Master of Surgery (Coursework Program)
Requirements for Dissertation

Definition

The dissertation is based on a piece of research work that has direct relevance to the subject area of the Masters program and is a formal academic composition which clearly states equivalent to the work required for one journal article.

Roles and responsibilities
(a) Students are ultimately responsible for their own work.
(b) Supervisors are responsible for offering tailored guidance and constructive feedback.
(c) Supervisors and students must discuss their respective roles and the expectations and requirements of the degree. They must reach a common understanding of:
> (i) key project aims;
> (ii) key milestones;
> (iii) proposed timetable; and
> (iv) methods of working together, and must revisit these regularly to ensure that the project stays on track

Quality of relationships
(a) Supervisors and students must establish and maintain clear communication, which means actively clarifying any misunderstandings or divergent expectations as they arise.
(b) Giving and receiving critical feedback, and learning how to use it effectively, are integral aspects of the research process. Supervisors and students should undertake these activities with a spirit of goodwill and a common focus on producing quality learning as well as quality work.
(c) Supervisors should be responsive to students' changing needs at different stages of the project.

Format

A formal academic composition which clearly states the context and importance or relevance of the subject matter, specifies the research question(s) or aim(s), outlines existing knowledge which has a bearing on the research, describes methods used and results obtained, critically discusses these in the light of existing knowledge, and ends with the formulation of conclusions and/or recommendations. The expected length varies according to the approach and subject matter, but the main text should not usually be longer than 15,000 words (SURG5008) or 10,000 words (SURG5051) (60 to 100 pages depending on typestyle and spacing).

Conditions

The research for the dissertation must be undertaken during the student's candidature. If the research is based on an established data set, the analysis which forms the basis of the dissertation must be undertaken during candidature. In other words, work or papers that were written prior to enrolment will not be accepted.

Suitable research activities for the dissertation include:

- The collection and analysis of new data
- The analysis of an established data set or clinical database
- A meta-analysis
- Systematic review
- Prospective cohort study
- Retrospective cohort study

All candidates must discuss their dissertation topic with their supervisors before they begin.

Academic Honesty

All candidates should be aware of the University of Sydney Academic Board Resolutions – Academic Honesty in Coursework which is available in full at http://www.usyd.edu.au/ab/policies/Academic_Honesty_Cwk.pdf

Structure

Introduction and/or background
This section or chapter serves to introduce the subject of your dissertation to the reader and to discuss the reasons or justification for the work i.e., the knowledge gap. Usually, the aims and objectives of the project will be discussed, and a hypothesis of the expected outcomes will be stated. This section may also include a literature review or describe the events leading up to the project.

Methods
The methodology of your study must be documented in detail, dealing with sampling issues (description of target population, method of sample selection), the study procedure (a flow diagram may be useful), measurement issues (details of how each variable was measured, justification of choice of measurement instruments) and data analysis methods. You should discuss any methodological problems such as sources of bias, repeatability and validity of measurements, and logistic problems.

Results
The results section should include the sample size and a presentation of response rates, a description of the study population, descriptive statistics of other variables, results of tests of hypotheses and other statistical analyses. In a formal dissertation, there may be more than one chapter of results, depending on the design of your study and the number of research questions or hypotheses that you are examining. Where there is only one results section or chapter, you may wish to discuss and interpret the results in a separate discussion section. Where there are several results chapters, the results may be interpreted and discussed at the end of each chapter. Try to avoid any discussion of the results when you are presenting them.

Discussion
In this section, the results are interpreted. The discussion should include an examination of the practical implication of the results. A comparison of findings should be made between the study performed and other studies. The limitations of the methodology should be kept in mind and referred to where appropriate. Try to avoid making sweeping or dogmatic statements about your results. Future areas of work should also be described.

Conclusions and recommendations
It is essential to have a summary or concluding section. Often it will be appropriate to make recommendations based on your findings and these may also be included in the final section.

References
Part of what you are being tested on when you write a dissertation is your ability to relate your work to that of others in the field and to acknowledge your indebtedness to earlier researchers. You must give a reference to all sources cited in the text. There are two main reasons for giving a reference:

(1) to allow the reader to find a source which you are quoting or paraphrasing, and

(2) to support a claim of scientific fact.

There is no need to support claims for universally accepted statements, trivial points or matters that you have observed yourself. To support a claim, you should refer to a

study that investigated and demonstrated the point in question, or to a reputable review or meta-analysis of studies of the question.

Referring to other people's unsubstantiated opinions does not support a claim.

Avoid using abstracts, unpublished observations, or personal communications as references to support claims.

