

Master of Science in Sports Medicine
Handbook for Capstone Research Project/Thesis



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INTRODUCTION ([back to Table of Contents](#))

Congratulations! The fact that you are reading this document suggests that you are nearing or anticipating one of the most important parts of your graduate education in sports medicine at Armstrong Atlantic State University. As you complete the majority of your coursework, you should begin thinking about how you will complete the capstone research project/thesis requirement. The purpose of this document is to provide the requirements and guidance for completing the capstone research project/thesis requirement for the Master of Science in Sports Medicine (MSSM) degree. In addition, the responsibilities of both students and faculty involved with the project/thesis process will be provided. It is our hope that this document help make completion of the research project/thesis a positive experience that greatly enhances your graduate education.

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ESSENTIAL INFORMATION TO UNDERSTAND BEFORE BEGINNING THE THESIS/PROJECT PROCESS**Research Project/Thesis Overview** ([back to Table of Contents](#))

Each MSSM student must successfully complete a minimum of 6 (six) hours of Project/Thesis credits as part of the degree requirement. While only research based thesis/projects will meet this requirement, not all thesis/projects need to be experimental (i.e., formal meta-analysis , systematic literature reviews). The Thesis/Project will be presented in a written format as well as orally during a scheduled public defense. Although formal registration for thesis/project hours occurs towards the end of your graduate experience, usually the last two semesters following the completion of most coursework, exploring ideas and refining potential projects may be initiated at any point during your graduate school experience. The process of completing the written portion of the project/thesis is an iterative one that will likely require multiple drafts and revisions to be exchanged between an advisor and the student before the final draft is accepted. Through self discipline, setting and holding to clear deadlines and maintaining good communication with the project/thesis advisor, most can be completed within two semesters.

Purpose of the Capstone Research Project /Thesis ([back to Table of Contents](#))

The purpose of having thesis/project requirement as part of a graduate sports medicine curriculum is multifaceted. First, as a capstone experience, it should prompt the merging of

knowledge and skills learned across the individual courses completed. Additionally, as a sports medicine professional, staying current with respect to new developments and research will be an integral part of daily practice. This will require proficient literature and research evaluation skills. Through the completion of a well planned, high quality thesis/project, literature and research evaluation skills will be developed to an extent that far exceeds what could be learned by just studying the research process. Further, one of the purposes of graduate education is to develop proficiencies that advance the knowledge and activities of sports medicine. These proficiencies include good writing and presentation skills, providing original insights to current problems and being able to synthesize and analyze multiple information sources. All of these proficiencies are an integral part of the thesis/project process. Finally, through completing a quality, original research thesis/project, students will be making contributions to expanding the body of sports medicine knowledge.

Difference Between a Research Project and Thesis ([back to Table of Contents](#))

The Graduate School at Armstrong Atlantic State University enables students to choose a “thesis” instead of a “project.” However, the student should be aware that theses are governed by the Graduate School. Therefore, while Sports Medicine faculty administer and direct theses, the student should request thesis guidelines from the Graduate School and be aware of all deadlines and procedures instituted by the Graduate School, much of which is outlined in a Thesis workshop presented by the Graduate School regularly. Part of the Thesis requirements imposed by the Graduate School is both a formal oral proposal and defense presentation. Practically speaking, Sports Medicine faculty find little difference between a project and thesis, however some students believe that having a “thesis” improves their chances of being accepted into a doctoral program. It is the belief of the Sports Medicine faculty that doctoral programs look highly on a candidate who had a publishable capstone project in his/her master’s program, not on whether it was called a “thesis” or a “project.” Further, a student’s final transcript simply reads “Sports Medicine Project/Thesis.” Therefore, only a student’s personal curriculum vita would highlight that a “thesis” was performed.

