



UNIVERSITY OF SARGODHA

Guidelines of the Thesis

for BS/MS/PhD Degree Program

Thesis Writing Guidelines

Title

The title of your thesis should be clear, concise, and accurately reflect the content and focus of your research. Avoid overly complex or ambiguous titles that may confuse or mislead readers. Use precise language that captures the essence of your work succinctly.

Abstract

1. Start with a concise statement of the research problem or objective: Begin the abstract by clearly stating the purpose of your study. Summarize the main research question or objective in a single sentence.
2. Provide background information: Briefly describe the relevant background information and context for your research. Highlight the key concepts, theories, or previous studies that are essential for understanding your work.
3. Describe the methods used: Provide a concise overview of the experimental methods, data collection techniques, or theoretical approaches employed in your study. Mention any specialized equipment or software used.
4. Summarize the results: Present a summary of your main findings or results. Highlight the most significant outcomes or discoveries that address your research question or objective. Use quantitative data or specific examples where possible.
5. Emphasize the implications and significance: Discuss the broader implications and significance of your research. Explain how your findings contribute to the field and why they are important. Address any potential applications or future research directions.
6. Use clear and concise language: Write in a clear, concise, and straightforward manner. Use simple and accessible language, avoiding jargon or highly technical terms. Aim to make your abstract understandable to readers outside your specific subfield.
7. Follow a logical structure: Organize your abstract in a logical sequence that reflects the flow of your thesis. Typically, this includes introducing the problem, summarizing the methods, presenting the results, and discussing the implications.



8. Reflect on the content of the thesis: The abstract should provide an accurate representation of your thesis. Avoid making claims or including information that is not supported by your research. Ensure that the abstract aligns with the main body of your thesis.
9. It is also **mandatory to mention the sustainable development goals (SDGs)** that are linked with your presented research.

Introduction

1. *Provide context*

Begin by providing background information and context for your research topic. Explain the broader field or discipline in which your study is situated. Describe the significance and relevance of the topic, highlighting any existing knowledge gaps or unresolved issues.

2. *State the research problem*

Clearly state the specific research problem or objective that your thesis addresses. Formulate a concise and focused research question or set of objectives that will guide your study.

3. *Present the rationale*

Provide a rationale for your research by explaining why it is important and necessary. Discuss how your study builds upon and extends the existing knowledge in the field. Clearly articulate the value and potential impact of your research.

4. *Outline the scope and methodology*

Describe the scope of your study and the specific approach or methodology you have employed. Explain the key techniques, methods, or experimental designs used in your research. Justify your chosen approach and provide a brief overview of the data collection and analysis methods.

5. *Highlight the expected contributions*

Clearly state the potential contributions of your research. Explain how your study will advance the field, fill the identified knowledge gaps, or provide novel insights. Outline the specific outcomes or results you expect to achieve.

6. *References for support of your research*

Provide relevant references which support your research/information provided in your thesis.

7. *Review and revise*

After drafting the introduction, review it for coherence, clarity, and logical flow. Ensure that the information presented is accurate and relevant.

8. *Consider the length*

The length of the introduction may vary depending on the specific requirements of your department. Generally, it should be long enough to provide sufficient context and rationale but concise enough to maintain reader engagement.



Literature Review

Review relevant literature: Conduct a comprehensive literature review to familiarize a reader with the existing research and theories related to your topic. Summarize the key findings and debates in the field. Identify the strengths and weaknesses of previous studies and highlight any gaps or limitations that your research aims to address.

Experimental/Methodology

1. Provide a clear overview: Begin the experimental section by providing a clear and concise overview of the overall experimental design. Describe the purpose of the experiments and how they contribute to addressing the research question or objective.
2. Include detailed methods: Present detailed descriptions of the experimental procedures, techniques, or measurements, calculations, equations, and mathematical procedures (according to your specific subject/research area) used in your study. Include information such as sample preparation, equipment used, measurement parameters, calculations, computational work, and any specific protocols followed. Be specific and provide enough detail for the experiments/procedure/calculations/equations to be reproducible.
3. Use subsections: Organize the section into subsections (if required) based on the different experiments or methods used.
4. Include controls and variables: Clearly describe any controls, variables, or conditions that were included in the experiments.
5. Include data collection and analysis: Explain how data were collected during the experiments. Describe the instruments, calculations, equations, or software used for data acquisition and the specific measurements taken. Outline the analytical techniques or statistical methods used for data analysis and provide references to any established protocols.
6. Consider reproducibility: Provide sufficient detail and information to ensure the reproducibility of your experiments. Include any specific protocols, parameters, or conditions that are crucial for replicating your work.

