

## TITLE

Student 1, Student 2, Supervisor 1, Supervisor 2, Promoter  
Department of Electromechanical, Systems and Metal Engineering  
Ghent University  
Sint-Pietersnieuwstraat 41, B9000 Gent, Belgium  
E-mail: E-mail

### ABSTRACT

The abstract of your paper should be located here. It should be a single paragraph and complete in itself (no references or equations). It should indicate the subjects dealt with in the paper and state the objectives of the investigation in about 200 words. Newly observed facts and conclusions of the experiment or argument discussed in the paper must be stated in summary form.

### INTRODUCTION

This document is a L<sup>A</sup>T<sub>E</sub>X [1] template for the paper that should be included in the master thesis of the students of the research group Applied Thermodynamics and Heat Transfer. A similar template is available for MS Word documents. The length of the paper should be six pages, double column.

### CONTENTS

The first section of the paper is the abstract. The content required for the abstract is discussed in this section.

On the first page and on top of the right column, the table with the nomenclature used in the paper should be visible. All symbols used in the text should be placed in alphabetic order in this table, together with their respective unit and explanation. A separate section is provided for special characters (Greek, cursive, ...). A final section is available for the used subscripts.

The first section of the main text is the introduction. This part explains the global context of the research. Related research works are referenced and used to explain why this work is unique, needed or necessary.

The next sections typically consists three main parts, however the division in sections is up to the author and does not have to be strictly related to the three parts. In a first part, the manner of execution of the research in described. This can be the equations

### NOMENCLATURE

D	[m]	Diameter
f	[–]	Friction factor
Nu	[–]	Nusselt number
Pr	[–]	Prandtl number
Re	[–]	Reynolds number
v	[m/s]	Flow velocity
Special characters		
$\nu$	[m <sup>2</sup> /s]	Kinematic viscosity
Subscripts		
d		Darcy
h		Hydraulic

used for modelling, the set-up design for experiments, etc. The second part is displaying the results of the work, usually in the form of figures and graphs. After the results, a discussion is made regarding the results. Explain if the results are expected or unexpected, concur with the current premises in literature or not, etc. This last part can also be combined with the second part.

At the end of the main text, a conclusion is added. In the conclusion, the main results of the work are repeated. It should consist of the main ideas, principles, etc. that a reader should remember after having read the paper.

The last part of the paper are the references. The IEEE style is used in this paper. The references are numbered and ordered chronologically as they appear in the text. Referencing in the text is done by adding the number of the respective paper in between square brackets in or at the end of a sentence.

### TEXT FORMATTING

The paper formatting should remain the same as in the template (A4 paper, double column, 10pt font size). Please do not number the pages of your paper. The body of the text is justified. Footnotes should be

avoided.

The section titles are used as defined in the template, do not number them. The main section title is 10pt upper-case bold. The subsection title is 10pt bold. Do not use further subdivisions in the text, this should be avoided in scientific papers.

Equations are entered using the standard equation environment or equivalent environments in L<sup>A</sup>T<sub>E</sub>X. Arabic numerals are used to number the equations, enclosed between parentheses and right-aligned, as shown in equations 1 and 2. Equations are referenced as shown in the previous sentence. All the symbols and notation must be defined where they are first used in the text, as well as in the nomenclature. Physical quantities must be expressed in the SI (metric) units.

$$Re = \frac{vD_h}{\nu} \quad (1)$$

$$Nu = \frac{(f_d/8)(Re - 1000)Pr}{1 + 12.7(f_d/8)^{1/2}(Pr^{2/3} - 1)} \quad (2)$$

Equation 1 defines the Reynolds number  $Re$ , using the flow velocity  $v$ , the hydraulic diameter  $D_h$  and the kinematic viscosity  $\nu$ . Equation 2 is the Gnielinski correlation for internal turbulent flow, forced convective heat transfer [2]. The symbols used are the Nusselt number  $Nu$ , the Darcy friction factor  $f_d$  and the Prandtl number  $Pr$ .

Figures and tables are placed in the text using the standard figure and table environments or equivalent environments, as shown in figure 1 and table 1. Figures and tables are referred to as shown in the previous sentence. The figures and tables themselves as well as their captions are centered.

Figure 1: This is the caption of an example figure.

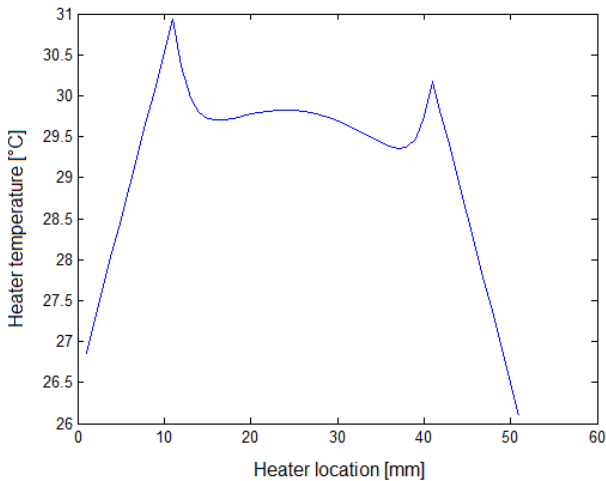


Table 1: This is the caption of an example table.

	Attribute A	Attribute B
Experiment 1	1 m	2 s
Experiment 2	2 m	5 s

The caption for figures should be located below the figure. Make sure the all lines are clearly visible and that there is a clear color or formatting contrast between different lines. Axis labels and legends should be large enough (approximately the same size as the body text) to be legible. The quality of the figures should be high enough to have clear and sharp images.

The caption of a table is located above the table. The font size and style of the text in tables should be similar to that of the body text. The table borders can be chosen freely.

## CONCLUSION

This document provides a template for master thesis students to make a paper using L<sup>A</sup>T<sub>E</sub>X. It explains what is expected of the content and of the formatting of the paper.

## REFERENCES

- [1] “LaTeX - a document preparation system.” URL: <https://www.latex-project.org/>. Accessed: 2017-04-25.
- [2] V. Gnielinski, “New equations for heat and mass-transfer in turbulent pipe and channel flow,” *International chemical engineering*, vol. 16, no. 2, pp. 359–368, 1976.