Completing Project/Thesis Hours ([back to Table of Contents](#))

The frequency of collaboration between the student and the Thesis/Project advisor will be decided upon by the Thesis/Project advisor based on individual student needs. When enrolled in Thesis/Project hours (either SMED 8900 or 8910) students are expected to spend significant portions of time each week working on their thesis/project. At a minimum, students are expected to spend at least 10 (ten) hours a week on their thesis/project. Of course all Theses/Projects do not fit this format and there may be periods where more time will need to be spent working on the

thesis/project. If there is any question about time requirements for a Thesis/Project, they can be addressed with the Thesis/Project advisor. Additionally, at a minimum, biweekly updates should be given to the advisor, preferably via email. Failure to maintain sufficient communication with the thesis/project advisor may result in being withdrawn from Thesis/Project hours, being assigned a grade reflecting suboptimal performance, and/or being prohibited from registering for further Thesis/Project hours.

At the end of the first three credit hours of project/thesis (SMED 8900), at a minimum, approved drafts of the 1) Introduction, 2) Methods, 3) Review of Literature, and 4) Appendix A (operational definitions, assumptions, limitations, delimitations) must be completed. Additionally, for research involving human subjects, Institutional Review Board (IRB) approval must have been attained. Students may not register for the second three credit hours of project/thesis (SMED 8910) until drafts of the above three chapters are approved by all member of the project/thesis advisor/committee and IRB approval is attained. When the above approvals are obtained, students are required to email their Thesis/Project Chair, with an email subject titled "Approval to Proceed to SMED 8910." Upon the Chair's approval a copy of the email will be placed in the student's academic file; this signals the student's right to register for SMED 8910. Additionally, failure to meet this expectation may result in the grade of U (unsatisfactory) instead of the usual grade of IP (in progress). In some circumstances, an advisor may require a student to present a formal thesis proposal before their committee or other faculty.

If the project/thesis is not completed by the conclusion of the two semesters registered for SMED 8900 and 8910, students **must** register for one (1) additional Thesis/Project hour each semester until the final acceptance of the project/thesis is attained. The grade of **IP**, *in progress*, will be reported for all project/thesis hours as long as the advisor determines that appropriate effort is being made and there is a documented track record of continued communication between the student and Chair, until the Thesis/Project is completed. The grade of **S**, *satisfactory*, or **U**, *unsatisfactory*, will be reported upon conclusion of the Thesis/Project.

Only after the Chair has determined that, following revisions, the Thesis/Project is consistent with 1) the first three chapters written during SMED 8900 (i.e., problem, significance, purpose, methods), and 2) the generally accepted academic rigor of graduate scientific writing, will the student be able to schedule an oral defense. It is the student's responsibility to book a room for the defense with the Departmental Secretary. When a date and time is set for the presentation/defense, the student must develop a flyer announcing the event and post in conspicuous areas. At a minimum, flyers must be posed in the Department of Health Sciences

office suite, Biodynamics Center, and the Physical Education/Sports Medicine bulletin board in the Sports Center. This must be done within one week of the scheduled presentation/defense. Further, committee members should be given a completed written document at least one week prior to the scheduling of the oral defense. Following the oral defense, final adjustments to the written document are often needed. In the majority of cases, following the oral defense the advisor and committee members will provide their signatures (*in black ink*) on the approval pages (must be provided by student) to signify acceptance of the final document, leaving the final adjustments to the student's discretion. Once the final document is completed, students must see Department of Health Sciences Secretary for information regarding the binding of the Thesis/Project.

Additionally, prior to final graduation clearance by the program coordinator and the removal of IP grades, the following items must be submitted to the project/thesis advisor:

1. Original copies of the following:
 - a. Signed IRB approved consent forms (if applicable)
 - b. Completed participant questionnaires, demographic and surveys
2. Hard copy of the following:
 - a. Final draft of project/thesis document (see Organization of Final Written Document section)
3. Electronic copies of the following on a clearly labeled compact disc:
 - a. Oral Defense Power Point
 - b. Final Draft of project/thesis document (see Organization of Final Written Document section)
 - c. All databases containing data collected
 - d. Outputs from all statistical analyses conducted
 - e. All references used entered into EndNote (see Dr. Riemann for details)
 - f. PDF copies of all references used (see Dr. Riemann for details)