If you use someone else's ideas or words (whether paraphrased or quoted in full), give a full reference that would enable the reader to find the source. Failure to do this is plagiarism. Nor is it acceptable to copy passages of someone else's work and present it, either verbatim or slightly altered, as if it were your own writing, even if you acknowledge the source at the end of the paragraph. Summarise or paraphrase it briefly in your own words. **(See also page 7 under 'Quotations'.)**

Bibliography
If necessary, you may also include a list of other works you have consulted but not cited.

Appendixes
Information not required in the text itself but relevant to the dissertation may be included in an appendix.

The Parts of a Dissertation

- title page
- abstract or summary
- acknowledgments
- note on the author's contribution
- table of contents
- list of tables
- list of figures
- list of special names or abbreviations
- main text
- references
- appendix(es)

Title page
The title page should include the title of the dissertation, your name, the month and year of publication, and the statement 'This dissertation is submitted in partial satisfaction of the requirements for the Degree of Master of Surgery, University of Sydney.' (partial because the other requirement is coursework).

Abstract or summary
This should preferably fit on one typed page and should be about 300 words long. State the purposes of the study or investigation, basic procedures (e.g. selection of study subjects and observational and analytical methods), main findings (specific data and their statistical significance, if possible) and the principal conclusions you have drawn from the findings. The abstract should be a highly condensed version of the central reasons for your study, your methods, results, and conclusions. The abstract should not have any footnotes or references to the literature, or any tables

or figures.

Acknowledgments
It is courteous to acknowledge anyone who has given you assistance (financial, practical, emotional, or academic), and especially to cite those who designed the project or carried out the data collection if you were not involved at those stages.

Note on the author's contribution
If you were not involved at all stages of the research project, or if major decisions affecting your work were made by other people, you should make clear exactly what your role was.

Table of contents
List the chapters or sections, subheadings, and appendices, with page numbers. Start with the introduction; omit the prefatory matter, such as the dedication, preceding the contents list. Look at some published books for examples of setting out. If your sections are not numbered you can put the page numbers on the left, before the section titles, which avoids either large gaps between section titles and numbers, or long lines of leader dots. If your contents list comes to more than two pages, it is probably too detailed. Omit minor subheadings to make it a more useful size.

Lists of tables, figures and illustrations
Make sure that the titles appear exactly as on the tables and figures themselves.

List of special names or abbreviations (if appropriate)
If there are special terms used in the text, or common terms used in a special sense, or many abbreviations, it is helpful to list and explain them here. However, it is easier for your readers if you use as few abbreviations in the text as possible, except for very common ones such as NSW.

Main text
Begin each chapter/section on a new page. Make sure you are consistent about the use of numbering or different type styles (such as bold and italic or underlined) to indicate levels of headings. Avoid footnotes; put the parenthetical matter in the text or in an appendix or omit it altogether if it is inessential.

Quotations
Avoid long direct quotations in the text unless the exact form of words used by the author is essential to your argument. Short quotations (less than two or three lines) should be enclosed in quotation marks. Decide whether you want single or double quotation marks and stick to your rule throughout (whether you are quoting someone's words or using quotation marks merely to emphasise a word or phrase, or to qualify your use of it). The only exception is for a quotation within a quotation, when you switch style, i.e. if you are using single quotation marks, the inner quotation has double quotation marks around it.

Quotations longer than two or three lines can be displayed, i.e. set out with a blank line above and below, indented, more narrowly spaced and perhaps in smaller type. Do not use quotation marks in displayed quotations (unless there is a quotation within the quotation). Quoted material should be letter-for-letter the same as the original. If there is an error in the original that might be confusing to your reader, add the word 'sic' in parentheses after it. If you omit any words from the original, indicate the omission with three dots (. . .); there is no need to use three dots at the start or end of a quotation unless for some special reason you need to emphasise that your extract begins in the middle of something. If you add words of your own, either in explanation or to adjust the grammar of the quotation so that it fits into your own sentence, enclose the interpolated words in square brackets.

Tables

Tables should be as simple and clear as possible. For a formal dissertation, you may provide fuller, more complex tables than you would normally use for other publications such as journal articles. Very large tables can be included in an appendix, and simpler tables or graphs used in the body of the text to display summary information.

Tables may appear

- at the appropriate point in the text
- on a separate page in the text after the page referring to the table
- in a separate section at the end of the section or chapter

The title of the table should appear above the table and tell what the data represent: who, where, when and what. The source of any data not your own should be indicated in a footnote underthe table.

Figures (diagrams)
Keep graphs simple and avoid arty computer graphics such as unnecessary shading, confusing diagonal hatching or three-dimensional effects. The title of the figure should appear below the figure.

