Thesis Guideline Handbook
Master of Science in Athletic Training

College of Education

Revised Fall 2015
Preface

Part I of this document is designed to give students and faculty members a set of guidelines and expectations for the thesis requirement in the Graduate Athletic Training Program. These guidelines are intended as the minimum requirement of the Graduate Athletic Training Program. Faculty members may add requirements as they see fit as long as these minimal guidelines are met.

Part II of this document outlines academic honesty and procedures of dealing with academic dishonesty.

Part III of this document presents students and faculty members a set of guidelines and examples for writing each component of the thesis document. Students should use these guidelines and examples when writing each component of the thesis. These general guidelines will aid faculty members provide better guidance and feedback in the thesis writing process.

Sequence of Steps for Thesis Requirement

(Checklist for Completion)

1. Delimit area of interest
2. Establish thesis chair
3. Establish an appropriate research question with accompanying hypothesis
4. Perform and write a literature review
5. Design methods that will adequately answer your research question and write the methods
6. Write an introduction to your thesis proposal
7. Work with your thesis chair to edit and revise your proposal
8. Submit a final draft of your thesis proposal before your oral proposal presentation
9. Submit a proposal abstract (paperwork) to all thesis faculty members 1 week before your oral proposal presentation
10. Submit your final oral presentation to your thesis chair before the presentation
11. Oral presentation with all thesis faculty members and fellow MSAT students
12. Submit your research fund request
13. Submit IRB application and make necessary revisions, if necessary
14. Once IRB application is approved, collect original data
15. Analyze and interpret data
16. Write final thesis manuscript work with your thesis chair to edit and revise the manuscript
17. Schedule your oral defense - *Last day to hold your final defense is 3 weeks before your planned graduation date.
18. Submit a final draft of your thesis manuscript before your oral defense.
19. Submit the thesis manuscript abstract (defense paperwork) to all faculty members 1 week before your oral defense presentation
20. Submit your oral defense presentation to your thesis chair before the presentation
21. Defend your thesis in an oral presentation
22. Complete any required revisions that are necessary and submit final copy to your thesis chair - *Last day to submit your final copy of your thesis is 2 weeks before your planned graduation date.
23. Submit poster to your thesis chair
* = Absolute deadlines. Failure to meet these deadlines will require your continual registration for MSAT 6095 and delayed graduation.

Table of Absolute Deadlines for Graduation

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral defense</td>
<td>3 weeks before date of graduation</td>
</tr>
<tr>
<td>Final copy of thesis submitted</td>
<td>2 weeks before date of graduation</td>
</tr>
</tbody>
</table>

**Oral Defense**

The Thesis Oral Defense is the last opportunity for Thesis Faculty to ensure that the student has a graduate-level understanding of basic study design, statistical analysis, integration of their findings within the broader body of literature on their topic, and application to clinical practice. At this point, the student should be the EXPERT on their topic, methods, results and discussion. If the student cannot explain why they did what they did, or what their findings mean, they have not successfully defended their thesis and will be required to re-defend. The student will have a maximum of 2 attempts to successfully defend their thesis. Successful defense is defined as a minimum score of 80% on the Thesis Defense Rubric (see Thesis Handbook) as graded by the student’s thesis chair. Regardless of the other points earned in the course, if the student fails to successfully defend on the second attempt, the student will be given a grade of “E” for MSAT 6090 for the semester and must re-register for 3-credits of MSAT 6090 in the following semester (no earlier than the following fall semester).

The student must complete their Thesis Oral Defense at least 3 weeks before graduation. If the student receives a failing grade for the Thesis Oral Defense, the student must re-defend before graduation.

**Final copy of thesis submitted**

The student must submit the final copy of their thesis manuscript to their thesis chair at least 2 weeks before graduation. Early submission is encouraged for the proper editing process to take place. At the due date, the thesis chair will assign a numeric grade to the final thesis manuscript based on the designated point value in MSAT 6090.
Part I
Guidelines and Expectations for Thesis

Purpose of Thesis
A thesis is a requirement in the Graduate Athletic Training Program in partial fulfillment for Master of Science of Athletic Training degree to demonstrate that the student can:

- Understand the research process
- Carry out an independent research project
- Describe the project in a written manuscript, research poster, and oral defense

The required thesis is a capstone experience providing the student with a greater understanding of the research process. Evidence based medicine (EBM) continues to guide best practice in medicine. A greater understanding of the research process will aid the student in interpreting and critiquing research in their future clinical practice.