Institutional Review Board (IRB) ([back to Table of Contents](#))

The IRB is a [federally mandated board](#) which monitors the use of human subjects in research. All research using human subjects requires approval from the IRB office, even if a project falls into the exempt category. The student is responsible for ascertaining AASU IRB approval. The [AASU IRB](#) handbook, forms and example consent forms are located on the web site for the Graduate School at AASU. Protocols requiring full board review are due by noon ten working days before the IRB meeting each month. Send protocols, complete with the appropriate forms to the School of Graduate Studies at AASU through your advisor and department chair.

Additionally, particular laboratories and remote sites may require additional materials and/or local IRB approval. For example, all study personnel involved with data collection in the Biodynamics Center must provide verification (copies of the certificates) for the [three training modules](#) offered by the [Office of Human Subject Protections](#).

Insurance ([back to Table of Contents](#))

If the student's Thesis/Project involves interacting with persons outside AASU, the student must purchase health insurance through the university prior to beginning his/her Thesis/Project (Students may see the Health Sciences department secretary for specific information on purchasing insurance.)

Policy for Addressing Allegations of Misconduct in Scientific and Scholarly Research ([back to Table of Contents](#))

Armstrong Atlantic State University has embraced the principal that honesty is an essential component of scholarly activity. (See [AASU Student Handbook](#)) Principal Investigators and others in positions of responsibility for the conduct of research and scholarly activity are expected to exercise reasonable supervision of those under their direction to ensure the integrity of the research or scholarly activity being conducted.

The University assumes primary responsibility for investigating and resolving allegations of scientific and scholarly misconduct by its campus community. This responsibility holds regardless of whether the activity involved was funded by external agencies. Assumption of this responsibility is consistent with the Code of Federal Regulations (CFR) at 45 CFR 689, though in some cases federal reporting requirements also pertain.

Definition of misconduct in scientific and scholarly research:

For the purposes of these procedures, misconduct in scholarly research is defined as:

- 1) Fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scholarly community for proposing, conducting, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data.
- 2) Retaliation of any kind against a person who reported or provided information about suspected alleged misconduct and who has not acted in bad faith. (*National Science Foundation Dear Colleague Letter, August 16, 1991*).

Leaving Campus Prior to Project/Thesis Defense/Acceptance ([back to Table of Contents](#))

Occasionally circumstances arise that dictate a student leave campus prior to their Thesis/Project being completed. Students are encouraged to carefully weigh the disadvantages to leaving campus before completing their degree requirements with the anticipated benefits leaving campus affords. In our experience, a large percentage of students who leave campus before completing their Thesis/Project never finish their degree requirements. Those who do finish often have increased difficulty balancing concentrated efforts on completing their project/thesis with outside commitments. The following points should be considered when weighing the decision to leave campus before finishing the project/thesis:

- a. Expect longer timeframes regarding feedback from faculty because in person meetings are no longer possible and faculty often have a full load of current thesis students.
- b. Registration and payment for one thesis credit (SMED 8910,1 Credit hour) must occur for students to use any University resources, including the library and laboratories, or before faculty can perform any of their advising duties. Students will need to continue to register for each semester work is completed on the thesis, including the semester they are approved for graduation.
- c. The final oral defense must still occur in person except in extraordinary circumstances approved by the MSSM program coordinator.

Final Disposition of Data Collected to Meet MSSM Project/Thesis Requirements ([back to Table of Contents](#))

Any data collected as part of meeting AASU MSSM degree requirements belongs to AASU Department of Health Sciences. Students are strongly encouraged to pursue opportunities to publically disseminate their project as a free communications submission at a national or regional meeting and/or journal publication. Any dissemination of the data is to be conducted under the direction of the advisor and should include as co-authors any individuals who made a significant contribution to the work. After a period of six months, students who do not pursue public dissemination opportunities or remain in contact with their advisor concerning dissemination opportunities, forfeit their projects to MSSM faculty for dissemination as they see fit. The student will remain an author, however depending upon the extent of rewrite/preparation may be replaced as first author.

