Capstone Project and Paper Guidelines

"Begin With the End in Mind"

Although the Capstone course (OST 820) is the culmination of the MA HPE program, students are encouraged to start thinking about their Capstone Project while completing the core coursework, especially ED820 – Health Professions Education, EAD840 – Inquiry in Postsecondary Education, and OST 802 – Operations Analysis and Decision-Making in the Health Professions. The earlier MA HPE students can identify and begin to narrow their project focus, the better.

The Capstone course consists of all of the following components:

1. Submitting a sufficiently focused and relevant Capstone Project proposal
2. Completing required IRB Training
3. Submitting and receiving approval for an IRB Application
4. Implementing and evaluating the approved Capstone Project
5. Writing a project paper that meets the requirements described below
6. Successfully presenting and defending the project

Together, the final paper, oral presentation, and defense represent the final evaluation.

Required Resources

- APA formatting guide created by the Online Writing Lab (OWL) at Purdue University: https://owl.english.purdue.edu/owl/resource/560/16/
- Human Research Protection Required Training: http://www.humanresearch.msu.edu/requiredtraining.html

Highly Recommended Supplemental Resources

- Official APA style guide: http://www.apastyle.org
- USC Libraries research guide: http://libguides.usc.edu/content.php?pid=83009&sid=615849
- Tutorials on searching the literature: https://www.lib.msu.edu/health/online-tutorials/

While you will likely find many of the recommended resources to be helpful, you must *always follow the content and formatting guidelines spelled out in <u>this</u> document.*

Identifying and Narrowing the Focus of Your Capstone Project

The Capstone Project provides an opportunity for MA HPE students to actively *integrate* and *apply* all they have learned to the development, implementation, and analysis of a practical, hands-on project that has an educational and/or administrative focus. The broad goal of the project is to bring improvement to the student's current professional sphere of influence, for example, by addressing a problem or issue encountered within the student's profession, institution, or organization – something that begs for a creative solution.

Developing a sufficiently focused project can be difficult, particularly when one is passionate about their chosen topic. Students will commonly attempt too much, for example, by identifying a problem that is too broad or too complex and time-consuming to be tackled in just a few short months. The project might need to address only a small "piece" of the larger puzzle, perhaps by completing a "first step" or two, but the wonderful thing about identifying a problem in your profession is that you can continue to work on it even after you have graduated!

To determine if the scope is manageable, it is useful to list and describe the major steps that will be required to complete the project and to develop a realistic timeline (this is a required section of the proposal you will submit). If numerous major steps are involved, and your best-case scenario requires the stars to align just so, then you will probably need to narrow your focus. The course instructor of record (IOR) will provide guidance.

Generic Examples of Projects

- Applying Adult Learning Principles in my Profession / my Organization / etc.
  - E.g., Develop, pilot, and evaluate an educational (CME, training) session based on adult learning principles
- Quality Improvement in my Organization / Unit / Profession /etc.
  - E.g., Develop/improve, pilot, and evaluate the effectiveness of a new educational tool or workflow process
- Change – What does / do my Organization / my colleagues need most: Leadership, Operations Management, QA/QI, Remediation, Other
  - E.g., Develop, implement and analyze a needs assessment survey

Instructions for Completing the Capstone Course Components

Capstone Project Proposal

Although the Capstone Project proposal is technically a component of the Capstone course, MA HPE students are required to submit and receive approval of the proposal 1-2 months *prior to* the beginning of the semester in which they are enrolled in OST820. Students must receive approval of the project in writing, from the IOR, prior to beginning the Capstone project. Failure to complete the proposal phase early may seriously hinder your ability to complete all the course requirements within the semester of enrollment. This might necessitate an extension of the grading period (ET) and postponement of graduation until the course is successfully completed. The primary purpose of the Capstone Project proposal is to provide the IOR with enough information to (1) determine if the topic is appropriate, (2) gauge whether the scope is likely to be manageable within the given timeframe, and (3) identify a suitable Capstone Advisor.

The Capstone Project proposal should:

- Provide a brief overview of the project in 900-1500 words (3 to 5 pages), typed, double-spaced, with 1-inch margins, and using a 12pt font (e.g., Times New Roman).
- Contain five (5) sections: introduction, description of the problem, literature review, description of the project, and references.
- Be written in the future tense.

Although the Capstone proposal is not as extensive as a typical research proposal, you might find aspects of this resource informative and useful: *"Writing a research proposal"* http://libguides.usc.edu/content.php?pid=83009&sid=2319840.