Characteristics of Good Research
Good research should objectively answer a specific question upon which a hypothesis is formed. Methods should be reliable and valid. The results should be generalizable to a specific population and interpreted to contribute results to the existing research.

Finding an Advisor
During the fall semester of the students’ first year in the Graduate Athletic Training Program, students will develop a topic of interest. The process of developing a topic will be discussed throughout MSAT 6080. The student will have the responsibility to discuss their desired topic with the current thesis faculty. Based on discussions with the thesis faculty, students and faculty will mutually agree on advising and the student will register for MSAT 6085 under that faculty member’s section. All students should have an agreed upon advisor by the end of their first year fall semester.

Current Thesis Faculty
- Matt Denning
- Matt Donahue
- Rod Hansen
- Collin Herb
- Jenn Ostrowski
- Justin Rigby
- Chad Smith
- Valerie Herzog

Literature Review
A literature review discusses published information within the student’s topic area. An exhaustive search of important literature is performed on the specific question the thesis is trying to answer. A proper literature review will greatly benefit the student in the rest of the thesis process.

A good literature review has the following features:
- Focused on a well-delineated thesis question
• Exhaustive of the important research on that topic found through electronic databases and manual searches of journals (should state the methods used to find relevant literature)
• Is an organized summary and synthesis (interpretation based on topic) of the relevant literature
• Determines what needs to be known about the topic of interest

The student’s thesis advisor has final judgment on the quantity and quality of the student’s literature review.

**Research Methods**
Research methods start with a sound research design. A proper research design is selected based on the thesis question and will serve as a road map for the research method section. The research design should indicate the dependent and independent variables of the study.

Follow the research design with a description of participants, instruments, procedures and statistical analysis. The research methods should contain sufficient detail so that others can reproduce the experiment if needed. Include references of previously used methods and reliability and validity information, which correspond to the current methods being used to answer the student’s question.

Each student will be required to develop their own statistical design and perform their own statistical analysis with guidance from their thesis advisor.

**Oral Proposal Presentation**
During the spring semester of the students’ first year in the Graduate Athletic Training Program, each student will give an oral presentation proposing their thesis. The thesis proposal should contain the following components:

- Title slide
- Introduction
- Purpose
- Methods
- Statistical analysis
- Funding/Unresolved issues
- References

The presentation should be approximately 10 to 15 minutes. Following the presentation, time will be available for question. The student is responsible to answer the question with very little, if any, input from the student’s thesis advisor. Questions will focus on the thesis question and problem justification, hypothesis and research methods. Discussion with the student and thesis advisor chairs will determine if changes to the proposal need happens before the IRB application and data collection process occurs.

One week prior to the students’ oral proposal presentation, a proposal abstract (paperwork) will be submitted to all thesis faculty.
Research Funding and Incentive Policy
The Weber State University Athletic Training Program has some funds for research. If you are interested using these internal funds for your thesis project, complete the Research Fund Request form. The thesis faculty will review all applications at the end of each spring semester and decide how to disperse the funds. Completion of the Research Fund Request form does not guarantee funding for your thesis, but the faculty will try to fund as many projects as possible.

Due to limited funding for Athletic Training Research from the Program, Department and College, the following policies have been established for students seeking research incentive funding. While these guidelines only apply to monetary-based incentives, please note that only one form of incentive may be provided to a subject (i.e., you cannot offer course extra credit (with instructor approval) and a gift card).

The following is a list of projects that ARE likely suitable for participant incentive funding (NOTE: list is not all-inclusive; decisions will be made on an individual basis, based on information provided by the requestor):
• Research involving invasive techniques (e.g., blood draw, intramuscular temperature measurement)
• Research requiring the subject to attend multiple training and/or data collection sessions

The following is a list of projects that are likely NOT suitable for participant incentive funding (NOTE: list is not all-inclusive; decisions will be made on an individual basis, based on information provided by the requestor):
• Survey research (online or face-to-face)
• Research requiring the subject to attend 1 non-invasive data collection session (sessions length <1 hour)

Protection of Human Subjects and Institutional Review Board Process
The Institutional Review Board (IRB) protects the rights and welfare of human research subjects participating in research conducted by employees and students of Weber State University. Students will be required to submit their IRB application once their proposal is approved. If students use participants from organizations outside Weber State University, an application may have to be submitted to that organization’s IRB. Recruitment and enrollment of participants cannot occur until IRB approval is obtained. The IRB application should be submitted by the end of the spring semester of the first year.