Thesis/Project Advisor and Student Responsibilities ([back to Table of Contents](#))

The faculty advisor (chair) of the Thesis/Project committee has the responsibility to assure that:

- The Thesis/Project meets departmental criteria for Theses/Projects.

- The student has been informed of institutional policies and procedures as they relate to the use of human and animal subjects for research proposes.
- The Thesis/Project, in its final form, meets the appropriate format content mastery and standards set by the HS department.

The Thesis/Project student, in addition to doing the work and producing the project/thesis document, are responsible for:

- Familiarizing themselves with, and adhering to, all guidelines contained in this document.
- Being aware of all deadline/submission dates for the Thesis/Project.

BEGINNING THE PROCESS ([back to Table of Contents](#))

Because one of the most difficult parts of the project/thesis process is the selection of a topic (See the section Topic Selection Tips for more information), the wise graduate student begins to examine and develop potential research topics early in his or her graduate studies. It is suggested that a list of potential ideas be generated and ranked according to interest levels. Perform a preliminary literature search (see section on Literature Reviews for more information) and identify 3-5 original research studies closely related to your top four ideas. Use these papers to further refine your ideas. Identify potential faculty advisors by matching their interests and areas of expertise to your potential ideas. It is suggested that by the time you complete 18 credit hours, you begin to meet with potential faculty advisors to discuss and determine the feasibility of your ideas, as well as explore the possibility of them serving as your project/thesis advisor or on your project/thesis committee.

Topic Selection Tips ([back to Table of Contents](#))

1. Think about research topics as soon as you begin your graduate studies. Again, initial planning of the Thesis/Project does not need wait until the last two semesters of the graduate school experience. As you are exposed to material in courses, seminars and symposia (i.e., attending a state, regional or national conference), begin to keep a list of topics that are both interesting to you. Often, important research issues, remaining questions and recommendations for future research are incorporated into research publications and presentations that you will read/attend during completion of your coursework.

2. Talk with faculty who have interest and experience in your potential topics. Many topics cross multiple disciplines and therefore, in addition to MSSM faculty, consider talking with faculty in other programs and/or departments that may have interest and expertise in your potential topics. The more you can consult with persons who have experience and expertise in a particular topic, the more guidance you will likely received about further refining your topic, Your research supervisor and

supervisory committee members will be major sources of support and guidance, methodology, data collection, proposal development, and other facets of your evolving thesis/project. Again, persons with expertise who are not directly affiliated with the MSSM and/or AASU may serve on your thesis/project committee (see Selecting a Project/Thesis Committee).

3. Review recently completed theses and attend advertised thesis/project defenses.

Reviewing recently completed Thesis/Projects can also be helpful in identifying potential ideas. Additionally, during oral defenses, much discussion often occurs regarding issues that still need to be researched, the next extension from the current work, etc. All of this can help you identify not only a potential topic but also provide opportunities to learn more about the expectations for the thesis/project.

4. Conduct a comprehensive literature search and review recently published works related to your potential topics.

A literature search and preliminary review of recently published works should help generate a list of specific questions or issues that merit further research. Additionally, a critical review/appraisal of published works will often yield methodology gaps (i.e., subjects considered, outcome measures used, etc) that could serve as a potential thesis/project topic.

5. Factors to consider in the final selection of a topic (adapted from Arnold et al, 2005)

- Is the topic of great interest to you?
- Is there a faculty member with whom you can work who has experience/expertise in your topic?
- Is the instrumentation/equipment needed to conduct your project readily available to you?
- Are the subjects you anticipate studying readily accessible and sufficient in number?
- Is the scope of the project consistent with the MSSM thesis/project expectations?

