UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

FACULTY OF
HEALTH SCIENCES

STYLE GUIDE FOR THESES, DISSERTATIONS AND RESEARCH REPORTS
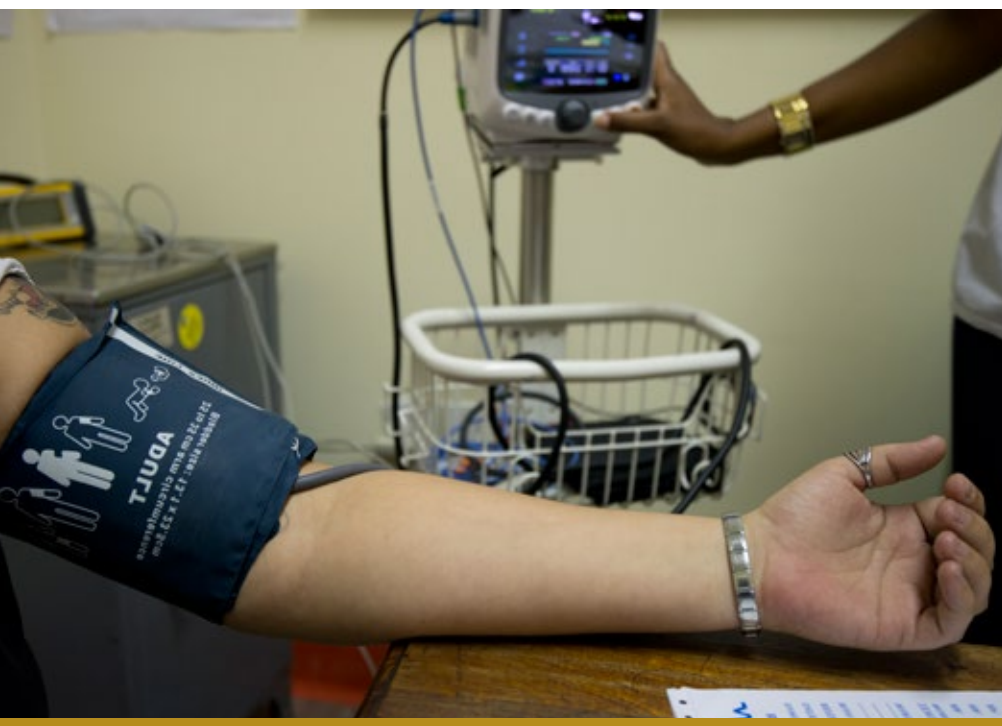
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FACULTY OF HEALTH SCIENCES

1. INTRODUCTION

The goal of this document is to provide a concise guide for all postgraduate students who are preparing to submit their Theses, Dissertations or Research Reports for examination, and should be read in conjunction with relevant Faculty documents. It does not aim to provide comprehensive information on detailed stylistic features. Candidates should therefore consult their supervisors about the specific requirements of their topics and/or discipline, and the requirements of each School within the Faculty of Health Sciences.

The terms Thesis, Dissertation and Research Report have specific meanings: a 'Thesis' is the document submitted for the degree of Doctor of Philosophy; a 'Dissertation' is for the degree of Master of Science by research, and a 'Research Report' is for a Master's degree by Coursework.

The Faculty of Health Sciences (FHS) encourages students to publish their research findings during the course of their degree programmes. Consequently, the FHS has introduced formats of theses, dissertations and research reports which enable submission of published articles for final examination. The articles should be published in Department of Higher Education and Training-accredited journals and should be derived from the research projects approved by the Faculty Graduate Studies Committee for purposes of the specific degree programmes which the students are registered for. The permissible formats are given below.

1.1 PhD Thesis formats (see Appendix G for detailed guidelines)

    a) The conventional monograph (The 'Block' format)
    b) The 'Divided block' format
    c) The 'Integrated' format (at least 3 published articles to be submitted)

1.2 Masters by research Dissertation formats (see Appendix H for detailed guidelines)

    a) The conventional monograph
    b) The publication model (at least 1 published article to be submitted)

1.3 Research Report formats (see Appendix I for detailed guidelines)

    a) The conventional monograph
    b) "Submissible" format of a paper
    c) Published paper (at least 1 published article to be submitted)

N.B.: For theses, dissertations or research reports that may not be compatible with any of the above formats because of the nature of the research approaches used (e.g. legal and philosophical approaches which may be used in Bioethics), other acceptable formats may be applicable. In such exceptional cases it is advisable to consult your supervisor or the School/Department concerned.

For simplicity, the word 'write-up' is used in some parts of this document to refer to thesis, dissertation or research report.

1.4 Length

Only general guidelines regarding length are given as individual write-ups differ in subject matter and from candidate to candidate. As a rule of thumb, general information and the references should comprise approximately 20% of the write-up, the literature review and introduction about 25%, the materials and methods about 25% and the results and discussion, including all illustrations such as photographs, tables, charts, diagrams, etc. should comprise the remaining 30%.

For the conventional monograph, a **Research Report should be 60 to 80 pages** (about 10,000 words, 1.5 line spacing including references), a **Masters Dissertation should be 100 to 120 pages** (about 15,000 words, 1.5 line spacing including references), and a **Thesis should be 150 to 200 pages** (about 30,000 words, 1.5 line spacing including references). In general, publication models of research report, dissertation and thesis should have fewer pages than the conventional monograph (see the respective detailed guidelines under appendices).

Note: For certain types of studies such as qualitative research and Bioethics & Health Law write-ups may need to be much longer than the lengths stipulated above. It is important for students to consult with their supervisors for appropriate guidance.

2. THE STRUCTURE AND FORM OF THESES, DISSERTATIONS AND RESEARCH REPORTS

The aim of this section is not to provide comprehensive information on all matters relating to form and structure of write-ups but to give general guidelines.

2.1 The Structure and Form of a Write-up

The essential elements of a conventional write-up are presented below in the order in which they should normally appear. For specific details refer to guidelines for the specific format of your write-up given under appendices.

- Title and Title page Candidate's Declaration (Signed)
- Dedication
- Presentations arising from this study
- Publications arising from this study
- Abstract
- Acknowledgements
- Contents
- Nomenclature/List of Abbreviations and Symbols
- List of Figures
- List of Tables
- N.B.: From title page to this point pages are to be numbered in Roman numerals. The Arabic numbers are to be used to number pages of the actual body of the write-up (thesis/dissertation/research report) based on the specific format chosen.
- Body of the write-up
- References

- Appendices (including plagiarism form and ethics clearance certificate)

2.1.1 Title and Title Page

A specimen title page is shown in Appendix A. The following information is given on the title page.

Title:

The title must be as approved by the Faculty Graduate Studies Committee. The title should indicate the contents and scope of the write-up in as few words as possible. Phrases like 'a report on investigations into….' And 'observations on some aspects of ….' add nothing significant to the title and should be avoided. While the title should be as brief as possible it should be accurate, descriptive and comprehensive, clearly indicating the subject of the investigation.

It is most important in the view of the Higher Degrees Committee that titles of Theses/Dissertations/Research Reports are fully relevant to the contents of the work to avoid misunderstandings at the time of examination.

The title is best typed in capitals and in bold.

Author's Name:

The full forenames followed by surname are usually given under the title. They should be typed with the first letter of each name in capital letters and the remainder in lower case.

Thesis Statement:

The following are examples of appropriate wording:

i) Thesis for a degree by research:

'A Thesis submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of [name of the degree]."

ii) Thesis that includes published work:

'Original published work submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of [name of the degree]"

iii) Dissertation for a Masters degree by research:

'A Dissertation submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of [name of degree]"

iv) Research Report for a Master degree by coursework and research report:

'A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of [name of degree]'

Year when the research project was completed:

This lowest line should be no more than 25mm from the foot of the page, and should include the place and date of completion of the Thesis/Dissertation/Research Report, e.g. Johannesburg, 2015.

2.1.2. Candidate's declaration

An example of a declaration for a conventional format of a write-up is as follows:

DECLARATION

I [Name of candidate] declare that this Thesis/Dissertation/Research Report is my own, unaided work. It is being submitted for the Degree of [name of degree] at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

_____

(Signature of candidate)

_____day of_____20_____in_____

This declaration should appear on a separate page and each copy of the write-up should be individually signed by the candidate.

For write-ups that include actual published articles, the declaration has to take into account the fact that there may be co-authors involved in the publication. The supervisor has to state the contribution of the student (i) to the component of the study that was published and (ii) to process of writing the published article. All co-authors have to sign the declaration document to indicate their agreement to the use of the published article by the candidate for his/her degree. A template is shown as appendix J.

2.1.3 Dedication

This is a brief, optional statement paying tribute to the writer's wife, partner, family, or other associated person. It is typed centrally on a separate page starting on the chapter line and does not require a heading, e.g.

In memory of my mother

Ruby Johnson

1955 - 2015

2.1.4 Presentations arising from this research project

Any presentations done by the candidate during the course of the degree programme can be listed, giving names of conferences, dates and place.

2.1.5 Publications arising from this research project

Journal articles and or book chapters published by the candidates during the course of the degree programme should be listed. Candidates are encouraged to publish their work in Department of Higher Education and Training-accredited journals. The Vancouver or Harvard referencing style should be used when citing published work.

2.1.6 Abstract

The abstract is a brief informative summary of not more than 150 words for a Research Report, 250 words for a master's Dissertation 350 words for a doctoral Thesis. It should be unstructured. It outlines the purpose of the write-up, the research methods and procedure employed, as well as the major results and conclusions. The abstract should always start with a topic sentence that is a central statement of the major theme of the write-up.

