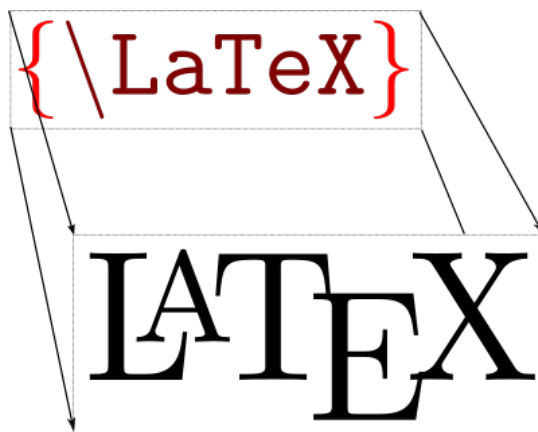
TL;DR   Too long, didn't read

1 Introduction

Ghantt chart Flow charts Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam aliquam aliquam purus, in ornare nulla imperdiet molestie. Nam tempus erat eu dui rhoncus et vestibulum mi elementum. Ut porttitor elit sit amet justo dignissim sit amet sagittis massa egestas. Mauris sed dolor eget dui fermentum sodales ut eu nibh.

1.1 Section

Here is an example how to add biblio entry [1] using the "cite" [2, section 4.2]. Note that a paragraph is added by forcing a new line.

And let also try the figure (see figure 1) and internal reference (with label and ref or vref). The reference can be done to any label, for example why not to appendix 1 or to appendix 2? To note, LATEX will place the figure to the best place (except with forcing). Let them float till the final of final edit… then force them to not break a paragraph.

Kuva 1: LATEX cover image (Copied from wikibooks.org (2012) [3]).

Let's also try a long quote: From the Universal Declaration of Human Rights:

(1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.
(2) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.
(3) Parents have a prior right to choose the kind of education that shall be given to their children. [4, article 26]

Quisque augue est, **elementum ac porttitor** non, porttitor ac orci. Donec hendrerit, ligula ac luctus egestas, sem dolor pretium nunc, sed vehicula magna diam a massa. Donec mattis, arcu et tempor mattis, risus tortor ultrices metus, nec sodales sem dolor eu elit.

- **A small hack** with list
- is to force the vertical space
- before and after the list

Nullam egestas enim at odio pellentesque bibendum.

1.1.1   Subsection

Donec et sapien ac leo condimentum vulputate id et tellus. Maecenas hendrerit malesuada interdum. Aenean dignissim sem faucibus elit congue faucibus id non risus. Morbi at dui non tortor pellentesque consequat non eget urna. Cras in sapien dui, a tincidunt velit.

1.1.2   Subsection with Math

Donec et sapien ac leo condimentum vulputate id et tellus. Maecenas hendrerit malesuada interdum. Aenean dignissim sem faucibus elit congue faucibus id non risus. Morbi at dui non tortor pellentesque consequat non eget urna. Cras in sapien dui, a tincidunt velit.

Ionivahvuus lasketaan kaavalla.

$$I = \frac{1}{2} \cdot \sum z_i^2 c_i \tag{1}$$

$$z_i = \text{ionin varausluku} \tag{2}$$

$$c_i = \text{ionin konsentraatio} \tag{3}$$

Aktiivisuuskerroin $\gamma_\pm$ lasketaan kaavalla.

$$\log \gamma_\pm = -|z_+ \cdot z_-| \, A \cdot I^{\frac{1}{2}} \tag{4}$$

$$A = 0,\!509 \ (\text{lämpötilassa } 25^\circ\text{C}) \tag{5}$$

$$I = \text{ionivahvuus} \tag{6}$$

$$z = \text{ionien varaus} \tag{7}$$

1.2 Section with Source Code

Donec et sapien ac leo condimentum vulputate id et tellus. Maecenas hendrerit malesuada interdum. Aenean dignissim sem faucibus elit congue faucibus id non risus. Morbi at dui non tortor pellentesque consequat non eget urna. Cras in sapien dui, a tincidunt velit.

```php
1
2  <?php
3  $userName = $_POST["usern"];
4  //maybe not?
5  if ($userName){
6    ?>
7    <h2>Hello <?php echo $userName; ?>!</h2>
8    <p>your message got received.</p>
9    <?php
10 }
11 ?>
```

Listing 1: Descriptive Caption Text

As see in listing 1: Donec et sapien ac leo condimentum vulputate id et tellus. Maecenas hendrerit malesuada interdum. Aenean dignissim sem faucibus elit congue faucibus id non risus. Morbi at dui non tortor pellentesque consequat non eget urna. Cras in sapien dui, a tincidunt velit.