Selecting a Research Project/Thesis Advisor ([back to Table of Contents](#))

Prior to the semester the Thesis/Project is to be taken, the student will need to select a Thesis/Project advisor from eligible faculty. Although any full time faculty member affiliated with the graduate Sports Medicine program can serve as a chair, special permission from the Sports Medicine Program Coordinator and Health Sciences Department Chair must be granted for faculty who do not have full graduate faculty status. Only after a student has formally met with a potential advisor and an agreement made regarding the project may the student enroll in 3 hours of Thesis/Project (SMED 8900) under a particular advisor. Students who register for Thesis/Project hours without an agreement between the student and advisor will be dropped from SMED 8900 during the attendance verification period (first two weeks of semester).

It is strongly recommended that an advisor be chosen because their areas of interest/expertise match your project/thesis topic. Selecting an advisor that has expertise and interest in your topic

will ensure you receive timely and quality feedback, optimal direction regarding pertinent literature, anticipation of methodological issues warranting consideration, and detailed assistance with final data interpretation. It is very difficult for an advisor to assist a student in a research area that is remote to their own interests/expertise. Only under special circumstances will faculty likely agree to advise a project outside their own interests/expertise. Keep in mind that as you delve deeper into the published literature and details of your project, you will begin to develop a mastery of the subject matter in your particular content area. Even with an advisor who has expertise in your area, do not be surprised if they will not always be able to answer every question that you have about your thesis/project, however their expertise/experience should be able to guide you in a proper direction to find answers/move forward.

Selecting a Project/Thesis Committee ([back to Table of Contents](#))

In addition to a Thesis/Project Chair, students are encouraged to include one or more additional faculty members to serve as a Thesis/Project Committee. The advantage of having a Committee is to strengthen project by providing additional insight, expertise and perspective to the project. In many circumstances, a single faculty member cannot provide expertise across all areas of a research project/thesis. By using a committee, a student can maximize the expertise of several faculty, resulting in better student mentorship and a higher quality project. Committee members may be chosen from faculty with full, associate or assistant graduate faculty status or an individual external to AASU who has received special permission to serve on a Thesis/Project committee by the MSSM program coordinator. If a student decides to include a Committee, it is the student's responsibility to ensure that all Committee members are kept informed of project progress.

COMPLETING THESIS/PROJECT I (SMED 8900) ([back to Table of Contents](#))

At the end of the SMED 8900, at a minimum, approved drafts of the Introduction, Methods, Review of Literature and Appendix A (Hypotheses, operational definitions, assumptions, limitations, delimitations) must be completed. Additionally, for research involving research subjects, Institutional Review Board approval must have been attained.

Introduction ([back to Table of Contents](#))

The introduction is typically three to five paragraphs that introduce the reader to the scope of the project. While important previous research is highlighted to establish the merits of the project (such as a gap in knowledge), the comprehensive analysis of individual works is conducted in the Review of Literature. Good introductions begin with a general reference frame (i.e., number of persons affected, cost of the issue relative to time lost or financial burden, etc.), but skillfully and

logically lead the reader to the specific purpose of the study in a manner that lends the reader to accurately anticipate the purpose statement. Additionally, the introduction should convince readers that the project is worthy of investigation (has practical/clinical significance). Although the elements below should not be used as actual subheadings, these are the elements that need to be incorporated into the introduction narrative:

1. The Problem: The reader should be given sufficient guidance regarding the problem to be addressed in its global sense. After reading this section the reader should have a clear understanding of the issue that the study is investigating.
2. The Significance of the Problem: This section states the importance of the study to the discipline of sports medicine. It does not address the importance to the investigator, nor is it situation-specific. It serves as the foundation for the implications, recommendations and conclusions made at the conclusion of the study.
3. Problem Statement: The purpose statement should be a succinct statement that clearly defines the purpose of the investigation including the independent and dependent variables. In some cases there may be secondary purposes that are separate from the main purpose.
4. Hypotheses: A statement (or statements) concerning the research hypotheses, or expected results, should be included. Additionally, it should be clear about why/how the hypotheses were developed.