The abstract is extremely important. It should give as concisely as possible the significant facts, especially anything new, the main conclusions and any recommendations. The reader can then decide whether or not he/she is interested in reading further. An abstract should be written in normal and not telegraphic style.

2.1.7 Acknowledgements

Assistance received in carrying out the work in preparing a thesis/dissertation/ research report should be acknowledged, although it is not usual to acknowledge routine checking, minor assistance or general advice. It is, however, usual to acknowledge financial assistance, permission to publish, as well as special facilities provided by a company, university or research institution.

2.1.8 Table of Contents

The contents should be given on a separate sheet and follow the plan of the structure of the write-up (Section 2.1 above) and the headings in the write-up itself. The contents should only contain the first three levels of headings in the write-up. It must also include the relevant page numbers. (A specimen contents page is shown in Appendix B.)

2.1.9 List of Figures

A list of figures follows the contents on a new page, and precedes a list of tables. The figures should be numbered according to the specific chapters in which they are found. For instance, in Chapter 1 the first figure would be Figure 1.1; second figure would be 1.2; and so on and so forth. In Chapter 2, the first figure would be Figure 2.1; the second figure would be Figure 2.2; and so on and so forth. A specimen list of figures is shown in Appendix C.

2.1.10 List of Tables

Tables should be numbered according to the chapters in which they are found in the same way figures are numbered. A specimen list of tables is shown in Appendix D.

2.1.11 Nomenclature

Authors should avoid jargon and abbreviations which are not in common use in the field or which have not been defined. If there are acronyms or unusual technical terms, these should be defined in alphabetical order in a table or listed. If there are only a few they may be defined when they first occur in the text.

Each write-up should provide a list detailing the symbols for physical quantities used. These symbols vary from discipline to discipline and candidates should consult their supervisors with regard to the correct symbols for their field of research. A specimen list of abbreviations and symbols is shown in Appendix E.

2.1 Body of the Thesis/Dissertation/Research Report

The structure of the body of the thesis, dissertation or research report depends on the format chosen (monograph or publication model). Details of the formats are given as appendices at the end of this style guide. In general, the write-up is divided into three categories: the introductory chapter or chapters, which should put the whole study into perspective and give the structure of the whole write-up ('signposting'); the central chapters comprising the major part of the write-up of the study, which can be divided into logical components based on the chosen format; and the concluding chapter or chapters, which should contain the main findings, conclusions, and recommendations.

2.2.1 Introductory chapter or chapters

The first chapter, or chapters, should contain the following items:

- A résumé of the history and present status of the problem by means of a literature survey comprising a brief critical review of previous investigations of this and closely related problems. The contribution of each of these to the question as a whole should be made clear, together with the fact that the investigation now in progress arises from the fallacies or inadequacies of earlier studies.

- A validation or justification of the problem, which by a discussion of discriminatingly selected reasons, establishes the importance of the problem. It is often appropriate, at this point, to indicate the limitations of the undertaking and to define words unique to the study or used in a restricted or unusual manner in reporting the investigation.

- A statement of the sources of data, the method of procedure (experimental techniques) and the treatment of the findings. In a write-up of an experimental nature, a separate chapter is ordinarily devoted to these topics.

- A clear and complete statement of the problem investigated, the hypotheses tested or the purpose of the study.

- A preview of the organisation of the remainder of the write-up. This will make it easy for the reader to see at a glance the relationship between the various parts of the work.

2.2.2 Central chapters

It is impossible to give specific directions for organising the findings of all studies, because of the wide variety of topics investigated, techniques employed, and kinds of data accumulated. Suffice it to say that the chapters of this portion of the write-up are the write-up – they are the student's contribution to knowledge. All other portions of the write-up are subordinate to what actually has been discovered and is here being made known. The student should, therefore, take the to present his/her material in a clear and orderly fashion, in terms that will be readily understood.

The organization and distribution of content should be such that each chapter represents an important division of the subject investigated and reported. Each chapter, other than the introductory and final chapters, could open with a paragraph or two containing:

- A statement of the portion of the problem to which the chapter is devoted
- A description of the materials and methods used in connection with this part of the investigation, and
- An enumeration of the points to be covered.

In many write-ups, the concluding section of each chapter consists of a summary indicating the contribution of that chapter to the whole study.

2.2.3 Concluding chapter

The concluding chapter, or chapters, should be a summary, restating the developments of previous chapters and showing succinctly the more important findings and conclusions of the whole study. The author may list unanswered questions that have occurred to him/her but which require research beyond the limits of the current study.

2.3 References

References should be chosen and cited to:
- Indicate the source of the writer's statements.
- Acknowledge another person's work.

The Faculty of Health Sciences allows the Vancouver or Harvard referencing styles. It is critical to be consistent and to stick to one style throughout the write-up. However, this may not be possible in the case of the publication model since actual reprints of published papers may have different referencing styles based on the different journals concerned.

This section gives a succinct explanation of the Vancouver and the Harvard referencing styles. Detailed explanations and examples of how to reference using the two styles are available at: http://libguides.wits.ac.za/c.php?g=145382&p=952469

One can also get detailed explanations and examples by searching on Google.

2.3.1 Harvard referencing style

The references are referred to in the text by the author's surname followed by the year of publication (in brackets) and are listed in alphabetical order in the list of references. If the same author is cited more than once for a given year the letters a,b,c are used to distinguish the articles. If their citation is only to a particular page then this is shown by the use of a colon followed by page numbers (after the year of publication).

If there are more than three authors, only the first author's name is given in the text followed by 'et al.' Note the recommended layout of the reference list.

Specimen text

A succinct account of the basics of interactive television programming has recently been given (Bolton, 1981). Nyhan and Johnson (1980) have summarised the economic implications. Robertson (1979) has reviewed some of the technical aspects.

Reference list (arranged alphabetically)

Bolton, W.T. (1981) A lesson in interactive television programming, Journal of Library Automation, 14(2), 103-108.

Nyhan, M.J. and Johnson, P. (1980). Videotext and teletext in the United States, Telecommunication Journal, 46(6), 396-400.

Robertson, A. (1979). Teletext and view data, In: Johnson, P. ed. Television to Home Computer, Poole: Blandford Press, pp. 119-145.

N.B.

- If an article has three (3) or less authors, surnames and initials of all the authors have to be included. For example, an article with 3 authors would be listed as follows:

  Surname, A.A., Surname, B.B. and Surname, C.C. (Year of publication). Title of article. Full name of Journal in italics or underlined. Volume number (issue number), p. (followed by the page numbers of the article).

- If an article has more than three (3) authors, surnames and initials of the first three (3) authors have to be included followed by "et al." For example, an article with more than 3 authors would be listed as follows:

  Surname, A.A., Surname, B.B., Surname, C.C., et al. (Year of publication). Title of article. Full name of Journal in italics or underlined. Volume number (issue number), p. (followed by the page numbers of the article).

- Authors' surnames and initials can be written in either capital letters or small letters in the reference list as long as there is consistence.

2.3.2 Vancouver referencing style

The references are numbered in ascending order in the text, and are listed in that order in the list of references. In the text itself, the numerals are written in superscript or in brackets.

Specimen text

Bolton [1] has given a succinct account of the basis of interactive television programming. Nyham and Johnson [2] have summarised the economic implications. Robertons [3] has reviewed some of the technical aspects.

Note: The superscript numbers do not necessarily have to be in parenthesis.

Reference list (arranged in the order in which they appear in the text)

1.   Bolton WT. A lesson in interactive television programming. JOLA. 1981; 14(2):103-108.

        [Note that "JOLA" is the official abbreviation for the Journal of Library Automation. Official abbreviations of names of Journals should be used and not the full journal names]

2.   Nyhan MJ, Johnson R. Videotex and teletex in the United States. JOT. 1980;46(6):396-400.

        [Note that "JOT" is the official abbreviation for the Journal of Telecommunications]

3.   Robertson A. Teletext and viewdata, In: Johnson, P. ed. Television to Home Computer. Poole: Blandford Press; 1979.

- **N.B.**
  If an article has six (6) or less authors, surnames and initials of all the authors have to be included. For example, an article with 6 authors would be listed as follows:

- Surname AA, Surname BB, Surname CC, Surname DD, Surname EE, Surname FF. Title of article. Abbreviated title of journal. Year of publication YYYY;Volume number(issue number):page numbers.

- If an article has more than six (6) authors, surnames and initials of the first six (6) authors are included followed by "et al." For example, an article with nine authors would be listed as follows:

- Surname A, Surname BB, Surname C, Surname D, Surname E, Surname FF, et al. Title of article. Abbreviated title of journal. Year of publication YYYY;Volume number(issue number):page numbers.

2.4. Appendices

Appendices are convenient places for recording complicated mathematical or other formulae, descriptions of experiments or apparatus, and any other specialised or lengthy material such as computer programme listings, copies of spectra or other instrumental outputs that would otherwise detract from the readability of the text. The reader should be able to study or refer to these later, and only if he/she wishes to do so, after he/she has read the main work. Appendices must be numbered or lettered consecutively in large print at the top right-hand corner of the page to facilitate their location in the text. Each appendix must start on a new page. The appendices should be placed immediately before the list of references.

3. HEADINGS AND NUMBERING

The arrangement of headings of various levels (hierarchical positions) reflects the organization of the contents of the write-up.

