

# Are doctoral theses changing over time?

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## Introduction

As with most doctoral-awarding institutions, the University of Auckland has a maximum thesis word limit. Candidates attending our Doctoral Skills Programme often want to know how long their theses should be. Since there is no minimum word limit our advice used to be:

**“as long as it needs to be to meet the requirements of the PhD statute but fewer than 100,000 words.”**

While this answer is true, it is not helpful for new candidates wanting specificity. Therefore, to give new candidates a more precise answer we decided to analyse the repository of doctoral theses held at the University of Auckland Library.

## Aims

1. Calculate the median length and chapter number of a University of Auckland doctoral thesis and evaluate any changes over an eight-year time frame (2008-2015).
2. Detect any patterns in thesis length and composition between doctoral theses in STEM and non-STEM disciplines.
3. Determine if the introduction of a 'doctoral thesis with publication' model in 2011 has altered length and chapter structure.

## Methods

Candidates are required to submit a digital copy of their doctoral thesis to the University of Auckland Library. We generated a random sample of 100 doctoral thesis titles for each year from 2008 to 2015 by typing the year into the search engine. Each thesis was downloaded and analysed using a common coding system. Embargoed theses were excluded from the study and in these instances the 101<sup>st</sup>, 102<sup>nd</sup>, etc. thesis title from the list was analysed until a sample of 100 was reached. In total 800 doctoral theses comprised this study.

Table 1: Coding system used to analyse thesis structure.

Pages	First Arabic numeral to the final page of the thesis prior to the bibliography/reference list and/or appendices.
Chapters	Body of the thesis (excluding the prescribed front and end materials).
Thesis with publication	Evidence of publications (such as formal signed co-authorship form and/or publisher's copyright approval notice) within the thesis.
STEM	Engineering, Science, Medical and Health Sciences, Bioengineering Institute, Liggins Institute.
Non-STEM	Arts, Business and Economics, Creative Arts and Industries, Education and Social Work, Law.

## References

Berelson, B. (1960). *Graduate Education in the United States*. New York, NY: McGraw-Hill Book Company Inc.

## Results and discussion

### 1. Is the median number of chapters and pages changing over time?

The number of chapters remained stable over the 2008-2015 period, between 7 and 8 chapters (median). However, whilst the number of pages remained stable around 200 pages between 2008 and 2014, we see a large drop from 2008 (218 pages) to 2015 (178 pages). This drop may be a result of the increased number of theses with publication that we see in 2015.

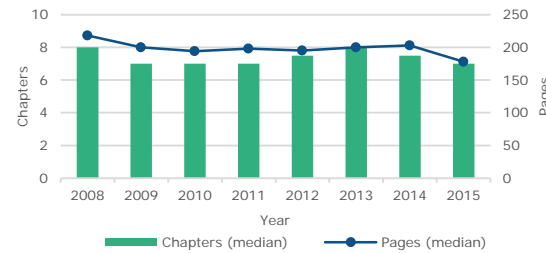


Figure 1. Median number of chapters and pages in a University of Auckland thesis from 2008-2015.

### 2. Is there any difference between theses from STEM and non-STEM disciplines in terms of length and composition?

Generally, STEM and non-STEM theses had similar numbers of chapters (7-8). However, STEM theses tended to be much shorter than non-STEM theses. Since 2009, the median number of pages for a STEM thesis is below 200 pages and trending downwards towards 150 pages. Non-STEM theses hovered between 225 and 250 pages from 2008 to 2015, but over the last few years also appear to be trending slightly downwards. A survey of thesis length conducted in the United States in 1957-58 found a similar result that STEM subjects (Physical (105 pages) and Biological Sciences (108 pages)) tended to be much shorter than those originating from Social Sciences (226 pages) and Humanities (285) (Berelson, 1960).

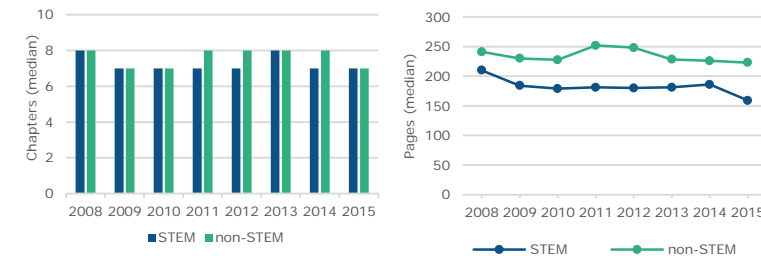


Figure 2. STEM vs non-STEM. Median number of chapters (left). Median number of pages (right).

### 3. Has the introduction of a 'doctoral thesis with publication' model in 2011 altered length and chapter structure?

The number of theses with publication has more than doubled from 20% in 2008 to 44% in 2015. We think the large number of theses with publication in 2015 is a result of completion by doctoral candidates who started in 2011 when this option was introduced. In 2015, the majority of theses with publication originated from STEM faculties, especially Science and Engineering.

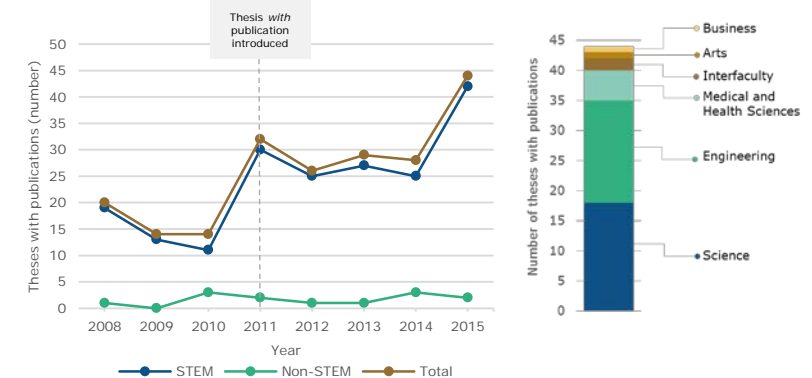


Figure 3. Number of theses with publication from 2008-2015 (left). Number of theses with publication in 2015 by discipline (right).

## Conclusions

1. The number of chapters and pages remained stable from 2008-2014. However, 2015 saw a drop in the number of pages and a jump in the number of theses with publication.
2. STEM and non-STEM theses consist of similar chapter numbers, but STEM theses are generally shorter.
3. A thesis with publication option was introduced at the University of Auckland in 2011. Four years later we see an increase in the number of theses with publications, especially in the STEM subjects and we expect this trend to continue.