Review of Literature ([back to Table of Contents](#))

The review of literature is a fundamental part of the thesis/project process. It is through the review of literature that the student develops and demonstrates an expertise over all aspects of the study. There are four subsections in a review of literature:

1. Introduction: An introductory paragraph to guide the reader in establishing the focus of the review
2. Body: The body or main portion of the review of literature is where all fundamental topics relevant to the study are discussed. Sub-headings may be helpful to maintain organization. Generally, all articles that have some immediate application to the study, such as those which help formulate the problem, lead toward solutions, or highlight critical gaps in the knowledge base need to be included. Be explicit regarding the significance of all literature cited. Avoid 'abstract writing' (i.e., summarizing each study/paper one at a time in succession) whenever possible. Rather, analysis and synthesis across various investigations should be emphasized. If there is a lack of consensus on a topic, emphasize points of agreement and disagreement (often methodological). One subsection of the review of literature body should address relevant design issues (i.e., interpretation, reliability, validity of dependent variables/measurements).
3. Summary: At the end of the review of literature should be a one to two paragraph section that creates a coherent synthesis by summarizing the major points covered and lends support to the chosen strategy for the thesis/project.

4. References: A reference list containing all references used across all sections should be provided and formatted according to anticipated submission journal (or AMA style by default)

Methodology ([back to Table of Contents](#))

This section addresses the design of the Thesis/Project, how the project is to be accomplished, its framework, evaluation processes, and the time frame for implementation and evaluation if necessary. Whenever possible, methodology should be referenced to previous published works and validity/reliability details provided. Finally, pictures and illustrations detailing the methodology and instrumentation should be provided.

Appendix A ([back to Table of Contents](#))

Appendix A includes the following elements that used to be a part of the extended introduction (Chapter 1) in the traditional thesis format. Each element is briefly described below, however students are recommended to consult with a research methodology text for more detailed information.

1. Operational definitions: In contrast to dictionary definitions, operational definitions precisely define concepts or measures that are a part of the study. They may be identical to previous research or be modified versions. For example, if your study has physically active as an inclusion criteria, you need to precisely define what establishes a person as physically active (i.e., some form of physical activity a minimum of three days per week and at least twenty minutes per session). An additional example: The dictionary definition for strength is a measure of muscle force production; The operational definition might be the average peak torque across 5 trials performed isokinetically at 60°/s.
2. Assumptions: Assumptions, while being unverifiable or uncontrollable components of a study, are necessary premises for the study to be conducted. Assumptions should be based on accepted theory and/or the results of previous research whenever possible. For example, during a training study, a researcher must assume that subjects will refrain from performing additional exercise outside of study procedures (assumption of compliance). Questionnaires and surveys assume that subjects will

answer the items accurately. Strength testing assumes subjects will put forth maximal efforts.

3. **Limitations:** Limitations are elements of a study that are not under the control of the investigator but may have substantial impact in the study. For example, an investigator may be unable to control hydration status during the assessment of body composition. If there is previous evidence suggesting an element does not need to be controlled, the lack of control can become an assumption (ie, if hydration status has been demonstrated to minimally impact skin fold measurements the researcher could assume the skin fold measurements accurately reflected body composition despite not controlling for hydration).
4. **Delimitations:** In contrast to limitations which are not under the control of the investigator, delimitations are actively chosen by the investigator. Delimitations set the generalizability limits of the study. For example, the most common delimitations surround the participants used in an investigation (age, sex, experience level, etc). Other examples include length of a training program, mode of strength testing (isokinetic versus one repetition max), etc.

COMPLETING THESIS/PROJECT II (SMED 8910) ([back to Table of Contents](#))

Completion of SMED 8910 and any additional credits that were taken after three credits of SMED 8910, as well as thesis/project overall requires the completion of the results and discussion sections, additional written materials (see Organization of the Final Written Document) and a public oral defense (see Completing Project/Thesis Hours). It is not uncommon for revisions on earlier sections (introduction, methods) to also be required by an advisor during the preparation of the final document.