1.3 Section with Table

Donec et sapien ac leo condimentum vulputate id et tellus. Maecenas hendrerit malesuada interdum. Aenean dignissim sem faucibus elit congue faucibus id non risus. Morbi at dui non tortor pellentesque consequat non eget urna. Cras in sapien dui, a tincidunt velit.

Taulukko 1: Some data

Test 1	test 1234 test
Some more date comes here	with more values and if the text is very long it will disappear out of the box unless you force the column size :(

As presented in table 1: Donec et sapien ac leo condimentum vulputate id et tellus. Maecenas hendrerit malesuada interdum. Aenean dignissim sem faucibus elit congue faucibus id non risus. Morbi at dui non tortor pellentesque consequat non eget urna. Cras in sapien dui, a tincidunt velit.

Taulukko 2: Another table with tabularx

Test 1	test 1234 test
Some more date comes here	with more values and if the text is very long it will disappear out of the box unless you force the table size :(

As presented in table 2: Donec et sapien ac leo condimentum vulputate id et tellus. Maecenas hendrerit malesuada interdum. Aenean dignissim sem faucibus elit congue faucibus id non risus. Morbi at dui non tortor pellentesque consequat non eget urna. Cras in sapien dui, a tincidunt velit.

2 Background

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ac luctus egestas, sem dolor pretium nunc, sed vehicula magna diam a massa. Donec mattis, arcu et tempor mattis, risus tortor ultrices metus, nec sodales sem dolor eu elit. Nullam egestas enim at odio pellentesque bibendum.

Donec et sapien ac leo condimentum vulputate id et tellus. Maecenas hendrerit malesuada interdum. Aenean dignissim sem faucibus elit congue faucibus id non risus. Morbi at dui non tortor pellentesque consequat non eget urna. Cras in sapien dui, a tincidunt velit.

3   Third Chapter

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Donec et sapien ac leo condimentum vulputate id et tellus. Maecenas hendrerit malesuada interdum. Aenean dignissim sem faucibus elit congue faucibus id non risus. Morbi at dui non tortor pellentesque consequat non eget urna. Cras in sapien dui, a tincidunt velit.

3.1   Section

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sed dolor eget dui fermentum sodales ut eu nibh.

3.2 Section

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Lähteet

1   Kopka, Helmut. Guide to LaTeX. Boston: Addison-Wesley; 2004.

2   Tobias Oetiker, Hubert Partl, Irene Hyna, Elisabeth Schlegl. The Not So Short Introduction to LaTeX2e. Switzerland; 2011.

3   LaTeX. wikibooks.org; 2012. Available from: `http://en.wikibooks.org/wiki/LaTeX` [cited November 05, 2012].

4   international community UN. The Universal Declaration of Human Rights. 1948;Available from: `http://www.un.org/en/documents/udhr`.

1   My First Appendix

Note that every appendix will be a chapter.

Sorry for the ugly hack on how to count the total pages per appendix.

Of course with section and subsection.

1.1   Appendix Section

And you can cite [2] stuff, it will go into the main bibliography.

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1.1.1   With a Subsection

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ac luctus egestas, sem dolor pretium nunc, sed vehicula magna diam a massa. Donec mattis, arcu et tempor mattis, risus tortor ultrices metus, nec sodales sem dolor eu elit. Nullam egestas enim at odio pellentesque bibendum.

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2   My Second Appendix

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Quisque augue est, elementum ac porttitor non, porttitor ac orci. Donec hendrerit, ligula ac luctus egestas, sem dolor pretium nunc, sed vehicula magna diam a massa. Donec mattis, arcu et tempor mattis, risus tortor ultrices metus, nec sodales sem dolor eu elit. Nullam egestas enim at odio pellentesque bibendum.