Technische Universität München

Institute of Flight System Dynamics

Title

–

Deutscher Titel der Arbeit

Wählen Sie ein Element aus.

Author:

Matriculation number:

Supervisor:

August 2018

Statutory Declaration

I, , declare on oath towards the Institute of Flight System Dynamics of Technische Universität München, that I have prepared the present BA/SA/MA independently and with the aid of nothing but the resources listed in the bibliography.

This thesis has neither as-is nor similarly been submitted to any other university.

Garching,

Kurzfassung

Deutsche Kurzfassung der Arbeit.

Abstract

English abstract of the thesis.

Table of Contents

List of Figures

List of Tables

Table of Acronyms

Acronym	Description
ADF	Automatic Direction Finder
ADI	Automatic Direction Indicator

Table of Symbols

Latin Letters

Symbol	Unit	Description
F	N	Force
g	m/s^2	Gravitational acceleration

Greek Letters

Symbol	Unit	Description
α	rad	Angle of attack
ζ	–	Damping of a linear second order system

Indices

Symbol	Unit	Description
m		Variable related to pitch moment
W		Wind

1 Introduction

The Introduction shall give a short overview over the chapters. Here, this section is used to explain the formatting of thesis papers at FSD.

1.1 General

This template works best, when using "English" as Language in Word, since otherwise some references to styles might not be processed correctly. First of all, enter your name and the title of the thesis in the word 'file' tab (see Figure 1-1). By doing this, all occurrences of the name and tile in this document will be replaced accordingly when refreshing the document.
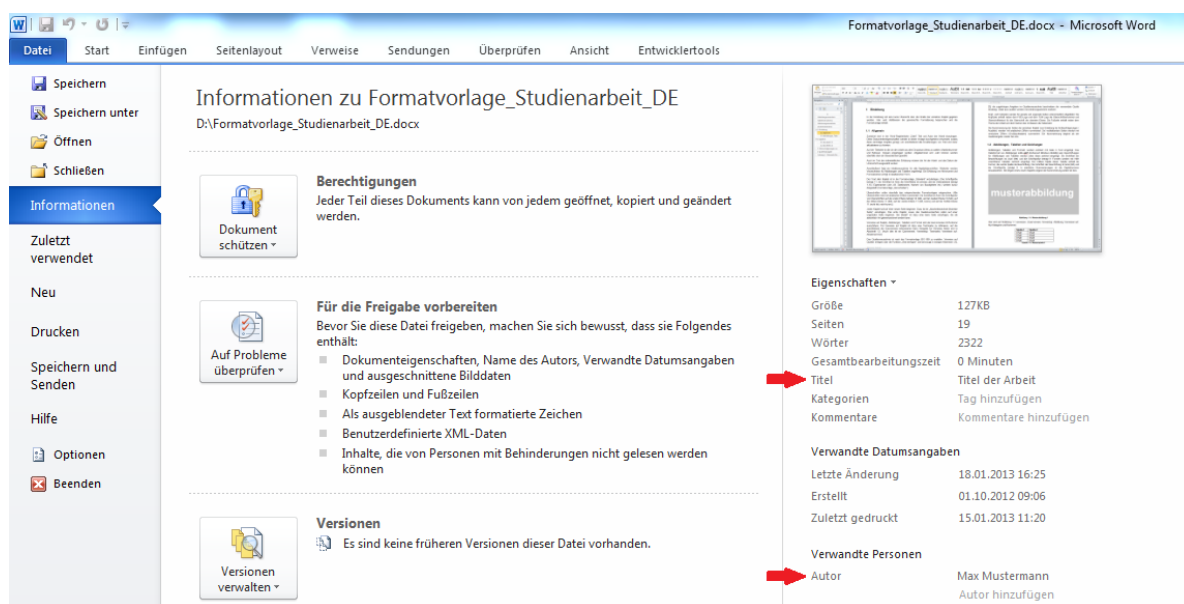

Figure 1-1: Titel und Autor als Dokumenteigenschaften

Enter the German title of the thesis on the first page, and choose the appropriate type from the drop-down menu. Matriculation number and supervisor have to be filled in, and the date when the thesis is handed in can be chosen via an interactive element.

In the text of the Statutory Declaration, the type of work and hand-in date have to be filled in.

On the following page, a German and an English Abstract have to be included, followed by a table of contents for all headings Furthermore, tables for figures and tables have to be included, and the explanation of abbreviations and the nomenclature have to be included in the form of tables.