Results ([back to Table of Contents](#))

This section addresses the findings directly related to the purpose/problem statements. Text, tables and/or figures conforming to the submission journal (AMA style by default) may be used to present descriptive statistics (at minimum means, standard deviations and 95% confidence intervals for all dependent measures should be provided) and the results of any inferential statistics. The results section may be subdivided, especially if there were many dependent variables and/or secondary purposes. Finally the results section should just present the results without any speculation or discussion.

Discussion (Comment) [\(back to Table of Contents\)](#)

The discussion section (although AMA style suggests use of Comment versus Discussion many journals still use discussion) should begin with a paragraph that reviews the study's principal findings and whether the results support or refute the hypotheses. The results should be considered in context and compared to other studies cited in the Review of Literature, and explained in a manner that shows a mastery of the subject. A critical examination of the study should be conducted that may include discussion about the limiting and delimiting (generalizability) factors, as well as examination of any unexpected findings (with suggested explanations). The implications of the study results to sports medicine practice should be identified. Recommendations for further research based on the studies results should be identified. Finally, the discussion should close with a concise conclusions or practical significance section according to anticipated submission journal. Conclusions should not go beyond the merits of the study.

Final written document submission [\(back to Table of Contents\)](#)

Only after an advisor approves a complete, merged document (see Organization of the Final Written Document) may the oral defense be scheduled. Again, all committee members must be given a copy of a completed written document at least one week prior to the scheduling of the oral defense. More details regarding scheduling the defense are given in the Completing Project/Thesis Hours section.

Organization of the Final Written Document [\(back to Table of Contents\)](#)

While the first three chapters of the Thesis/Project must be completed in SMED 8900, faculty of the MSSM program have chosen to use a modified manuscript format for the final Thesis/Project document over the traditional five chapter model. This means that the major part of the final written document will meet submission requirements for a refereed journal selected by the Thesis/Project advisor. Parts of the traditional five chapter model that are essential to the Thesis/Project process will be included as appendices (e.g. Review of Literature); no work performed by the student will be lost or unused as the Chair assists the student in the modification of the work toward a publishable document. In addition, students must also include, as Appendix D, a draft of a free communications abstract and poster meeting the requirements specified by the American College of Sports Medicine, National Strength and Conditioning Association or National Athletic Trainers Association. The rationale for these additional requirements is to facilitate graduate students disseminating their research via presentation and publication. Exact format meeting Thesis/Project requirements will be decided between the student and thesis advisor/committee.

The following list summarizes the essential components of a final project/thesis document:

- Abstract* (not assigned page number)
- Title Page* (page i is assigned by not included on page)
- Copyright Page[†] (optional, if included will be page ii but not included on page)
- Approval Page* (page ii or iii, but not included on page)
- Dedication Page (optional, this page and pages hereafter carry typed lower case Roman numerals included on page)
- Acknowledgments (optional)
- Table of Contents (if more than one page in length, the second page should begin on top line without use of indications such as "Table of Contents Continued")
- List of Tables (if applicable, this page and pages hereafter carry typed Arabic page numbers)
- List of Figures (if applicable)
- Introduction
- Methods (Sample/Participants, Instrumentation, Procedures, Data Reduction, Statistical Analysis)
- Results
- Discussion (depending upon journal format selected, may need to include conclusions and/or practical significance)
- References (use style dictated by journal format selected; default style is AMA)
- Tables
- Figures (First page of Figures Section must be Legend)
- Appendix A: operational definitions, assumptions, limitations, delimitations, clinical significance of the study
- Appendix B: Extended Review of Literature with references
- Appendix C: Copy of IRB approval, protocol and example consent form
- Appendix D: Free communications abstract and poster (printed on 8.5 x 11 paper)
- Appendix E: Additional methodology as requested by advisor (i.e., power analyses, datasheets, etc.)