Results and discussion

1. Presentation of the data: Start the chapter by presenting your data in a clear and organized manner. Use tables, graphs, figures, or charts to effectively display your results. Include appropriate labels, units, and error bars, if applicable.



2. Interpretation and analysis: Immediately following the presentation of the data, interpret and analyze the results. Explain the meaning and implications of your findings about your research question or objective. Consider both expected and unexpected results.
3. Address each research objective: Structure your discussion around each specific research objective or hypothesis. Address how your findings relate to each objective and whether they support or contradict previous research or theories.
4. Provide context: Situate your results within the broader context of the field. Discuss how your findings align with or deviate from existing literature. Highlight any similarities or differences between your results and those reported by other researchers.
5. Identify patterns or trends: Look for patterns, trends, or relationships within your data. Discuss the significance of these patterns and their implications for the understanding of the research problem. Use supporting evidence, such as statistical analyses or comparisons with literature, to strengthen your arguments.
6. Discuss limitations and uncertainties: If applicable, acknowledge any limitations or uncertainties in your study. Discuss potential sources of error or bias and their impact on the results. Address any constraints or limitations of the experimental design or data collection methods and how they may have affected the outcomes.
7. Depending upon the specific area of research, results and discussion chapters can be divided into two chapters.

Conclusions

1. Summarize key findings: Begin the conclusion by summarizing the key findings of your research. Provide a brief overview of the main results and discoveries that address your research question or objective. Focus on the most significant and impactful findings.
2. Address research objectives: Revisit each research objective or hypothesis stated at the beginning of your thesis. Discuss how your findings have contributed to achieving these objectives and whether they support or refute your initial hypotheses.
3. Discuss implications and significance: Discuss the broader implications and significance of your research. Explain how your findings advance the field, fill knowledge gaps, or challenge existing theories. Highlight the practical applications, if applicable, and discuss the potential impact of your work on the relevant scientific community or society.
4. Avoid introducing new information: The conclusion is not the place to introduce new data, arguments, or references. Ensure that all the information presented in the conclusion has been discussed earlier in the thesis. Focus on summarizing and synthesizing the existing information to provide a coherent and cohesive conclusion.



5. Keep it concise: The conclusion should be concise and focused. Aim to provide a succinct summary of the main points without unnecessary repetition. Avoid going into excessive detail or delving into tangential discussions.

Ethical Considerations: consent/access/and participants' protection

- List down issues like informed consent, anonymity, the confidentiality of data, data storage, and the use of the results, etc.
- Other can be studied specifically like intervention and advocacy etc.



General Instructions on Formatting Details

This document describes the guidelines for BS/MS/MPhil and PhD Thesis. All students are required to follow the guidelines mentioned below.

Font Details, Margin and Line Spacing

The thesis/report must be typed in 12-point font Times New Roman. There should be a spacing of 6 points before and after the headings and each paragraph in the manuscript except the titles, table titles, notes and figure captions. Do not try to make your thesis unnecessarily large, try to keep its volume in a reasonable range. Maintain consistency in font style throughout the thesis. The page margins should have Left, right, top, and bottom margins equal to 1.5", 1", 1" and 1" respectively.

1. The font size of the main text should be 12 Times New Roman and the line spacing should be 1.5.
2. The font sizes for the level headings are given as follows:
 - Level Heading 1 Font Size=16 With TNR Font in Bold Face,
 - Level Heading 2 Font Size=14 With TNR Font in Bold Face,
 - Level Heading 3 Font Size=12 With TNR Font in Bold Face,
 - Level Heading 4 Font Size=12 With TNR Font in Bold Face,
3. Chapter separators Font Size=20 With TNR Font in Bold Face and center of the page,
4. All equations should be center-justified, and their captions/numbers right justified.
5. There should be no indentation at the start of the paragraph. Don't add Tab spacing at the start of each paragraph

Language: Must be written in English.