The text of all chapter is to be written in justified alignment, with a font size of 11 and in 'Arial'. The font color is black, and the line spacing is to be set to 1.15 (the "Normal" Style in this template). Names (file names, name of bus objects etc.) are to be written in italics ("Emphasis" Style in this template).

Headings are numerated with Arabic characters and are again to be written in Arial. The font

sizes are as follows (Microsoft standard with black font and written in Arial):

First level = Chapters: 14, bold (Style "Heading 1")
Second level: 13, bold (Style "Heading 2")
Third level: 11, bold (Style "Heading 3")
Fourth level: 11, bold, italic (Style "Heading 4")
Fifth level: 11, non-bold, non-italic (Style "Heading 5")

Every chapter (style "Heading 1") automatically starts on a new page. Abstracts, Contents and Lists, the first chapter and the bibliography have to start on an uneven page ($\rightarrow$ "section break (odd page)")

References to sections, figures, tables and equations are to be done as cross references. Examples for references can be found in section **Fehler! Verweisquelle konnte nicht gefunden werden..**

The bibliography is to be included according to the IEEE style, and references to sources are preferably to be included in square brackets [**?**], [**?**]. The respective bibliography item has to describe the source clearly without ambiguity and citations from sources have to be marked with quotation marks.

Headers and footers are different for even and uneven pages. The header contains the FSD and TUM logo, the current heading number and heading text for the first level. The footer contains the topic, name of the author and page number.

The page numbers of the chapters (introduction until conclusion) are numerated in Arabic characters. The rest are numerated with Latin characters, where the enumeration starts anew from 1 with the Bibliography.

1.2   Figures, tables and equations

Figures, tables and equations are to be centered in a separate line. The file format for figures should be *.emf (enhanced windows metafile) and captions for figures and tables are to be inserted below and centered. The font of the caption is Arial (bold) and the font size is 9. Equations are centered with the aid of invisible tables: The middle column contains the equation, the right column the equation number. The font of the equation number is Arial (bold) and the font-size is 9. In every caption, the chapter number is to be included, and with the beginning of every new chapter, the enumeration starts again at 1. Due to the complexity of this layout element, the best way to create new equations is by copying and pasting an existing equation. The equation then first is displayed to be the same as the one copied from. This is updated when performing printing or print preview, or by selecting the equation number and pressing the F9-key.

Figure 1-2: Sample figure 1

Here, it is referenced to Figure 1-2 (cross-reference, Reference Type: Figure, Insert reference to: only label and number)

Column 1	Column 2
Content	Content
Content	Content
Content	Content
Content	Content

Table 1-1: Sample table 1

This is a reference to Table 1-1. (Cross-reference, Reference Type: Figure, Insert reference to: only label and number)

$$R_m = 10 + \left(\frac{1}{-8.3^{n-1}} \right) \prod_{i=1}^{n} (R_i - 10) \tag{1.1}$$

Reference to equation 1.1. (Cross-reference, Reference Type: Equation, Insert reference to: entire caption) The following section 2 contains further example text, figures, tables and equations. In section 3 some concluding remarks can be found. Here, we use the acronym Automatic Direction Finder (ADF). The second acronym is Automatic Direction Indicator (ADI). After the first usage of the 1st acronym, only the short version is used: ADF.

2   Section 2

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

2.1   Subsection 2.1

2.1.1   Subsection 2.1.1

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi.

Figure 2-1: Sample figure 2

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan

et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi.

Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

	Column 1	Column 2
Line 1	Content	Content
Line 2	Content	Content
Line 3	Content	Content

Table 2-1: Sample table 2

Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

2.1.2 Subsection 2.1.2

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi.

	Column 1	Column 2
Line 1	Content	Content
Line 2	Content	Content
Line 3	Content	Content
Line 4	Content	Content

Table 2-2: Sample table 3

Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

$$R_m = 10 + \left(\frac{1}{-8.3^{n-1}} \right) \prod_{i=1}^{n} (R_i - 10) \tag{2.1}$$

Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

$$R_m = 10 + \left(\frac{1}{-8.3^{n-1}} \right) \prod_{i=1}^{n} (R_i - 10) \tag{2.2}$$

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

2.2   Subsection 2.2

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait

nulla facilisi. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

3 Conclusions and perspective

In this chapter, concluding remarks should be mentioned and an outlook to future work shall be given.

Appendix

First Name Last Name