

**Jesper Bachelor**

Thesis Subtitle

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A thesis presented for the degree of  
PBA in Software development

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# 1 Bachelor requirements

"In their bachelor's project, the student must document the ability to work with a complex and practice-oriented issue in relation to a specific IT project, using an analytical and systematic basis.

For further elaboration on learning objectives for the bachelor project see the curriculum" [4]

## 1.1 General idea of bachelor thesis

There are many different elements our report must contain, they can be found here: CPH Business bachelor kick off

. A students bachelor project has be based on their internship project, unless there is a special reason for it not to be.

## 1.2 Content

The thesis must have a main focus no one or multiple of our major subjects being: System integration, Test, Databases, Large systems development

## 1.3 Flow of the report in loose terms

Firstly; Find a relevant problem at your internship of choice

- Title page
- Abstract
- Present the problem
- Describe the theory / background of the problem ( Why is it a problem)
- Analyse the problem using methods learnt in your major subjects
- Analyse and reflect on the methods you used, could you have done things differently? always reflect on your choices and compare to other viable methods
- Present the results of the project based on the methods you applied and what you built
- Analyse your process through your internship - which process development techniques were applied? Reflect on your choices
- Conclude and discuss
- Include Bibliography & Appendices

## 1.4 Formalities

- Maximum size: 40 normal pages + 20 pages for each student[4]
- there is no minimum but it should not be shorter than 2/3rds of maximum[4]
- a bachelor covers 15 ECTS[4]

The project must involve your major subjects from your bachelor degree and it is recommended that your bachelor project builds on your internship[4]

## 1.5 Links supporting the general idea

Another universities approach, They have the same requirements as our school has regarding solving the bachelor thesis. Put simply; find a problem, present the problem, apply methods used in school, conclude and discuss

## 1.6 Conclusion

Other universities have the same approach as our school does, so we can conclude our schools approach to writing a bachelor thesis to be sufficient and up to the standards of other schools

## 2 Graphics section

Figure 1: Caption over image, this is an onion, by the way!



Figure 2: Caption underneath an image



(a) label 1



(b) label 2

Figure 3: 2 Figures side by side

### **3 Reference section**

Referencing the second onion picture by page number and figure number :) And you can find your desired onion on page: 3, figure: 2

And you can find your desired DUAL onionSS on page: 3, figure: 3

## 4 Sections

This is a normal numbered section section

**This section isnt numbered**

## 5 Lists

Normal bullet point list

- One entry in the list
- Another entry in the list

Numbered list & alternative numbered list

1. First level item
2. First level item
  - V Second level item
  - VI Second level item
    - i. Third level item
    - ii. Third level item
      - A. Fourth level item
      - B. Fourth level item

Alternative bullet point

- asdasd
- dsfsdf

## 6 Tables

Product	1	2	3	4	5
Price	124.-	136.-	85.-	156.-	23.-
Guarantee [years]	1	2	-	3	1
Rating	89%	84%	51%		45%
Recommended	yes	yes	no	no	no

Table 1: This is a table template

And you can find your desired table on page: 6 table number: 1

## 7 Code listing

Added line numbers, so we can reference each line and explain what happens when writing our bachelor



```

1 import numpy as np
2
3 def incmatrix(genl1, genl2):
4     m = len(genl1)
5     n = len(genl2)
6     M = None #to become the incidence matrix
7     VT = np.zeros((n*m,1), int) #dummy variable
8
9     #compute the bitwise xor matrix
10    M1 = bitxormatrix(genl1)
11    M2 = np.triu(bitxormatrix(genl2),1)
12
13    for i in range(m-1):
14        for j in range(i+1, m):
15            [r, c] = np.where(M2 == M1[i, j])
16            for k in range(len(r)):
17                VT[(i)*n + r[k]] = 1;
18                VT[(i)*n + c[k]] = 1;
19                VT[(j)*n + r[k]] = 1;
20                VT[(j)*n + c[k]] = 1;
21
22            if M is None:
23                M = np.copy(VT)
24            else:
25                M = np.concatenate((M, VT), 1)
26
27            VT = np.zeros((n*m,1), int)
28
29    return M

```

## 8 Bibliography

In this section i will reference the below

We hereby conclude this by the knowledge of the book *The L<sup>A</sup>T<sub>E</sub>X Companion* [1]

## References

- [1] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The L<sup>A</sup>T<sub>E</sub>X Companion*. Addison-Wesley, Reading, Massachusetts, 1993.
- [2] Albert Einstein. *Zur Elektrodynamik bewegter Körper*. (German) [*On the electrodynamics of moving bodies*]. Annalen der Physik, 322(10):891–921, 1905.
- [3] Knuth: Computers and Typesetting,  
<http://www-cs-faculty.stanford.edu/~uno/abcde.html>
- [4] CPH Business,  
<https://datsoftlyngby.github.io/soft2019spring/BAP-Kick-off.pdf>

## 9 Todo's

But I'm worried about the text

lateX is the greatest of all time