Introduction. The **introduction** sets the stage for what is to come and should provide the background and rationale for the proposed project – what is this about and why is it important? It should *succinctly* contextualize the problem in one to three short paragraphs, and include a brief statement of the problem. Recommended length is <1 page.

Description of the problem. The second section should **describe the specific problem** *your* project will address. Clearly state *your* goals for the project (what you hope to accomplish), describe the product or services you will provide (e.g., the creation or improvement

of an educational tool), and discuss how the project is likely to benefit your profession, institution, or organization. Recommended length is ~1 page.

Literature review. The third section is a brief **review of the relevant literature** pertaining to the proposed problem/project. Carefully select the articles you review to inform and/or support the need for your project, for example:

- Does the literature provide supporting documentation of the existence of the problem you have identified? Your project should not be based solely on your own subjective perceptions, intuition, or opinion.

- Does the literature support the methodology or "solution" you have selected to address the problem? It can be helpful to have a template/model to follow.

- Does the literature point to major gaps that your project can fill? Maybe no one else has done what you propose to do. That's great! Your study will definitely "add to our (collective) fund of knowledge."

- Are there published reports by others who have already done what you propose to do? If so, critique this literature, and discuss how your project can improve / expand / build on it.

You should review a minimum of 5 sources for the proposal (many more will be needed for the final paper). The articles should be fairly current (the majority should have been published within the last 10 years; seminal works in the area of interest may be older), and should come from peer-reviewed journals. Edited texts or textbooks may also be appropriate source material. Web sites should be used with extreme caution. Refer to APA guidelines for how to incorporate in-text citations of the articles you review. Recommended length is ~2 pages. Resource: "The Literature Review": http://libguides.usc.edu/writringguide/literaturereview. If you need guidance on how to conduct a literature search, MSU Libraries has helpful tutorials: https://www.lib.msu.edu/health/online-tutorials/.

Description of the project. The fourth section should **describe the proposed methodology and timeline** related to how you will conduct the project from inception through implementation and completion (what are the major steps and when will they occur?). Include how you will assess the outcome (impact of your project), and describe any institutional or other

barriers you will need to address (e.g., permission from constituent or administrative bodies). Writing this section *first* will help you determine if the project is "doable" or needs to be more focused. Remember, you will need to complete this within the semester, and still have time to write the project paper. Recommended length is ~1page.

References. The fifth section provides a **list of the references** cited in your proposal. Only those sources actually cited should be included – this is not a reading list. This section should also be APA formatted.

When writing your proposal, use simple, direct, and unambiguous language. Use of first person pronouns is acceptable. For example:

- The proposed Capstone project addresses the problem of...

- My goals for this project are (1)... (2)... (n)....

- I will address these issues by doing X, Y, and Z.

- I will use [the following methods/strategies] to assess the impact of my project.

- Potential barriers to this project include A, B, and C, and in order to accomplish the stated goals, I will (e.g., need to obtain approval from)....

It might seem impossible to include all of the required information in only 3-5 pages, but keep in mind that this is *just* the proposal; the project paper will be much longer. The proposal should be brief and focused; every sentence, every word choice should be intentional and have a specific purpose. You don't have to describe the entire territory, just sketch a map to where you're going.

IRB Training and Application

An MSU Institutional Review Board (IRB) (http://humanresearch.msu.edu) must review all research involving the collection of qualitative or quantitative data from human subjects, even historical data. Participation in this process is required of all MA HPE students, regardless of the type of research proposed. Prior to completing an IRB application, all MA students must complete an IRB training module (http://www.humanresearch.msu.edu/requiredtraining.html).

The IOR or Capstone Advisor will serve as the principal investigator (PI) on the IRB

application. **Data collection cannot begin until you have obtained IRB approval;** this includes administering surveys, conducting focus groups, etc. Please review the following resources for information about the application process: Human Research Protection Program (HRPP) FAQ (http://humanresearch.msu.edu/questions.html) and HRPP Manual (http://humanresearch.msu.edu/hrpmanual.html).

Capstone Project Paper

The completed final version of the Capstone Project paper is due at the end of the semester, but drafts and rewrites of the various sections should be submitted for review throughout the semester (see course syllabus for proposed submission timeline).

The purpose of the paper is to provide a narrative about the project with sufficient detail to allow a reader to be able to accurately describe the goals of the project, situate the project within the existing body of published literature, replicate the methodology of the project, and explain how your goals for the project relate to the methodology you chose and to the project outcome and conclusions. In other words, your narrative must be clear, logical, and demonstrate alignment among the goals, methods, and outcomes. In addition, it should reflect the integration and mastery of course content from the MA HPE program.