The levels of headings may be indicated by typeface and format alone. For example, the heading 'GLOBAL DISEASE BURDEN' written in capital letters is recognisably of higher level than 'Infectious Diseases' which is in lower case letters. In the write-up, the higher level heading would come first before the lower level heading as shown below:

GLOBAL DISEASE BURDEN
Infectious Diseases

The numbering of such headings further clarifies the importance, sequence and interrelation of the portions of text under each heading. Thus, the headings '2 GLOBAL DISEASE BURDEN' and '2.1 Infectious Diseases' are more informative than those in the example above. In the write-up, the headings would be as shown below:

2 GLOBAL DISEASE BURDEN
2.1 Infectious Diseases

3.1 Rules of Numbering

The recommendations given below are common guidelines:

- First level headings (usually chapter headings) of a write-up are numbered continuously beginning with 1

- Each main division of text (chapter) may be divided into any reasonable number of subdivisions, having second level headings which are also continuously numbered. This method of division and numbering can, in principle, be continued to any level, but tends to become clumsy and confusing at the fourth level and beyond

- Numbering should thus be confined to the first three levels. Further (unnumbered) levels of headings may be identified by typeface and format.

3.2 Typeface and Format

The typeface and format of all headings should reflect their levels, independently of numbering. The typographical details of the system of headings will be dictated largely by the printing system that is used in final production of the write-up. Whatever the typography, it is essential that the system be logical and that it be applied consistently.

Modern practice favours left-hand-justified, rather than centred headings. Note that no full stop appears at the end of a heading.
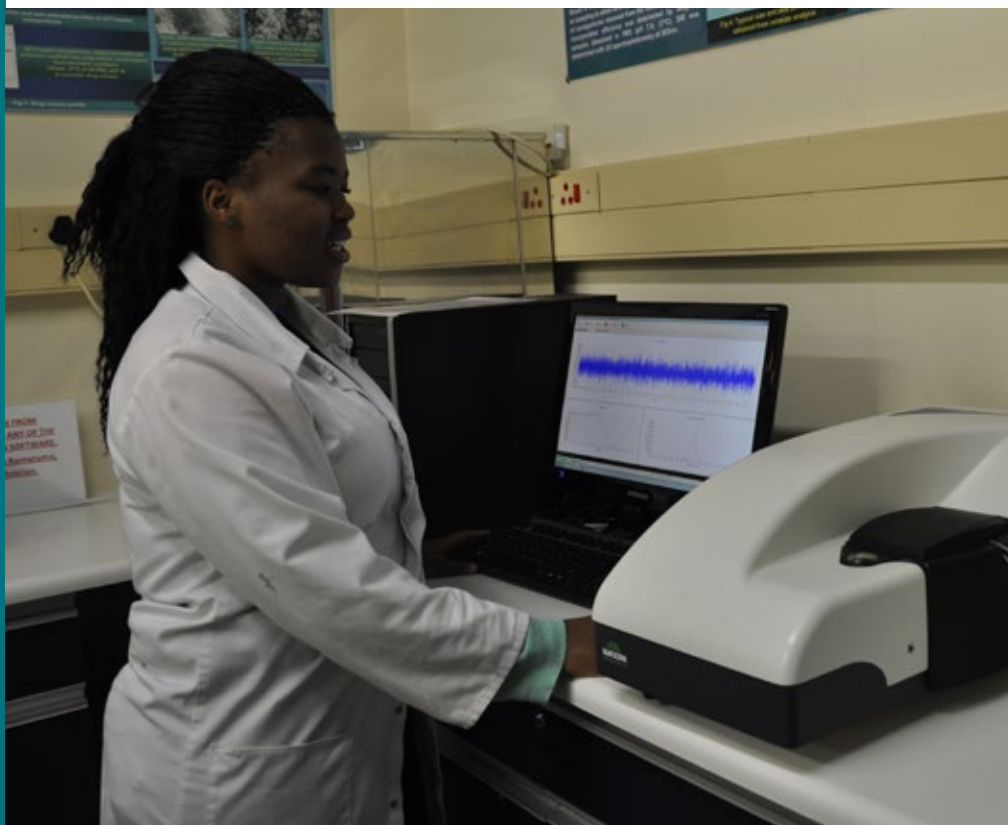
3.3 Examples of Levels of Headings

CHAPTER 1

1   FIRST LEVEL HEADING

1.1   Second Level Heading

1.1.1   Third level heading

1.1.1.1 *Fourth level heading*

It should be noted that although there is no clear cut limit, too many levels of headings may compromise clarity. It is advisable not to go beyond third level headings.

4 STYLE

Style implies choice. However, in technical writing there are some constraints which limit choice. The following are some points which must be considered.

4.1 Text Structure

A good write-up should be comprehensive and precise. To be concise, the writer must read through his/her draft critically and eliminate unnecessary material. Where the writer's language is not English, it is most important that he/she should seek help in this draft reading process.

The following are some of the techniques that will help:

- Break down complex statements into short well-structured sentences.

- Use the active voice where appropriate

- Do not use pompous words or jargon where simpler words are as effective

- Avoid empty phrases such as 'it is interesting to note that…'

- Avoid unnecessary words, e.g. ' the precipitate was found to be in a wet condition' which means simply that 'the precipitate was wet'

4.1.1 Word choice
Use of the personal pronoun

The argument against using personal pronouns (i.e. 'I') in write-ups is that the subject

matter is the important thing and the author is not. This is basically sound as long as it is not carried to excess. When, however, it leads to vagueness in phases like 'it is considered' or to ponderous writing like 'the author is of the opinion', then it is better to use a personal pronoun, e.g. 'I consider' or 'I think'.

Scientific language and jargon

Scientific terminology is a necessary part of scientific writing. The writer must, however, be certain that his/her audience will understand the language he/she uses. Where there is doubt, he/she should define his/her terms, either in the text or in a glossary.

4.1.2 Tenses

A guide like this cannot cover the ramifications of the uses of tenses in scientific writing. The following points may help to avoid the more common errors.

- Reports of work done are usually written in the past tense except for discussion and conclusions which are in the present tense.
- However, for stating universal truths such as natural laws are stated the present tense is generally used.
- Do not change tenses in a sentence unless there is good reason to do so. For example, if we say, "The balloon rose because the hydrogen inside it was lighter than air", we may mean that this might apply only under the observed conditions; or we may mean that the gas used is inherently lighter than air. To make the meaning clear we must mix tenses within the sentence, e.g. "The balloon rose because hydrogen is less dense than air". Complications arise when tenses are changed without the writer having had a specific intention in mind

4.1.3 Sentence structure
Active and passive voice

Traditionally technical writers have regarded the passive voice as the only acceptable form of presentation. In modern writing, however, the active voice is used far more often. Phrases like "Economy justifies the procedure", are preferred to "the procedure may be justified in the interest of economy".

Sentence length

Long sentences with a number of dependent clauses are difficult to follow, particularly if the subject itself is complex. Reading tests have shown that sentences with more than 25 words are generally difficult to comprehend. Unless you are a master of the use of the English language, avoid long sentences.

4.1.4 Paragraphing

Paragraphs are there to help the reader by breaking up the text into manageable sections. This objective is often not achieved, however, because of poor paragraph construction. The following guidelines will assist in organising paragraphs:

- A paragraph should consist of a central statement supported by a group of details
- In scientific writing the main statement is usually at or near the beginning. For argument or persuasion, however, the central statement is often placed at the end as a climax to the supporting details
- The transition between paragraphs should be smooth, with some form of connecting link in the text
- Long unbroken sections of text are discouraging to the reader and therefore paragraphs should not be unduly long. If your writing has many paragraphs exceeding 100 words, you should examine it critically

4.2 Conventions

4.2.1 Capitals

There is much confusion about the use of capitals and authorities differ considerably. The modern trend, however, is to use capitals sparingly. The following are some general guidelines:

- The first word in a sentence and in a direct quotation are capitalized;
- Proper nouns are capitalized and common nouns such as river and company are also capitalized when they form part of a name e.g. Amazon River
- Common nouns are capitalized when they are used with a number or letter to designate a specific thing, e.g. Laboratory D

4.2.2 Acronyms

An acronym is a word formed from the initial letters of a name or by combining initial letters, or parts of a series of words, e.g. 'radar': RA(dio) D(etecting) A(nd) R(anging). Certain acronyms like, 'radar' have become dictionary words. In general, however, use acronyms sparingly and, when using them for the first time, spell them out. Where the acronym is not an accepted dictionary one it should be in capitals, e.g. ESCOM.

4.2.3 Spelling

For a language as complex as English there is no simple set of rules. When in doubt (e.g., when to use 's' and when 'z') consult the Shorter Oxford English Dictionary (1973) which gives the accepted standard English spelling (preferred to the American) or Oxford Dictionary for Writers and Editors (1981). This dictionary, in addition to guidance on spelling, gives useful information on punctuation. In addition, most word processing packages like Microsoft Word have spell checks (remember to set your spell check function to South African English).

As a rule of thumb, remember to standardise spelling throughout the write-up. Exception to this rule are:

- When citing references, in which the exact spelling as in the original reference should be used even if it is different to the spelling used throughout the text of the write-up.
- When using the 'Integrated' format for your write-up, in which articles arising from the research may have been submitted to different journals with different spelling requirements.

4.2.4 Abbreviations

Use only generally accepted abbreviations and symbols.

4.2.5 Punctuation

There are some 36 chief marks of punctuation. However, many of these are used only in specialised linguistic contexts and all should be used sparingly. For a concise guide to the use of the more common punctuation marks see Houp and Pearsall (1984).

4.2.6 Pagination

Pagination should run consecutively through the write-up with all pages (including figures, tables, etc.) numbered. All pages preceding Chapter 1, except for the very first page which is the title page (without a page number), should be numbered in lower case Roman numerals. Thus although the title page is indeed page i, the numbering only starts on the second page (Declaration) as number ii. Arabic numbering starts on the very first page of Chapter 1, and continues to the end of the write-up, including the References and Appendices.