Data Collection and Analysis
Students are responsible for collecting and analyzing their own data with guidance from their thesis advisor. Data collection may not begin until the students’ proposal and IRB applications are approved. Pilot data may be needed to refine the experiment’s research methods.

Thesis Manuscript
Students will write a scientific manuscript to describe the results of their data collection. Scientific manuscripts usually follow the format below:
• Abstract
• Introduction
• Methods
• Results
• Discussion
• Conclusion
• References

Formatting should follow the Journal of Athletic Training authors’ guide. If a student plans to submit their manuscript to a different journal, it is acceptable to format his or her manuscript according that journal’s authors’ guide.

When the final thesis manuscript is submitted the student should also submit:
  • All raw data, SPSS spreadsheet and SPSS output
  • All consent forms, data collection sheets, incentive tracking forms and other forms/materials to collect data

**Final Oral Thesis Defense**

During the students’ second year in the Graduate Athletic Training Program, students will schedule their final oral defense. The final oral defense should contain the following components:
  • Title Slide
  • Introduction
  • Purpose
  • Methods
  • Statistical Analysis
  • Results
  • Discussion
  • Conclusions
  • References
  • Questions

The presentation should be approximately 15 to 20 minutes. Following the presentation, time will be available for question. The student is responsible to answer the question with very little, if any, input from the student’s thesis advisor. Questions will focus on the results and discussion of the thesis. After the presentation the thesis chair will score the student’s thesis based on the Thesis Defense Rubric.

The student will have a maximum of 2 attempts to successfully defend their thesis. Successful defense is defined as a minimum score of 80% on the Thesis Defense Rubric as graded by the student’s thesis chair. Regardless of the other points earned in the course, if the student fails to successfully defend on the second attempt, the student will be given a grade of “E” for MSAT 6090 for the semester and must re-register for 3-credits of MSAT 6090 in the following semester (no earlier than the following fall semester).

One week prior to the students’ oral proposal presentation, the thesis manuscript abstract (defense paperwork) will be submitted to all thesis faculty.
Part II
Academic Integrity

Academic Dishonesty
Cheating and other forms of academic dishonesty will NOT be tolerated. The policy of the Weber State University Student Code found at http://weber.edu/ppm/6-22.htm will be enforced. Continued enrollment in thesis-related courses constitutes an understanding of, and agreement with, this policy.

Any individual caught cheating on examinations and/or assignments will receive an automatic “E” for their final grade. Furthermore, a letter will go into the student's file describing the situation.

Plagiarism
Plagiarism will NOT be tolerated. Plagiarism is defined as, “the act of using another person’s words or ideas without giving credit to that person.” Plagiarism can be intentional or inadvertent. Intentional plagiarism is a direct copying or not acknowledging ideas that are paraphrased. Inadvertent plagiarism usually occurs because of ignorant failure to properly document sources or insufficient care during scientific writing.

TurnItIn.com
WSU subscribes to TurnItIn.com, an electronic service that verifies the originality of student work. Enrollment in MSAT 6080, 6085, 6090 and 6095 courses may require you to submit some or your entire thesis to TurnItIn.com. Documents submitted to TurnItIn.com are retained, anonymously, in their databases.
Part III
Templates and Examples

Items for Proposal
- Written proposal
  - Introduction
  - Literature Review
  - Methods
- Proposal Abstract/Paperwork
- Oral Proposal Presentation
  - Research Funds Request form

Items for Thesis Completion
- Final Thesis Manuscript (template)
  - Abstract (Follow NATA Annual Meeting Guidelines)
    - This abstract will be submitted to all thesis faculty members 1 week before the oral thesis defense presentation
  - Introduction
  - Methods
  - Results
  - Discussion
  - References
  - Appendix A
    - Tables, graphs, figures (each on a separate page)
  - Appendix B
    - Complete literature review with separate reference list
  - Appendix C
    - Hypothesis
    - Assumptions
    - Limitations/delimitations
    - Operational definitions
  - Appendix D
    - IRB application
    - Consent form
    - IRB approval letter
  - Full-text electronic copies of every source in both reference lists.
- Final Oral Thesis Defense Presentation
- All raw data, SPSS spreadsheet, and SPSS output
- All consent forms, data collection sheets, incentive tracking forms, etc.

*Visit the MSAT Graduate Thesis Handbook and Forms website for all paperwork, outlines and faculty rubrics.