Expectations. The expectation is that the paper will be well written and follow the current APA formatting guidelines. The paper should be of sufficient quality to be potentially submitted for publication in a peer-reviewed journal. Papers not meeting the quality and formatting expectations described below will not earn a passing grade.

- Writing should be clear and organized, with a logical flow from one topic to the next.
- Sentence structure should follow standard rules of grammar and punctuation.
- Each paragraph should have a topic sentence, a body, and a conclusion.
- Transitions between paragraphs should be fluid.
- Use spell checker to help avoid spelling errors; however, this is not a substitute for careful proofreading.
- Write in "active voice," whenever possible.

- Use past and present tense, where appropriate (e.g., Use past tense when reporting what you did, "I surveyed the participants…" and discussing your results, "The analysis of the data showed…" Use present tense when stating well established facts, "Water is made of hydrogen and oxygen."). Do not use future tense.

Content. The Capstone paper must include the elements described in Table 1. These will serve as the **Major Headings** in your paper, and should be formatted following APA guidelines for the formatting of headings and subheadings.

Format. The Capstone paper must follow APA (American Psychological Association) formatting guidelines: https://owl.english.purdue.edu/owl/resource/560/1/.

Length. The main text of the paper, excluding references and appendices, should be at least 20-25 pages. The total length, including references and appendices, should be no more than 45 pages.

Rewrites. Drafts of your paper should be submitted to the IOR and/or Capstone Advisor for evaluation along the way. Rewrites following review are likely to occur multiple times during the process. Don't get discouraged – no one gets it right on the first try!

Sample papers. Sample papers, written by graduates of the MA HPE program, are available on the course ANGEL site. Please note that the formatting requirements have changed since these papers were written, for example, the various sections of the paper used to be formatted as "chapters." You must adhere to the revised guidelines, described in this document, which substitutes section headings for chapters; section headings are equivalent to APA "Major Headings." Always follow the current formatting guidelines.

Additional "pearls of wisdom."

- Project goal(s) MUST align with the literature review, methodology, and conclusions. There must be a logical relationship among these elements.

- The abstract should be written last. The tone should establish a level of intrigue that makes anyone who reads the Abstract want to read the paper.

- Whether the project involves Qualitative or Quantitative data, appropriate descriptive and inferential statistics should be included.

- Ask several individuals, and especially someone that knows about the project, to proofread your paper and offer honest, CRITICAL FEEDBACK.

Oral Presentation and Defense of Project

An oral presentation and defense are the final steps in the Capstone course experience. The purpose is to provide an opportunity for you to (1) share the fruits of your efforts with an audience, (2) practice your oral presentation skills, (3) answer questions and receive verbal feedback, and (4) demonstrate knowledge and skills you have acquired as a result of completing the MA HPE program.

    Expectations for the presentation. The date of your oral presentation will fall within the last two weeks of the semester. It can be delivered in-person (preferred) if you are able to travel to the MSU campus, or we can arrange for you to present via video-conference.

- You must *initiate the scheduling process* within the first two weeks of the semester to ensure that everyone who needs to attend can be there, and to allow time for logistical arrangements. Select a date and time for your Capstone Presentation in consultation with your Capstone Advisor and/or IOR.

- Attendees will include the IOR, Capstone Advisor, Program Director, and Program Secretary. Additional MA HPE faculty will also be invited.

- This is a professional experience. Though the atmosphere will be congenial, you are expected to deliver a *high-quality, formal presentation*, similar to a professional conference. Following initial introductions and opening comments by the IOR or Capstone Advisor, you will have 20-30 minutes to deliver your presentation. At its conclusion, you will take questions from attendees. Afterward, you will be asked to step out of the room, at which time faculty will discuss the presentation and defense. You will be brought back for verbal feedback.

- PowerPoint is the preferred presentation format. If you wish to use software other than PowerPoint, you must make advance arrangements.

- Ten (10) days prior to your presentation date, upload your PowerPoint to the ANGEL

drop box. You are advised to bring a backup of your presentation on a USB drive.

- A computer will be provided if the presentation is given on site in Fee Hall.

Tips for effective PowerPoint Presentations: http://www.lifehack.org/articles/technology/10-tips-for-more-effective-powerpoint-presentations.html

Grading of the Capstone Course OST820

The IOR will determine your grade in the course, with input from the Capstone Advisor and other program faculty, as appropriate. Your final score is based on a 100-point grading rubric (Figure 1). There are four potential outcomes for the Capstone course:

1. The student's paper, presentation, and defense are assessed as satisfactory (score is >80 points) with no changes needed. A Pass grade (P) will be assigned.