Spellings: American or British spelling is acceptable, but one form must be used consistently throughout the thesis.

Page Numbering

- Preliminary pages (title page, dedication if written, acknowledgements, abstract, table of contents, list of tables, list of figures etc.) should be numbered in lower case Roman numerals, i, ii, iii etc. at the center bottom of each page.
- The main body of the text of thesis i.e. from the first page of chapter 1 to references be given in Arabic numerals i.e. 1, 2, 3 etc. to be indicated at the right top of each page.

Citations in the Text

- If you use someone's words or ideas, you must give them credit with a citation. This is particularly important, since the penalties for plagiarism are severe.



- There are numerous ways to formally cite a reference in the text. Examples include Some fact (last name, year)., Last name (year) noted that..., or in <year>, <last name> reported that... For more ideas, pay close attention to the articles you read.
- The first time the reference is cited in the text, spell out all the authors' last names. For example, Miller, Rosellini, and Seligman (1975) suggested that...With articles that have three or more authors use the Latin abbreviation for "and others" when the reference is cited a second (or third) time. For example, Miller et al. (1975) suggested that... or ... some fact (Miller et al., 1975).
- If the citation is in parentheses and you need to use the word "and", use the ampersand ('&') instead. For example, some (e.g., Estes & Skinner, 1940) have suggested that..., as compared to Estes and Skinner (1940) have suggested ... Note also that the opposite applies as well, that is, if the citation is not in parentheses, you must use the word "and".
- Multiple citations in parentheses are placed alphabetically and are separated by a semicolon and a space. For example, Some facts (Carlson, 1972; Moon, 1968; Partin, 1980).
- If you cite something second-hand, you must make it clear (e.g., Some facts (Smith, as cited in Jones, Year). Note that in this example, only the Jones reference would be placed in the reference section.

Figures and Tables

Label figures and tables sequentially according to the chapters (e.g., Figure 1.1, 1.2, 1.3 for Chapter 1 Figure, 2.1, 2.2, 2.3, for Chapter 2 Figure 3.1, 3.2 for Chapter 3 and 4.1, 4.2 for Chapter 4. Similarly for Table e.g., Table 1.1, 2.1, 3.1, 4.1). Write the table and figure number in bold face. There is no period used after the table number or title. When listing numbers with decimals in columns, ensure all the decimal points are exactly in the same vertical line.

Provide clear and concise captions for figures and tables, explaining their content.

Place figures and tables close to the relevant text and refer to them within the main body of the thesis.

Ensure that figures and tables are of sufficient resolution and clarity.

Illustrative Material

Maps, diagrams, and tables need not be placed on separate pages. However, if the diagram or table is big enough then it should be placed on a separate page. All the diagrams should be the same size provided their resolution is not suffering. Try not to copy the diagrams. The diagrams and tables should be properly captioned. For figure captions use font size 12 and use a smaller font size (10 points), for header and footnotes. The Figure and Table number should be given in bold letters (like **Figure 1.1. Table 1.1.**), while the caption of figures and tables should not be given in bold letters e.g.,

Table 1.1. Importance of Thesis



If you have diagrams or charts etc. which are Oversized, then these should be carefully folded into the thesis.

Abbreviations

One of the most important things in thesis writing is that people often use such abbreviations which can only be understood by them. You should always keep in mind one thing you are writing a thesis/report to tell others about your work who didn't know it previously. Therefore, use only those abbreviations which are used commonly, and you must elaborate on the abbreviation on first use in your article and then you can use it repeatedly.

National Significance

Please briefly discuss how the presented research work deals with National interests, such as technological advancements, economic development, social welfare, public health, environmental sustainability, growth and development of industry, or national security.