4.2.7 Italics

Italics should be used for:

- Names of species e.g. *Mycobacterium tuberculosis*
- Titles of journals or books if the referencing style requires them to be in italic, e.g. *Journal of Cell Biology* when the Harvard style of referencing is used.

5. NON VERBAL MATERIAL: NUMBERS, SYMBOLS, TABLES, etc.

The customary medium of communication is language. However, in the sciences and engineering extra-linguistic material such as numbers, symbols, mathematics, tables, graphs and illustrations of various kinds are frequently used. A cardinal principle for such material is that is should be used only when it is the most effective means of communication and understandable to the target audience.

5.1 Numbers

The rules for the correct use of numbers are simple and are in the main based on common sense. In the text, use words rather than numerals below ten. Exceptions to this rule occur in illustrations and tables, or when integers are associated with unit symbols. For numerals above ten, use whatever provides optimum clarity and good appearance. No sentence should start with a numeral number.

- Where it is necessary to have decimal fractions these should be expressed in numerals, e.g. 'The original design required 2.7 times as many components as were finally used'. Do not begin a sentence with a numeral. This can lead to confusion and is in any event displeasing to the eye.
- Ordinals from 'first' to 'tenth' should be written out. For higher ordinals the author should once again use his/her discretion.
- Avoid writing out large and small numbers by using either accepted prefixes or exponential notation, e.g. 253×10^3 or $0,253 \times 10^6$. Where large numbers must be written out these should be separated by a small space into groups of three counting from the left or right of the decimal sign, e.g. 5 241.2. For numbers less than one, a zero should precede the decimal sign, e.g. 0.352. When listing numbers – as in a table – always align them on the decimal sign. In South Africa the decimal comma was initially used instead of the decimal point but common practice is now a point.

5.2 Mathematical formula

Mathematical formulae included in a text should form an integral part of the argument and should be intelligible to the intended readers. The units and symbols used should be consistent and follow international practice as detailed in British Standards Institution (2010) or International Organization for Standardization (2010).

The form of presentation of a mathematical expression should be such that it:
- Brings out clearly the structure of the expression
- Is as simple as possible to type

5.3 Tables

Tables are best used when data cannot be clearly presented in graphical form. For example, discrete data sets can frequently be compared more effectively by using a bar chart than a table. In one sense a table is a form of graphical presentation. As such it should be kept simple and clear. Only relevant information of conclusions should be included. There is no need to put in all intermediate steps or results – they only cloud the main issue.

Tables can be arranged either vertically or horizontally. Vertical tables are those which can be read when a page is in the normal position. Clearly they are the most convenient to read. Where possible they should be arranged to fit into a single page of the document. Horizontal tables are used where their size is such that they cannot be fitted into the width of the printed page.

Each table should have a heading, which should be placed above the table, and be numbered with Arabic numerals. Tables in write-ups should be numbered as follows:

- Firstly by the number of the main text division (chapter) in which they occur
- Secondly, by Arabic numerals running consecutively through that text division.

The two numbers are separated by a full stop. Thus, the first table in Chapter 2 is **Table 2.1**, the second table in Chapter 2 is **Table 2.2** etc. Tables should be referred to in the text by means of the table number.

Tables in papers for journal publication are numbered (without reference to the main text division) consecutively with Arabic numerals throughout the text. The columns in a table should be arranged for easy comparison, related information being brought together. Each column should carry a brief heading and include consistent units where relevant. The same symbols, units, and abbreviations should be used in the text.

Table 5.1 illustrates some of these rules.

Table 5.1 Calibration of rotameter

Position of Float (mm)	Flow rate (m^3/h)	
	$T_L = 17°C$	$T_L = 120°C$
100	0.451	0.425
200	0.736	0.720
300	1.027	1.015
400	1.348	1.342
500	1.656	1.672

In column headings avoid using expressions like $x10^{-3}$ as these are ambiguous. It is not clear whether the figures in the column have already been multiplied by 10^{-3}. Rather use the recognised metric prefixes, e.g. 'mm'. Where this is not possible, make sure the heading is unambiguous even if it appears clumsy.

5.4 Illustrations

All illustrations (graphs, photographs, drawings and diagrams) are referred to as Figures. Each has a number and a descriptive title which should be placed below the illustration. Numbering follows the same principles as those for tables (see 5.3). Thus, the first figure in Chapter 2 is Figure 2.1, the second Figure 2.2 etc.

Figures in papers for journal publication are numbered consecutively with Arabic numerals throughout the text.

5.4.1 Graphs

Graphs can take on a number of different forms, e.g. bar charts, divided circles, pictographs, or line graphs. The appearance of a graph is its major attribute. It is up to the writer to choose the format which most clearly portrays the data being depicted in the graph. In preparing graphs for inclusion in a write-up the following should be borne in mind:

- The graphs should illustrate clearly the point which the writer wishes to make.
- Units should be clearly stated and written so that they can be read easily.
- The caption should be brief but self-explanatory and be positioned underneath the graph; any notes or supporting documents, if necessary should be placed below the title.
- To ensure clear reproduction graphs should not be overburdened with detail.

An example of a good graph is shown below.
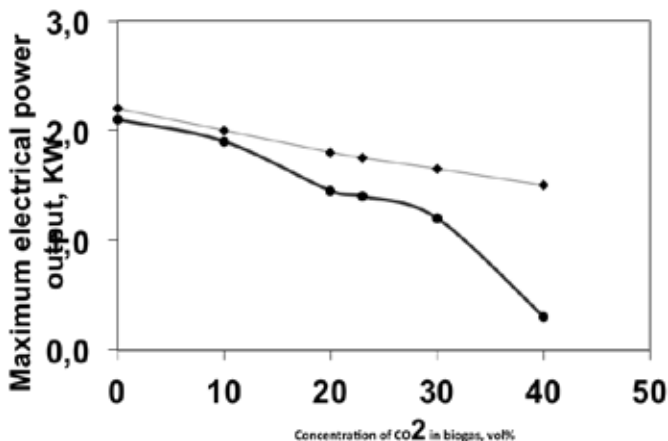
Figure 5.1   Effect of carbon dioxide concentration in biogas on power output

5.4.2 Drawings, diagrams and photographs

Line drawings and diagrams are made up of lines, words and a few special symbols. They must, as far as possible, be simple and uncluttered with detail: working drawings are normally not acceptable. Unless they serve to clarify the verbal content of the report, or express an idea more vividly than words can, drawings or diagrams serve no purpose. Only generally accepted graphic symbols should be used.

The inclusion of photographs may occasionally prove useful and sometimes even necessary. However, if photographs depict people, written permission from the relevant Ethics Committee(s) and informed consent from the people concerned (or their guardians/legal representatives) must be obtained upfront. It may also be necessary to protect the identity of the people in the photographs in order to protect their privacy and confidentiality.

If photographs are to be used they should be taken with care. Cluttered backgrounds and views of unrelated equipment should be avoided. Adequate contrast should be provided, and care taken so that important details do not fall into shadows or become obscured by the glare of highlights.

Any illustrative material which cannot effectively be reduced to A4 format, but which is relevant may be included in a pocket on the inside back cover of the write-up or included as foldouts.

6 PRODUCTION OF THE THESIS/ DISSERTATION/RESEARCH REPORT

6.1 Type Layout

A write-up should be typed. A clear font such as Arial or Times New Roman should be used. Italic script or other unusual typefaces should generally be avoided unless they are necessary. A font size of 12 should be used, except in tables where a lower font size of 11 or 10 may be used. The font colour must be black.

The main body of the text should be typed in one and a half (1.5) line spacing and generous margins should be allowed. Typed pages should be aligned at a constant distance from the top and bottom of the page, although the top margin of the first page of a chapter may be lowered slightly. A specimen page layout is shown in Appendix F.

The following are suggested dimensions of margins:

- Top, bottom and right: 2 cm
- Left: 3 cm

All work should be justified to the left margin and should not normally be indented. Avoid full justification of text as it reduces the readability of the Theses. Use a double space to indicate a new paragraph.

A good quality white bond paper of A4 size should be used. Final submissions should be printed on one side only and unbound.

6.2 Illustrations

Illustrations form a very important part of a write-up and should be carefully prepared. Whatever method of reproduction is to be used for their presentation in the Thesis, the essential requirements are that a table or illustration should be neat, concise, legible and, above all, comprehensible. Originals of photographs are not necessarily required but it is essential that any reproduction of a photograph, such as a photocopy, is clear (refer to 5.4.2 for ethical issues surrounding photographs of people).

7 EDITING AND REVISING

7.1 Checking, Rectifying and Polishing-up text

Editing the first draft is the author's responsibility; he/she cannot expect his/her supervisor or any outside person to:

- Determine the accuracy of the information.
- Clarify ambiguities.
- Emphasize important issues.
- Check spelling.

The editing process is essentially one of critical evaluation of the manuscript against the requirements set by the objectives of the research. The main requirements are those of content, or orientation to the reader and of accuracy, brevity and clarity in the functional writing style. The author should evaluate each chapter of his/her write-up and check whether it:

- Has real content.
- Is free from inaccuracies, ambiguities and bias.
- Emphasizes important issues and is free from verbosity, irrelevances and unnecessary detail.
- Can be understood readily.
- Is appropriate to the situation.

Before starting the process of checking, rearranging and polishing, the writer should preferably leave his/her draft for a few days so that he/she can mentally switch to the role of a critical reader.

