

Department of Health and Human Performance
Montana State University – Billings
General Guidelines for the **Senior Thesis** in Human Performance for Academic Year **2012-2013**

The senior thesis is the capstone experience of a student's undergraduate degree in Human Performance in the Department of Health and Human Performance at Montana State University – Billings. Thus, it is expected that each thesis demonstrates significantly more scholarship than occurs in other, course-specific research papers or similar work. For instance, a dozen primary references might suffice for a paper in a course but would fall far short of the relevant references needed for a thesis, which typically should **cite at least 25 primary source references**. As a student's culminating academic experience, the senior thesis involves *original* research and in all cases involves a written paper and oral defense of the student's inquiry. The thesis is to involve **no fewer than 25 pages**. Students are expected to clearly communicate the professional importance/relevance, theoretical framework (rationale, justification, etc.), methodological and procedural activities, results, analysis, interpretation, and discussion that comprise the thesis. Judgment as to acceptance, need for revision, and grade assigned will be made by the committee and communicated to students by the advisor within 24 hours of the oral defense.

In their senior thesis, students are to extend and apply their acquired knowledge about human performance in an original investigation * and then clearly communicate their efforts in written and oral presentations. They are expected to enhance their intellectual and professional development as well as their ability to create a more professional product than occurs in course-specific projects.

The senior thesis is directed by the student's advisor, who oversees the project on behalf of the department; and at least two other faculty members or appropriate professionals (i.e. local physicians, physical therapists, nurses, etc.) are selected by the student in collaboration with the advisor to serve as committee members.

Though all senior thesis projects focus on human performance and the exercise sciences that establish the foundation for all human performance, journals in the field follow no universal citation format. Thus students are free to select and consistently follow any appropriate format, incorporating the following general guidelines.

Format for the Paper

Students should identify a professional journal that could serve as a publication venue for their thesis and follow the author page guidelines as published by that journal for format, citation of references, etc. Those author guidelines are to be copied and attached to the thesis as an appendix.

In addition to the standardized style and format that students will follow in writing the thesis the department has the following guidelines for students to follow in their title and approval pages.

* Research completed in other classes can serve as preparatory work or as pilot data for the senior thesis; however, **thesis credit is NOT permitted for projects completed to meet requirements in other courses.**

Title Page format:

Title
by <Student Name>
A thesis submitted to the faculty of the Department of Health and Human Performance in partial fulfillment of the requirements for the degree of Bachelor of Science in Human Performance
Semester, Year
Copyright Year <student name> All rights reserved

* Approval Page format:

Title
by <Student Name>
Approved: _____ Thesis Director – Name Department Affiliation and Title
Approved: _____ Thesis Committee Member – Name Department Affiliation and Title
Approved: _____ Thesis Committee Member – Name Department Affiliation and Title
Date
<i>This thesis represents my own work in accordance with all applicable Department of Health and Human Performance and university guidelines and expectations for intellectual work.</i>
Signed: _____

Format for the Oral Defense of the Thesis

Since the Oral Defense is expected to last about one-half hour and several thesis projects are presented on the same day, students should prepare and **practice** a talk on the thesis to be no more than **20 minutes in length**. Time will be reserved at the end of each student's presentation for committee members to ask questions, followed by time for others in attendance to ask questions. Students should expect questions that request clarification, check depth and breadth of understanding, explore the impact of the investigation on the student's own professional future, examine the extent to which sufficient insight has been developed as to the implications of the results, and inquire as to the meaning of the project for prospective recipients of the student's professional services and the discipline.

Since faculty and students attending the defense can be expected to be less familiar with the investigation than are the advisor and committee members, the talk should provide sufficient introductory, overview material for a non-specialist to understand the talk.

The specific audio-visual supports that a student chooses to use will not affect the examining committee's evaluation of the presentation, but people in attendance should not have to sort through figures, charts, or other materials nor be expected to read slides that are dense with text. Slides – either transparencies or computer-projected – can be valuable aids but students need to realize that the smooth operation of any technology is their responsibility.

Intellectual Property

As with other papers, the University recognizes that the student holds copyright to the finished thesis and students are required to take the steps necessary to allow the University library to reproduce the thesis and to circulate it (without affecting ownership of the copyright).