References

The written material in your document should not be copied. If you want to quote some of the findings from a book or a published paper, then you must rephrase it and give the reference of the author or book. The pattern of the references must be in APA style and listed alphabetically by last name of the author. The spacing should be 1.5 while before and after spacing between all the references must be 12 points.

Examples:

Journal Citation

Chivulescu, A. I., Doni, M. B., Cheregi, M.-C., & Danet, A. F. (2011). Determination of amoxicillin, ampicillin, and penicillin G using a flow injection analysis method with chemiluminescence detection. *Revue Roumaine de Chimie*, 56(3), 247-254

Mitchell, J. A. (2017). Citation: Why is it so important? *Mendeley Journal*, 67(2), 81-95.

Sen A., and Batra A. (2012). Chemical composition of methanol extract of the leaves of *Melia azedarach* L., *Asian Journal of Pharmaceutical and Clinical Research*, 5(3), 42-45

Book Citation

Hubschmann, H. J. (2009). Handbook of GC-MS: Fundamentals and applications, (2nd ed.). Weinheim: Wiley-VCH.

Jones, A. F and Wang, L. (2011). Spectacular creatures: The Amazon rainforest (2nd ed.). San Jose, Costa Rica: My Publisher



Mitchell, J. A., Thomson, M., and Coyne, R. P. (2017). A citation guide. London, England: My Publisher

Website Citation

Mitchell, J. A. (2017, May 21). How and when to reference. Retrieved from <https://www.howandwhentoreference.com>.

Following website show how electronic references can be cited and quoted. APA Style Guide: <http://www.apastyle.org/elecsource.html>

<http://www.apastyle.org/electext.html>

<https://www.mendeley.com/guides/apa-citation-guide>

Thesis Printing

The thesis should be printed on 80 g white A4 (8.27"×11.69") paper. The thesis must be printed on one side of the paper only. Photographs and other special figures or tables may be printed on photographic quality paper.

Hard binding

The color of the hard binding should be pure black with golden writing for the Ph.D., dark maroon with golden writing for the BS/MS/MPhil thesis.

Please take color print of the pages where some diagrams/Figures/structures are given which cannot be understood completely if printed in black and white.

Specimen cover page for hard binding of Thesis downloads from UOS website.

Layout of Thesis

Although this document is written in the prescribed format, here is the sequence of the preliminaries and chapters of your thesis. After writing the thesis completely you must tally it with the sequence given below.

- Cover page*
- Title Page**
- Title Page with the Statement "Thesis submitted in partial fulfillment of"***
- Declaration (of originality)
- Certificate from the Supervisors
- Research Completion certificate
- Dedication



- Acknowledgement
- Table of Contents
- List of Tables
- List of Figures
- List of Abbreviations
- Nomenclature
- List of Publications
- Abstract
- Chapter 1 and then the subsequent chapters of your report will follow (your report should consist of at least four chapters, namely, Introduction, Literature Review, Experimental Work, Results, and Discussion).
- References
- Appendices (where applicable)
- Any other information specific to the respective discipline

The purpose of the “cover page” is that it provides the binder of the thesis with a pattern, which is printed on the binding.

*The cover page of the thesis contains title (24 pt TNR), author’s name (18 pt TNR), author’s ID (18 pt TNR), and name of college/Institute/department and faculty name, and year of submission (18 pt TNR) in upper case and bold face.

**The “1st title page” of the thesis contains title (20 pt TNR), author’s name and supervisor’s name (20 pt TNR), author’s ID (16 pt TNR), name of college/Institute/department and faculty name, and the month and year of submission (16 pt TNR) in upper case and bold face.

***The “2nd title Page” of the thesis contains title (20 pt TNR), with the Statement “Thesis submitted in partial fulfillment of”, and the name of degree (14 pt TNR) for which it is presented, the author’s name (20 pt TNR), author’s ID and session (16 pt TNR), name of college/Institute/department and faculty name, and year of submission (16 pt TNR) in upper case and bold face .

CD submission

The Library UOS requires a CD containing thesis both in DOC text format and PDF format. Each student should submit a soft copy of his/her thesis at the time of submitting the hard-bound thesis.

Specimen of Thesis format downloads from UOS website.