The editing consists of three operations which should be done separately. These are:

- The integrity edit.
- The logical progression edit.
- The text and language edit.

7.1.1 Integrity edit

The contents page should be examined and the following points checked:

- Are the headings and subheadings clear descriptions of what is covered?
- Do they form a recognizable logical pattern and is the numbering system used a reflection of this pattern?
- Are the headings grammatically parallel?

Next the text should be checked page by page for the following:

- Are the headings and numbers identical to those used in the list of contents?
- Are the tables and figures properly numbered and in sequence, and do they have informative headings and captions?
- Are tables, figures and references correctly cited in the text?

7.1.2   Logical progression edit

Each chapter should be read as rapidly as possible to:

- Check that the objective is clearly stated and that the concluding section shows whether or not the objective was achieved
- Check that the logical thread is apparent; any jumps or gaps in the progression are usually an indication of faulty organization; mark these, but do not correct at this stage
- Check in particular whether sections contain anything which does not belong there

The conclusions list should arise from the discussion. Structural defects must be corrected before the text and language edit.

7.1.3   Text and language edit

Only when one is satisfied with the basic format of the report should one concentrate on the structure of the text and the use of language. The text may include non-verbal components such as graphs and illustrations. These should be evaluated as part of the text. The criteria for evaluating functional writing, mentioned before are:

- **Content criteria**
    - Accuracy – sufficient for the needs of the audience.
    - Brevity – leaving out irrelevancies and at the same time covering the essentials adequately.
    - Clarity – avoiding vagueness and ambiguity.
    - Emphasis – drawing attention to significant information.
- **Tonal or attitudinal criteria**
    - Appropriate to the situation.
    - Concern for the needs of the audience.
    - Serious treatment of subject matter.
    - Authoritative without being writer-centred.

The specific aspects of language usage discussed in Section 4 should be consulted.

7.2　Graphic Material

Essentially the same criteria used in the language edit, viz accuracy, brevity, clarity and emphasis can be applied to graphic communications.

One of the main reasons for using graphics is their ability to give an overall view and show relationships. Any graphic material which fails in these important areas probably does not justify the extra effort of using it.

7.3　Time and Space Separations

Most final write-ups are prepared for examination within a short time and often for a local audience that may include one or two external examiners. However, once accepted, a write-up becomes part of the body of scientific literature. Writers should therefore draw attention to information that is only valid for a short time. The writer should be aware that points which are valid locally (e.g. under Highveld conditions, at an altitude of about 1500m) are not necessarily valid generally. For instance, a recommendation to install solar heating panels on north facing roofs will not make sense in the northern hemisphere. Cost data are also subject to variation by place and in time, and the exchange rate and other relevant factors may have to be specified to make matters clear.

7.4　The External Viewpoint

The author may claim to be objective. Usually he/she is not – at least, not to the extent required for a good manuscript. Therefore the external reader's viewpoint is needed. This can be provided by a supervisor or critical colleague who does not have to be an expert in the subject of the manuscript, but who must be able to place himself/herself in the position of the intended audience. He/she should be skilled in recognizing the errors authors make and should annotate the manuscript accordingly and, in addition, suggest ways of improvement. The best manuscripts are produced by a co-operative interaction of author, supervisor and independent editor.

7.5　Rewriting

Of all tasks, rewriting a text is the most unpopular, yet if we wish to develop a clear style it is usually essential. Editing tends to concentrate on the correction of errors rather than elegance of diction. Rewriting all or a substantial part of the text is usually the only way of getting an elegant well-balanced text.

7.6　Computer Editing

It is advisable to use editing programmes if they are available. These include spelling, grammar and plagiarism checks. Prior to submission of the final version of the write-up, plagiarism checks must be conducted using Turn-it-in Software (see Section 8.2.1).

8 RESEARCH INTEGRITY: LAWS AND UNIVERSITY REGULATIONS

In general, research integrity is the authenticity and trustworthiness of research findings reported by researchers. As the author of a thesis, dissertation or research report, the candidate is expected to ensure that there are no aspects of his/her write-up which compromises research integrity. The reputation of various stakeholders, including the candidates, supervisors, the Faculty and the University could be tarnished by any acts of commission or omission which compromise research integrity.

The university policy on research integrity is available at: http://www.wits.ac.za/academic/researchsupport/19110/ethics_and_research_integrity.html

In addition, the University subscribes to the research integrity standards as set out in the Singapore Statement which stipulates internationally acceptable research integrity standards. The Singapore Statement is available at:

http://www.singaporestatement.org/

The various dimensions of research integrity are outlined below.

8.1 Copyrights Law

The Copyright Act 98 of 1978, amended in 1997, is the Act currently in force in South Africa and is applicable to both published and unpublished sources, as well as computer programs. Entitlement to copyrights is automatic; an author does not have to apply for copyrights after writing something. An author is entitled to his/her copyrights from the point of writing the material to 50 years after his/her death. Direct quotations from other authors' work are permitted to a reasonable extent for the purposes of research, provided that the source and name of the authors are acknowledged

8.1.1 Electronic copyrights

Since no organisation has authority over the entire internet, some material is available on the internet without the consent of the copyright owner. The use of such material is a violation of the copyright attached to it. More and more frequently, electronic copyright is being monitored by embedded internet watermarks, or tracking devices that record the use of an internet web site (such as cookies). Some sites can be viewed freely on screen, but cannot be downloaded or copied, and have been programmed not to allow these activities. Other sites, such as full-text journals, charge a subscription fee for viewing or for downloading/printing full text journal articles. The University of the Witwatersrand Faculty of Health Sciences Library subscribes to a number of electronic journals, which may be consulted free of charge when one is on the Wits internet platform. Access from home can be arranged for a monthly access fee. Candidate can subscribe personally to the full-text electronic journals.

A notice may accompany some electronic copyright materials setting out the uses which the authors of the materials permit, and those which would constitute a breach of copyrights. Such notices may specify that copying in part or in toto is permitted, provided the source is acknowledged. It may further specify that the material cannot be altered without permission, that it can be distributed freely for non-profit purposes, or that commercial distribution will require permission. A general rule of thumb for avoidance of electronic copyright infringement is to acknowledge your electronic sources at all times.

8.1.2 University regulation regarding copyrights of the students

University regulation G.29 states that "While copyright in his/her thesis, dissertation or other work remains vested in the candidate, the University shall have the right to make a reproduction of it or parts of it for a person or institution requiring it for study of research; provided that not more than one copy is supplied to that person or institution; and to distribute abstracts or summaries of it for publication in indexing and bibliographic periodicals considered by the University to be appropriate"

8.2 Plagiarism

Plagiarism is the act of using other people's writings, ideas or findings without acknowledging them properly through references. If another author's words are used verbatim, they should be in quotation marks and the source of the quotation should be referenced correctly.

Relevant information is available at:
http://libguides.wits.ac.za/plagiarism_citation_and_referencing

8.2.1 Turn-it-in report

As part of efforts to ensure that write-ups with plagiarism do not slip through the system to the examination stage, any final write-up being submitted for examination should be accompanied by a Turn-it-in report signed off by the candidate's supervisor(s). Currently the Faculty of Health Sciences has not set a maximum level of similarity permissible across the Faculty; it is always critical for candidates and their supervisors to scrutinise all texts highlighted in the detailed Turn-it-in report to ensure that they are not plagiarised.

Supervisors have to set up Turn-it-in accounts to be able to run write-ups through the software; students cannot set up such accounts. The Turn-it-in software can be accessed at: https://elearn.wits.ac.za/turnitin/

If supervisors need assistance, contact the Wits eLearning Support & Innovation (eLSI) Unit (elearn.wits.ac.za), (011) 717-7161 or (011) 717 7179 (cle.wits.ac.za/home/index)

8.3 Fabrication and Falsification of data

Fabrication is the act of 'cooking' data while falsification is the act of 'modifying', 'doctoring' or 'panel-beating' data so that the data seem to support one's desired outcome or hypothesis. Supervision is part of checks and balances meant to minimise chances of such research misconducts. Both forms of data manipulation constitute a serious offence to the processes of scientific inquiry, and warrant failure of the thesis/ dissertation/research report concerned.

8.4 Ethical clearance

Conducting a study without ethical clearance compromises research integrity and tarnishes the image of the Faculty and fellow researchers. Ethical clearance must be obtained from the appropriate University Ethics Committee if research on humans or animals is to be undertaken. After ethical clearance has been given by the University Ethics Committee, informed consent must be obtained from human participants recruited in the research project. A copy of the ethical clearance certificate must be included as an appendix in the thesis/dissertation/research report.

8.5 Intellectual Property Rights (IPR) and Patents

In general, intellectual property arising from research conducted on the University of the Witwatersrand platform belongs to the University. The data and specimens collected during the research project belong to the University. Thus if a student does not make efforts to publish his/her research findings after graduating, the supervisor(s) should make efforts to publish the work. Patents arising from research conducted for higher degrees at the University should be discussed with the legal office.

9 MULTIPLE COPIES AND BINDING

Candidates should submit hard copies as well as electronic copies for the examination process.

Different numbers of copies of the final write-up are to be submitted as stated below:

- Research Report: 2 hard copies and 1 electronic copy (in pdf format).
- Dissertation: 2 hard copies and 1 electronic copy (in pdf format).
- Thesis: 3 hard copies and 1 electronic copy (in pdf format).

For examination purposes, ring-binding is acceptable. After examination and all revisions, the finalised thesis/dissertation/research report can then be bound conventionally. The cover of the conventionally bound final copy should have the title of the study followed by the names and surname of the author below it; no other information should be written on the outer cover.