Lists
Lists can be incorporated within a sentence, introduced by a colon, with the items separated by commas. If individual items contain commas the items may be separated by semicolons. If the list is set out vertically there is no need for punctuation at the end of each item. Beconsistent about the style you use for set-out lists - do not switch from bracketed numbers to unbracketed numbers, or to bracketed letters, 'bullets' (·) etc. Bullets are preferable to asterisks or dashes for lists where no order or hierarchy is intended.

References
You must use a consistent referencing style within your dissertation. The preferred referencing method is Vancouver system, however you may choose to use another method without being penalized.
A guide to referencing can be found at https://libguides.library.usyd.edu.au/citation

Appendixes
Information not required in the text itself but relevant to the dissertation may be

included in an appendix for examples study instruments, letters to facilitate participation, consent forms. Manuscripts submitted and/or accepted for publication may also be included in the appendix. Sections of the manuscript may also be included in the body of the dissertation which can contribute towards the word count. For example, the introduction of your manuscript may be used to provide some background to the dissertation, however this will need to be expanded by providing a detailed literature review. Please note that it is insufficient to submit a manuscript for the dissertation.

Assessment

The primary supervisor will grade the dissertation as satisfactory or unsatisfactory. If the dissertation is marked unsatisfactory at this point, the supervisor and candidate will meet to discuss the dissertation.

All satisfactory dissertations will be forward for independent assessment and grading by one examiner (generally, the Unit Coordinator). The examiner will be independent to the research project/team. The dissertation will be graded as per the standard University of Sydney policy i.e. high distinction, distinction, credit, pass, fail. The dissertation cover sheet must be attached with the primary supervisor indicating satisfactory completion.

Meta-analysis is a statistical technique for combining the findings from independent studies. Meta-analysis is most often used to assess the clinical effectiveness of healthcare interventions; it does this by combining data from two or more randomised control trials. Meta-analyses are often, but not always, important components of a systematic review procedure. For instance, a meta-analysis may be conducted on several clinical trials of a medical treatment, to obtain a better understanding of how well the treatment works. Here it is convenient to follow the terminology used by the Cochrane Collaboration, and use "meta-analysis" to refer to statistical methods of combining evidence, leaving other aspects of 'research synthesis' or 'evidence synthesis', such as combining information from qualitative studies, for the more general context of systematic reviews.

A **systematic review** is a form of literature review that collects and looks at multiple studies. A review is usually quicker and cheaper than embarking on a new study. Researchers use methods that are determined before they begin to frame one or more questions, then they find and analyse, the studies that relate to that question. Systematic reviews of randomized controlled trials are crucial to evidence-based medicine.

An understanding of systematic reviews, and how to implement them in practice, is becoming mandatory for all professionals involved in the delivery of health care. Besides health interventions, systematic reviews may concern clinical tests, public health interventions, social interventions, adverse effects, and economic evaluations. Systematic reviews are not limited to medicine and are quite common in all other sciences where data are collected, published in the literature, and an assessment of methodological quality for a precisely defined subject would be helpful.

A **retrospective cohort study**, also called a historic cohort study, is a cohort study that studies a cohort of individuals that share a common exposure factor to determine its influence on the development of a disease and are compared to another group of equivalent individuals that were not exposed to that factor. Retrospective cohort studies have existed for approximately as long as prospective cohort studies. Retrospective cohort studies may be longitudinal in nature.

A **prospective cohort study** is a cohort study that follows over time a group of similar individuals (cohorts) who differ with respect to certain factors under study, to determine how these factors affect rates of a certain outcome. For example, one might follow a cohort of middle-aged truck drivers who vary in terms of smoking habits, to test the hypothesis that the 20-year incidence rate of lung cancer will be highest among heavy smokers, followed by moderate smokers, and then non-smokers. Prospective cohort studies may also be longitudinal in nature.

The prospective study is important for research on the etiology of diseases and disorders. The distinguishing feature of a prospective cohort study is that at the time that the investigators begin enrolling subjects and collecting baseline exposure information, none of the subjects have developed any of the outcomes of interest. After baseline information is collected, subjects in a prospective cohort study are then followed over a period of time, usually for years, to determine if and when they become diseased and whether their exposure status changes outcomes. In this way, investigators can eventually use the data to answer many questions about the associations between "risk factors" and disease outcomes. For example, one could identify smokers and non-smokers at baseline and compare their subsequent incidence of developing heart disease. Alternatively, one could group subjects based on their body mass index (BMI) and compare their risk of developing heart disease or cancer. Prospective cohort studies are typically ranked higher in the hierarchy of evidence than retrospective cohort studies and can be more expensive than a case–control study.

Parts of this guide have been taken directly from the School of Public Health Dissertation Guide and adapted as required.