*examples are included in this document

†Information available in the grants office

General Instructions for Preparing the Final Thesis/Project Written Document ([back to Table of Contents](#))

1. **Type face:** The size of the type should be a 12-point scalable font. Unusual types of fonts, smaller or larger size, or extremely bold type are not acceptable. Italics of the same size may be used in lieu of underscoring.
2. **Layout and Style:** In order to be photocopied, the Thesis/Project must be printed in black ink on white paper. The entire text of the Thesis/Project must use the same typeface. This includes tables and figure captions. Any appropriate typeface may be used for lettering within figures and for documents reproduced in appendices.
3. **Print Quality:** The type on paper must be dark, clear, and readable. In order to be acceptable, a printer must print letters that appear fully formed.
4. **Right Justified Typing:** (with a smooth right margin) is strongly discouraged because the uneven word spacing interferes with readability. Care should be taken regarding incorrect hyphenation automatically generated by computer programs.
5. **Paper:** Type the Thesis/Project or print it on one side of standard-sized (8 1/2 X 11 in.) [22 X 28 cm], heavy white bond paper (at least 20 pound bond). Do not use onionskin or erasable paper.
6. **Photocopies:** Photocopies of a submitted Thesis/Project are acceptable if the quality of the photocopy is clean and clear.
7. **Preliminary Pages:** The title page and approval page must conform to the style of the sample pages contained in this document.
8. **Margins:** Margins on all copies must be uniform: The first page of each chapter, table of contents, list of tables, acknowledgements, bibliography, etc., must have margins of two inches at the top, one and one-half inches at the left, and one inch at the right and bottom. All other pages have a one inch margin at the top, a one and one-half inch margin at the left, and one inch at the right and bottom. Page numbers cannot extend into margins.
9. **Spacing:** Double-spacing should be used in typing the Thesis/Project, except in those places where conventional usage calls for single spacing (footnote, indented quotations, large tables, bibliography or list of references, table and figure captions). Double-spacing means leaving one full-size line blank between each line of type on the page. Footnotes and bibliographical entries are separated by double spacing.
10. **Paragraphs:** The beginning of a paragraph at the bottom of a page must contain at least two lines of type. Likewise, a paragraph concluding at the top of a page must contain a minimum of two lines. To comply with this requirement, it may be necessary to end a page one type line short of the margin. No extra space should be added between paragraphs at any time.
11. **Heading and Subheadings:** Centered headings that appear on pages with the two-inch margin must be uniform throughout in style. Subheadings (ie, Subjects, Statistical Analysis) within a chapter (section) do not begin on a new page unless the preceding page is filled. Subheadings should follow the AMA manual of style.

12. Hyphenation: Excessive division of words on the right margin should be avoided. No more than three successive lines may end in a hyphen. Never divide the last word of a page.
13. Tables and figures: If possible, tables should be typed in the same typeface as the text of the thesis. Figure captions, likewise, should be typed in the typeface of the text. The number and title of a table should comply in form with the style agreed upon with the student's advisor and be placed above the table. If the table is to be reduced, the table title should also be reduced. The number and caption of a figure should be placed below the figure. If the figure is to be reduced, the caption and figure number should be typed after reduction. A table or figure may be embedded in the text or placed on a separate page larger than the ordinary page, must be reduced or folded to fall within the margins in such a way that they will not be sheared in trimming and binding. The page number for reduced pages must be typed after reduction. Pictures that show faces must be accompanied by a signed release of the subject in the picture.
14. Bibliography, references or works cited: The form of the entries should follow the policy of the style agreed upon with the student's advisor. If an entry needs to be split between two pages, there must be at least two lines of the entry on each page.

Sample Title Page

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Ergogenic Aid Usage Among High School Male Athletes

BY

TONY WATTS

**A Thesis/Project submitted to the Faculty
of the School of Graduate Studies
at Armstrong Atlantic State University
in Partial Fulfillment of the
Requirements of the Degree
Master of Science in Sports Medicine**

Savannah, Georgia

2004

Sample Approval Page

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Ergogenic Aid Usage Among High School Male Athletes

BY

TONY WATTS

Dr. Michael Jones, Faculty Advisor

Dr. Betty McDonald, Committee Member

(Note: Co-chairs may appear on the approval page)