APPENDICES

A SURVEY OF THE GENUS PYRAMIMONAS SCHMARDA (PRASINAPHYCEAE) FROM SOUTHERN AFRICAN INSHORE WATERS

Dhiya Singh

A Dissertation submitted to the Faculty of Science, University of the Witwatersrand, in fulfilment of the requirements for the degree of Master of Science.

Johannesburg, 1992.
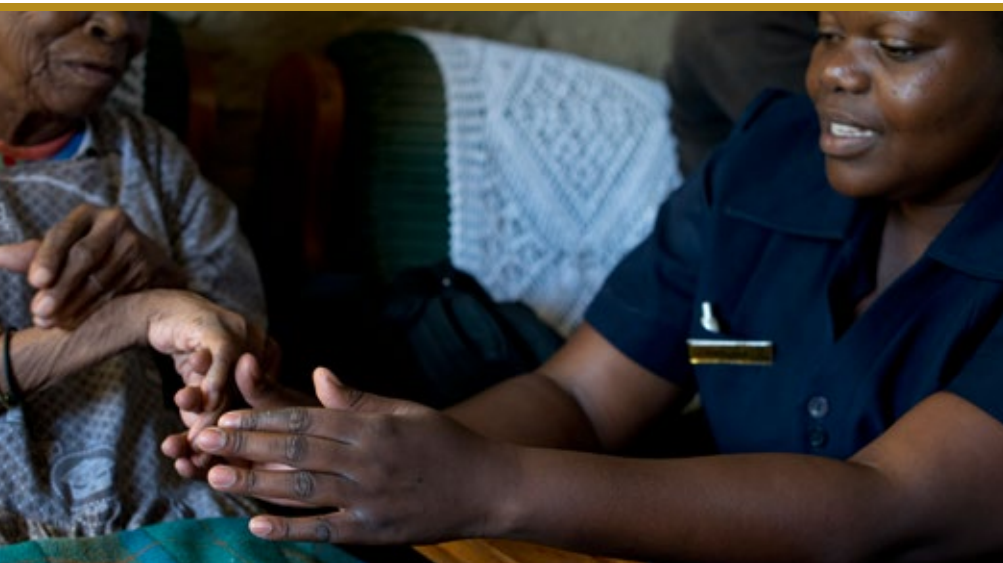
APPENDIX B: SPECIMEN CONTENTS PAGE FOR CONVENTIONAL MONOGRAPH

CONTENTS   PAGE

CHAPTER ONE – INTRODUCTION

CHAPTER TWO – METHODS AND MATERIALS

CHAPTER THREE – The Subgenus Vestigifera

CHAPTER FOUR - The Subgenus Trichocystis

CHAPTER FIVE - The Subgenus Punctatae

CHAPTER SIX - The Subgenus Pyramimonas

Style Guide for Theses, Dissertations and Research Reports

CHAPTER SEVEN
General Discussion and Conclusion

APPENDIX C: SPECIMEN LIST OF FIGURES

LIST OF FIGURES

CHAPTER ONE

Figure 1.3: Conceptual Framework

APPENDIX D: SPECIMEN LIST OF TABLES

CHAPTER ONE

CHAPTER TWO

CHAPTER THREE

APPENDIX E: SPECIMEN NOMENCLATURE

ACF: Adult Care Facility

BMI: Body Mass Index

LPA: Lymphocyte Proliferation Assay

etc.

APPENDIX F: SPECIMENT PAGE LAYOUT

2cm

3cm

2cm

2cm

2cm
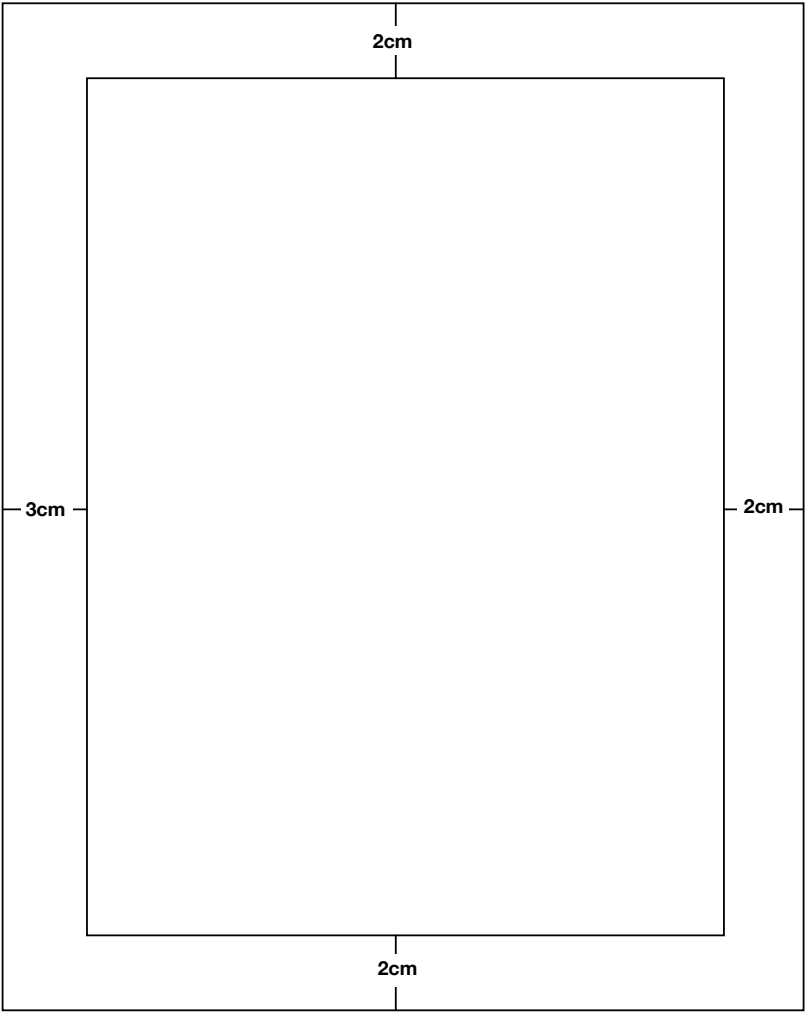
Outer line represents edge of paper and inner one typing area

APPENDIX G: PhD THESIS FORMATS

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

FACULTY OF
HEALTH SCIENCES

Internationally, there are a number of different formats for a PhD thesis. The major difference between these formats is the manner in which the results section of the thesis is presented. The current document will list and describe those formats that have been used in the Faculty of Health Sciences of the University of the Witwatersrand.

Note: in the following document the major sections of a thesis i.e. Introduction, Literature Survey, Methods, Results, Discussion and Conclusions are given capital letters to discriminate them from the sub-sections of a results chapter (see the 'block' and 'divided block' formats below).

1. The 'block' format

This is probably the most common and the simplest format in use within the Faculty of Health Sciences. The thesis is divided into 6 chapters: Introduction, Literature Survey, Methods, Results, Discussion and Conclusions. The Discussion and Conclusion sections are sometimes collapsed into one chapter. All the results are grouped together in one 'block' and the references are presented as the last item of the thesis and include all articles cited in the document. If sections of the thesis appear in published or 'in press' research or review articles, these are usually included in an appendix at the end of the thesis.

In such cases, the thesis should include a letter signed by the student and the supervisor(s) stating the role played by the PhD student in the writing of the paper and their involvement in the study. The letter should also state that all the co-authors have been informed that the paper is to be used in a PhD thesis and that they agree on its use within the thesis. Data from a paper that was not written by the PhD student and in which the student had a minimal input cannot be used in the thesis.

The PhD student would normally be the first author on any publication that emanates from their PhD study. However, there may be cases where this is not so and here the letter should clearly describe the contribution of the student to the paper and which data within the paper was used in the thesis. The first author of the paper would also sign this letter along with the student and the supervisor(s).

2. The 'divided block' format

This is also a common format used within the Faculty of Health Sciences and again includes a Literature Survey, a Methods chapter and a Conclusion chapter. It is distinguished from the 'block' format by presenting the results in separate, discrete chapters rather than within one single chapter. Each of these chapters is subdivided into introduction, methods, results and discussion sections much like the format used for research publications. References can appear at the end of each results chapter in which case only those articles cited in that particular chapter are listed. This method should therefore also be extended to the other sections of the thesis i.e. the Literature Survey, the 2 Methods and Conclusion sections. A list of all references cited in the thesis also should be included as the last item of the thesis, in the same manner as described in the 'block' format.

The introduction section of each results chapter should briefly describe the current level of knowledge within the area to be covered in that chapter and set out the aims of this section of the study. The methods section will describe the techniques used only in that chapter and will be followed by the results section. The discussion section will contextualise the results in respect of other studies conducted in the same field and will end with conclusions. If necessary, a linking statement can be included at the end of the discussion section to introduce the next results chapter. There is no rule on how many results chapters are included in such a thesis but obviously it should be more than one. The major problem with this format is one of repetition. Thus, within each results chapter there is an introduction section which may include information already covered in the opening Literature Survey chapter. This repetition can be minimised by only briefly covering a topic that is already discussed in detail in the Literature Survey. Similarly, the discussion section of each results chapter may overlap with the final Conclusion chapter of the thesis. This can be overcome by ensuring that the Conclusion chapter integrates the data from all the individual results chapters and discusses the overall picture that emerges from the thesis. The thesis may also include a Methods section. This should describe those techniques that are common to each individual results chapter. However, if there are no methodologies that are common to each chapter, the global Methods chapter can be left out and a statement should be placed in the thesis stating that the methods used will all be discussed in each results chapter.