Additionally, by its nature, a student thesis relies heavily upon interaction with others, including but not limited to the thesis advisor and committee members. Thus it is understood that only the written thesis is covered in the copyright and that other rights to publish and work with results of the thesis are shared with others consistent with their involvement in the project.

Additional Helpful Information – To supplement, not replace specific guidelines or requirements of a journal whose author guidelines a student is following.

Though different thesis papers will follow different style formats as required by different professional journals for publication, the following generic sections are common to scientific papers in some form.

Abstract

This section of the thesis is a condensed but thorough summary of the manuscript that provides in abbreviated form the essence of the research, the research question and hypotheses, methods, results, and conclusions. Since abstracts are often available without the full paper, a reader should be able to understand what variables were investigated, how they were manipulated and assessed, what results were found, and what conclusions were reached. This typically does not exceed 200 words.

Introduction

In this section the writer provides the introduction, establishes the context within which the investigation was conducted, provides a justification and rationale for the investigation, introduces the reader to the variables to be examined and the operational definitions by which the variables are identified, frames the research question, and can offer the hypotheses to be tested in the research.

Theoretical Background

In this section the writer establishes the theoretical foundation for the investigation, providing whatever historical and other framework is needed for the reader to understand the material presented in Chapter 1. This chapter is where the largest percentage of referenced, predominantly primary sources, material will appear; organized so that the reader is moved along toward an accurate understanding of the investigation, how and why it fits with the extant professional literature.

Methods and Procedures

In this section the writer should give a sufficiently detailed account and description of the procedures used, the steps taken by the researcher, and the methods used for measuring, observing, and overseeing the operational aspects of the research to allow replication of the study.

Results

Here, the writer presents the findings; the data generated by the methods and procedures and the results of the inquiry are presented to the reader in this chapter. Statistical analysis is explained in this chapter and this is the location for most of the tables, figures, graphs, etc. that **supplement but do not replace** the narrative explanation. Statistical conclusions as to significance or lack thereof are presented here, too; but interpretation of the results, inferences beyond the scope of this study itself do not appear here but are reserved for the next and final chapter.

Discussion, Interpretations, and Recommendations

In this final section, the writer relates the results to the previous work on the topic, integrating his/her findings with the relevant literature cited earlier in the thesis. This is where the writer needs to move beyond the results to explore what they might mean and what inferences seem warranted (with justification). In this chapter, the writer needs to discuss other groups or circumstances to which the results might be generalized – and, present clear rationale as to why. In this final section of the body of the paper, the student needs to elaborate on the investigation.

Appendices (if applicable)

If the writer has raw data that might be relevant, or unique equipment or equations that were used, or similar material that would distract readers by being inserted into the body of the narrative, such material goes in an appendix. Additionally, the author guidelines that the student followed are to be included here.

References

Depending on the publication format being followed, this section provides an alphabetical or numerated list of the sources that the student cited in the thesis. By definition, a work of any sort that was not cited in the body of the thesis did not serve as a reference should not appear in this section. Though the student might have read many sources in preparing for the thesis, only those works that actually ended up being cited in the narrative are actual references. This is not a listing of anything beyond the reference sources the student actually used and which another researcher would need to access in order to evaluate or replicate this study.

Publication Manuals and Resources (representative not exhaustive list)

Writing Research Papers, 5th ed., James D. Lester offers summary guidelines often used by journals in chemistry, computer science, mathematics, physics, and medical sciences are summarized in James D. Lester,

How to Write and Publish a Scientific Paper, Robert A. Day

Scientific Writing for Graduate Students, F. Peter Woodford

The *Publication Manual of the American Psychological Association* (6th ed., 2010).
[\(http://psychology.vanguard.edu/faculty/douglas-degelman/apa-style/\)](http://psychology.vanguard.edu/faculty/douglas-degelman/apa-style/)

Illustrative author guidelines can be found at:

<http://www.journalofathletictraining.org/userimages/ContentEditor/1254507845769/JAT.AuthorsGuide.pdf>

http://ptjournal.apta.org/misc/ifora_formatting.dtl

<http://www.aahperd.org/rc/publications/rqes/Submission.cfm>