If publications have emanated from the thesis then these publications can be used as the basis for each individual results chapter. Thus, if one has published all the data from the thesis in 4 publications then one would convert these into 4 results chapters, ensuring that each results chapter has the same format and referencing style. The publications should also be included in an appendix at the end of the thesis. Research publications often do not go into great detail in terms of methodology. Therefore, it may be necessary to expand the methods section of each paper when converting it into a results chapter for the thesis or alternatively the Methods chapter for the whole thesis can include the expanded methodology. It may also be necessary to add data that was not included in the publication.

Also, a linking statement at the end of the discussion section of each paper can be added when formatting it into a results chapter thus improving the flow of the thesis. The results chapters do not necessarily all have to be published papers. They could be a mix of published papers, papers in press, papers submitted for publication or unpublished results. If the thesis includes a number of papers that have been published in different journals then this will usually mean that the format of each paper is different with varying referencing styles, section headings and order of sections. Thus, a decision needs to be made on which format will be used for 3 the individual results chapters and this must be adhered to in each chapter. An alternative to reformatting each publication to maintain consistency across results chapters is to insert the publication in the same format in which it was published or simply insert it as a pdf file. The decision as to whether the publications are re-formatted or not is a matter of choice and the student should discuss this format with their supervisor.

If a paper has emanated from a PhD research project and includes more than one PhD student as a co-author, and those students wish to use their data in a PhD thesis, then 2 alternatives are available for the format in which the data is presented in the thesis. The first is that the whole paper is presented as a results chapter, and the components of the paper that were produced by the PhD student are clearly described. A letter must accompany the thesis stating that all the co-authors of the paper are agreeable to its use within the thesis (see next paragraph) and that some sections of the paper were used in another student's PhD thesis. The second option would be that the sections of the paper produced by each of the students are removed and used in isolation within a results chapter of the respective thesis.

Again, a letter must accompany the thesis stating that all co-authors have agreed to this process. If the results chapters include published or 'in press' papers then the thesis should include a letter signed by the student and the supervisor(s) stating the role played by the PhD student in the writing of the paper and their involvement in the study. The letter should also state that all the co-authors have been informed that the paper is to be used in a PhD thesis and that they agree on its use within the thesis. A paper that was not written by the PhD student and in which the student had a minimal input cannot be used as the basis of a results chapter. The PhD student would normally be the first author on any publication that forms the basis of one of the results chapters. However, in special cases, a paper in which the student is not the first author can be used, as long as a strong motivation is included within the letter describing the exact contribution of the student to that paper. In such cases, the letter must also contain the signature of the first author.

3. The 'integrated' format

This format differs widely from the previous two PhD formats. It comprises of two sections. One section contains published or 'in press' papers and papers submitted for publication. There is no rule on how many papers are required but the student should aim for a minimum of 3 papers of which at least two should have been published or be in press. There may be exceptional circumstances where less than

3 papers are sufficient. The decision on how many papers are enough for successful completion of the PhD is made by the supervisor(s) and the student and the guiding rule for this decision must be that the completed thesis contains sufficient work for a PhD. The published papers can be included in the thesis in the same format used by the journal in which they were published.

Copyright permission will have to be obtained for papers already published. The section preceding this comprises an "integrated narrative" and includes a synthesis and discussion of all the papers included in the thesis. It should include a full literature review. It describes the methodologies used and how these relate to the methods used in other studies. It synthesises and discusses the results contained within each paper in the context of data derived from other studies and the field as a whole. An overview is given of the area of research covered by the thesis and how the papers contained within the thesis fit in and answer questions within that field of study. This section may include data not present in the publications and in such cases must include a detailed description of how this data was collected. The references quoted in this integrated discussion must be included in a bibliography at the end of this section of the thesis.

The thesis must include a letter describing the contribution of the PhD student to the writing of each multi-authored paper and their physical contribution to the study. It should also be stated that all co-authors have agreed to the use of the papers within the thesis. The letter must be signed by the supervisors and the student. In cases where a paper is included in the thesis on which the PhD student is not the first author then the letter must contain a motivation as described in section 2, above. Likewise, if two or more PhD students have made contributions to a paper used within the thesis and each student has used that paper within their own thesis, then this must be acknowledged within the letter, as described in section 2, above.

Choice of format and choice of journals and style guide

The choice of format to be used for a PhD thesis is a matter of personal preference. However, if your PhD does include a number of published articles then formats 2 or 3 would be the most appropriate. If you have no published data then formats 1 or 2 would be the better choices. If a format not described in this document is to be used for your PhD thesis then this should be discussed with your supervisor and advice sought from the Faculty of Health Sciences Postgraduate Office. The choice of journal in which an article from a PhD is published is again a matter of personal preference. However, the minimum requirement should be that the journal is DNE accredited. For more detailed information on specific style details of the thesis e.g. font size and type, margin widths, line spacing, formatting of tables and figures and reference style, then one should consult the *University of the Witwatersrand Faculty of Health Sciences Style Guide for Theses, Dissertations and Research Reports*.

APPENDIX H:
MASTERS DISSERTATION FORMATS

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

FACULTY OF
HEALTH SCIENCES

MASTERS (BY RESEARCH) DISSERTATION FORMAT GUIDELINES

Two formats of Masters (by research) Dissertation that are permissible in the Faculty of Health Sciences are the conventional monograph and the publication model. The Faculty encourages students to strive to publish their research work and to submit their published papers as part of their dissertation (publication model) for final examination.

1. Publication Model

Research papers published in Department of Higher Education and Training-accredited journals can be submitted for final examination. The published paper(s) must be accompanied by a more comprehensive literature review than the one submitted as part of the protocol. The total number of pages should be 60 to 80 pages (about 10, 000 words, 1.5 line spacing), including reprint(s) of the published article(s) and references.

1.1 Requirements

- At least one published paper can be submitted provided the following conditions are met:
- The Masters student must be the first author; otherwise the supervisor has to provide a motivation to confirm that the student played a major role in the research project.
- The published work must have been performed after registration of the student for the Maters degree.
- A letter signed by all the co-authors indicating their agreement to allow the student to submit the published paper for his/her Masters degree purposes must be included.
- Copyrights from the publishers of the article must be included as an appendix.

1.2 General structure

The general structure of the dissertation is outlined below:

- Title page
- Candidate's declaration
- Abstract
- Acknowledgements
- Table of contents
- Introductory chapter
- Literature review
- Published paper/s (reprint/s)
- Overall concluding chapter with recommendations
- Appendices

2. Conventional Monograph

The dissertation is divided into chapters covering the introduction, literature review, methods, results and discussion. Depending on the nature of the study and at the discretion of the supervisor, the introduction and literature review may be combined into one chapter, while conclusions and recommendations may be separated from the discussion chapter. The dissertation should be 100 to 120 pages (about 15,000 words, 1.5 line spacing), including references.

Reference style

The Vancouver or Harvard referencing styles should be used; one should be consistent and stick to one style throughout the dissertation.

Typesetting and word processing

For details about typesetting and word processing refer to the booklet entitled "**Style guide for theses, dissertations and research reports**" available from the Faculty of Health Sciences Library.

APPENDIX I: RESEARCH REPORT FORMATS

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

FACULTY OF
HEALTH SCIENCES

Format of the research component for the M Med / M Dent degree

New format and examination procedures – 2015

1. NAME Tonote that a research component that counts for less than 30% of the total degree is correctly termed a "Research Report".

2. FORMAT OF THE RESEARCH RECOGNISED FOR THE M MED/M DENT DEGREES

The report may be presented in either the standard research report format (monograph) or on the basis of published or submissible paper/s.

The quality and presentation should follow the recognised criteria as indicated in the Faculty Style Guide for Theses. The research report will vary in length, but the body of the text would not need to be greater than 60 - 80 pages, including the preface, dedication, abstract, table of contents and references. This would constitute approximately 10 000 words.

- If submitted as a **standard research report (monograph)** the format should follow that described in the style guide for the Faculty of Health Sciences.

- If submission for a research report will be by **published paper or by "submissible" format of a paper,** the following guidelines will apply.

1. The STUDENT must be first author of the published paper.

2. The paper must be accompanied by a letter signed by all co-authors stating the role played by the candidate in the writing of the paper and how much of the work reported in the paper was performed by the candidate.

3. The paper must be accepted by a DE accredited journal. In the case of an article in submissible format, the name of the journal to which the article is to be submitted must be provided.

4. The paper must have been published or accepted for publication after the date of registration of the candidate for the degree. In exceptional circumstances a paper published up to a maximum of 1 year before the date of registration will be accepted, if the research protocol has been passed by an assessor group (see point 1) and has ethical clearance from the appropriate University of Witwatersrand Ethics Committee and is supported by an appropriate supervisor from the Faculty. In submission to examiners, the paper must be accompanied by the approved research protocol, which would have an extended literature review.

5. "In press" articles will be accepted but must be accompanied by a letter from the journal stating that the article has been accepted for publication, as well as a copy of the approved research protocol (for the extended literature review).

6. The article, once accepted for publication must be reviewed by both an internal and external examiner.

7. The format for a **submissible** article or an article "In press" submitted for examination must be as follows:
Title page including all authors, and degree
A declaration stating that the contents of paper are the original work of the author
In the case of multiple authors, a letter signed by all co-authors stating the contribution of the candidate to the paper.

Acknowledgements

Abstract

Introduction

Materials/Methods

Results

Discussion

References

Appendix to include the approved research protocol and ethics clearance

The format for a **published article** submitted for examination must be as follows:

>Title page including all authors, and degree

>A declaration stating that the contents of the paper are the original work of the author

>In the case of multiple authors, a letter signed by all co-authors stating the contribution of the candidate to the paper.

>Acknowledgements

>The pdf reprint of the paper

>Appendix to include the approved research protocol and ethics clearance

The format for a **monograph** submitted for examination must be as follows:Title page

>A declaration stating that the contents of the report are the original work of the candidate

>Acknowledgements

>Abstract

>Introduction

>Methods

>Results

>Discussion

>References

>Appendix including ethics clearance

>Students **mus**t include their protocol when submitting in the format of a published article or in the submissible format, as the protocol will have an expanded literature review.

2. EXAMINATION

Whichever format is used for submission, the internal examiner will be nominated by the supervisor and the Head of Department/School and confirmed by the Faculty Graduate Studies Committee. An external examiner will be nominated by the Head of Department/School for a group of students and confirmed by the Faculty Graduate Studies Committee.

3. TYPE OF RESEARCH THAT IS ACCEPTABLE

a) A Clinical Audit

This would be a review of topics in clinical medicine with prospective or retrospective collection and analysis of data from clinical cases.

b) A Review of the Literature

This would be acceptable provided it is a comprehensive review of the literature with extraction and extrapolation of data or is a meta-analysis using recognised research methods or is a formal systematic literature review along the lines of the Cochrane Collaboration (http://www.cochrane.org/resources/handbook/).

c) Research Study

This would be a retrospective or prospective study involving laboratory-based research or clinical intervention and would constitute the traditional type of research report.

d) Contract Research

An analysis of cases collected in contract research projects may be suitable for presentation in a research report. These should not normally represent a small sub-analysis of a much larger study. Formal permission would be required from the sponsor to present the data as a research report.

e) In Exceptional Circumstances: A Case Study

This would be acceptable in certain circumstances, such as in extremely unusual or rare cases, if important contributions have been made to the investigation, understanding or management of the case(s), or if the presentation is accompanied by an additional clinical audit or a systematic review of the literature, or if analysis of the cases could lead to changes in clinical management, health practice or health policy.

4. GUIDELINES FOR THE SIZE OF PROJECT

Independent of the type of project undertaken the following procedures should apply:

a) A clear research question and/or hypothesis must be developed.

b) A protocol must be constructed and written according to Faculty guidelines and presented to the appropriate assessor group as a subgroup of the Faculty Graduate Studies committee. Students can only commence with the work once their protocol has been approved by the Faculty Graduate Studies committee, and relevant ethics committee.

c) The scope of the project should be limited and intended primarily to demonstrate acquaintance with and understanding of the methods of research.

d) The research does NOT have to produce a unique contribution to the scientific literature.

e) Data collection should be planned appropriately so it can be completed within 6 months.

f) If required, data analysis should use simple statistics and should preferably be done by the students themselves.

26/03/2015/BK

APPENDIX J: DECLARATION BY STUDENT AND CO-AUTHORS' AGREEMENT FOR WRITE-UP WITH PUBLISHED ARTICLES

Declaration: Student's contribution to article(s) and agreement of co-author(s)

I, [name(s) and surname], student number [xxxxx], declare that this Thesis/Dissertation/Research Report is my own work and that I contributed adequately towards research findings published in the article(s) stated below which are included in my Thesis/Dissertation/Research   Report   .

Signature of Student……………................................**Date**……………...................…

Name of Primary Supervisor…………..……………………

Signature of Primary Supervisor ……………………**Date**……………...……….........…

Agreement by co-authors: By signing this declaration, the co-authors listed below agree to the use of the article by the student as part of his/her Thesis/Dissertation/Research Report. In cases where the student is not the 1st author of a published article, the primary supervisor must explain (under comments) why the student is entitled to use the paper for his/her degree purposes.

Article 1: Title: ....

    Journal name, year, volume and page numbers: ....

Authors	Name	Signature	Date
1st author			
2nd author			
3rd author			
4th author			
5th author			
6th author			

Comments by primary supervisor:

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Article 2: Title: ……
        Journal name, year, volume and page numbers: ………………………………………………………………..

Authors	Name	Signature	Date
1st author			
2nd author			
3rd author			
4th author			
5th author			
6th author			

 Comments by primary supervisor:

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Article 3: Title: ……
        Journal name, year, volume and page numbers: ………………………………………………………………..

Authors	Name	Signature	Date
1st author			
2nd author			
3rd author			
4th author			
5th author			
6th author			

 Comments by primary supervisor:

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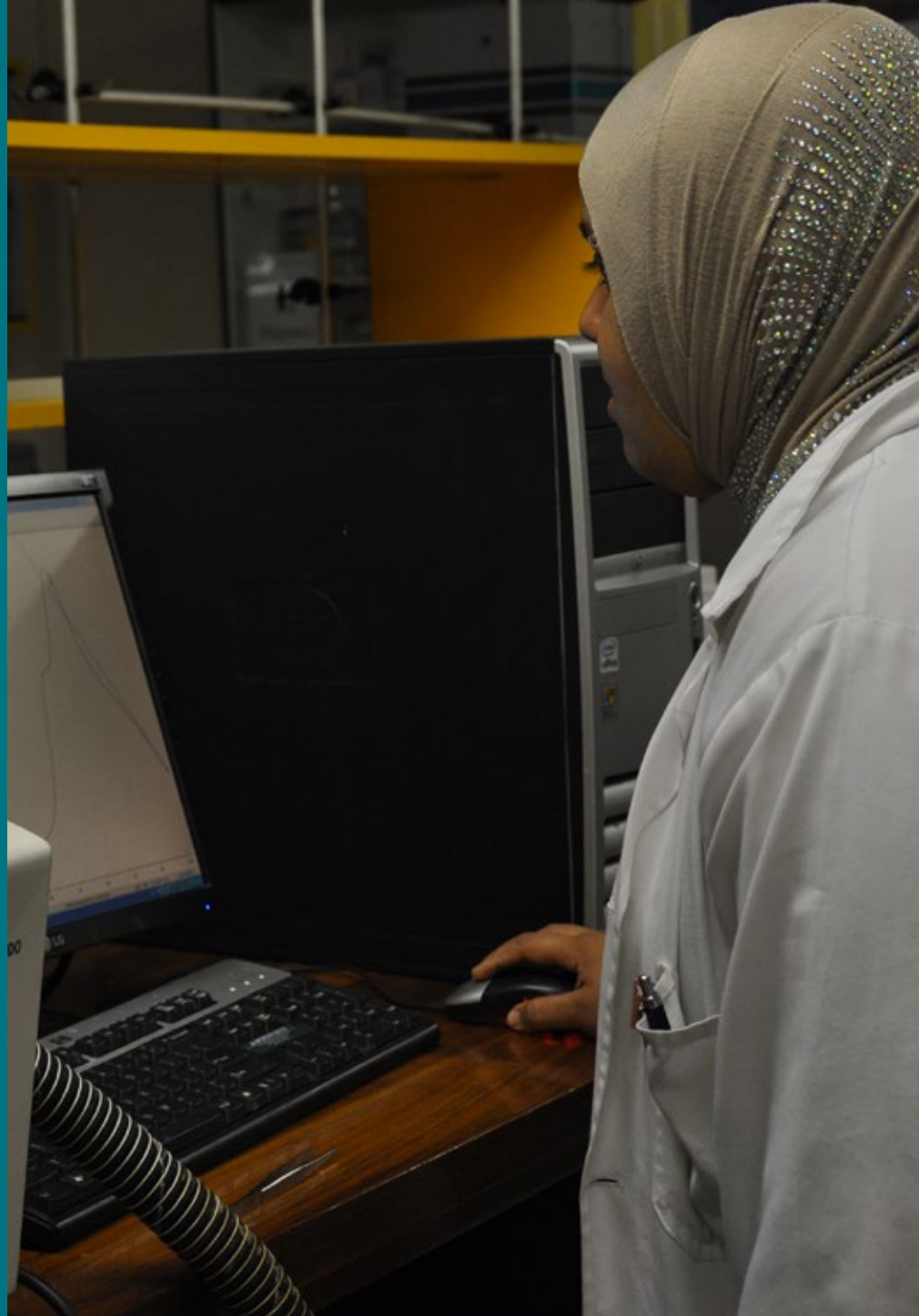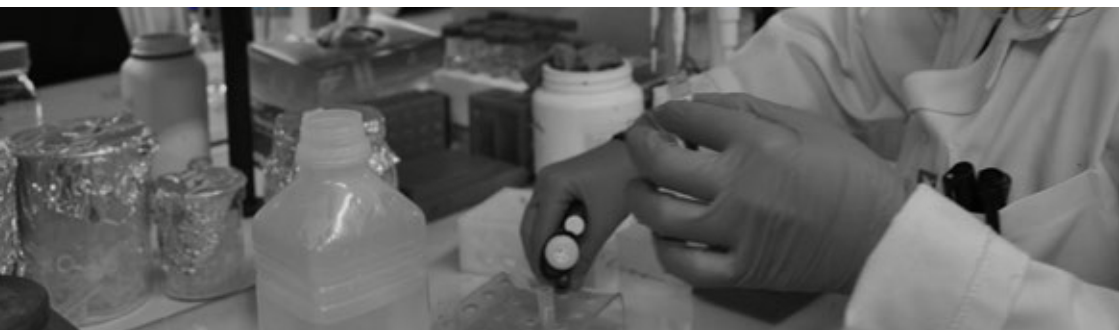
HEALTH SCIENCES STYLE GUIDE

www.wits.ac.za/academic/health