2. Minor deficiencies are noted in the student's paper, presentation, and/or defense, and changes may or may not be required, at the discretion of the IOR. If no changes are required, a Pass grade (P) will be assigned. If changes are required and made before grades are due, a Pass grade (P) will be assigned. If changes are required but cannot be made before grades are due, an extension (ET) will be granted.

3. Major deficiencies are noted that would require re-doing major portions of the project or paper, and the work is assessed as not meeting the expectations necessary to achieve a passing grade (score is <80 points). No grade (N) will be assigned, and the student must re-enroll in the course at a later time.

4. The student is unable to complete the project within the semester, but is making good progress. An extension (ET) will be granted to postpone completion and grading until a subsequent semester.

Table 1: Required Elements of the Capstone Project Paper

Element	Description
Title page	See sample on last page of this document. https://owl.english.purdue.edu/owl/resource/560/01/
Abstract	The abstract is a concise summary (150-250 words) of the main sections of the paper. It should be written last! https://owl.english.purdue.edu/owl/resource/560/01/
Table of contents	The TOC should include major headings and subheadings, as needed. Tip: Microsoft Word has a Table of Contents feature.
Introduction	As in the proposal, the introduction of the paper should set the stage for the project by providing a brief overview of the topic and rationale for the project. It should include a **statement of the problem** at or near the beginning; don't keep your reader in suspense regarding the purpose of the project. After clearly articulating the problem, the introduction should provide sufficient background information so the reader can understand what follows.
Description of the Problem	This section should elaborate on the statement of the problem presented in the introduction. Thoroughly describe the nature of the problem; including your rationale for believing the problem exists. Describe how the project will address the problem, and clearly state the goals and scope of the project. These goals must align with the literature review and the methodology.
Literature Review	The literature review should be a greatly expanded version of the one written for the proposal. It should both summarize and *synthesize* the relevant literature (http://libguides.usc.edu/writringguide/literaturereview). It should include a *minimum* of 15 references that are fairly current. The majority of the literature reviewed should have been published within the last 10 years, and come from peer-reviewed journals. It is perfectly acceptable, and indeed advisable, to cite seminal, foundational studies in your area of focus that may be >10 years old. Edited texts or textbooks may also be appropriate source material. Web sites should be used with caution. Refer to APA guidelines for how to use in-text citations of the articles you review.
Description of the Project	This section should detail *what you did*. The reader should be able to essentially replicate your project based on what is included in this section. You should include the following: • IRB approval and status (whether exempt, expedited, full review) • Type of study or research design employed (Recommended resource: http://libguides.usc.edu/content.php?pid=83009&sid=818072) • Parameters of your study population (sample size, relevant participant information and demographics, etc.) • Materials and methods (types of qualitative or quantitative data collected, data collection procedures / protocol, statistical or other methods used to analyze data/outcomes) • Analysis and results • Tables and figures – these must be referred to and described in the text.
Conclusions and Lessons Learned	This section serves as the discussion and conclusion section of the paper. It should briefly recap the purpose of the project, as well as summarize and contextualize the major findings/outcomes. This is the "so what?" part of the paper – the place where you explain why the outcome matters. What is the impact of the project, what are its limitations, what have you learned, and what are the next steps?
References	A *minimum* of 15 cited references is required. All cited sources, not just those from the Literature Review, should be included in the references section and formatted according to APA Guidelines. Only those sources that were cited in the paper should be included, i.e., if you read a paper, but did not cite it, you should not reference it.
Appendices	The appendices contain *supplementary* material, i.e., information that is not essential, but that the reader might find useful for developing a deeper understanding. Appendices can also include high-volume data tables, descriptions, lists, survey questions, etc.

Figure 1: Capstone Grading Rubric

STUDENT:

TITLE:

DATE:

EVALUATOR:

Content Categories	Score	Comments
Introduction (10 points) • Is the reason for this project adequately described? • Does the introduction provide a complete overview of the targeted group or organization? • Does the introduction provide information on why this project is beneficial to this organization?		
The Description of the Problem (20 points) • Is the problem clearly defined? • Are goals clearly described and why they were chosen to guide the project? • Was a complete overview of the environmental context of the capstone provided? • Were organizational challenges addressed? • How were goals and objectives chosen to measure the impact of the project? • Is the design adequate for achieving the stated objectives?		
Review of the Literature/ Research (20 points) • Was relevant research reviewed? • Did the overview of the research literature provide a critique of the literature that informs this project?		
Description of the Project (20 points) • Does the paper provide a complete overview of the implementation of the project- describing strengths as well as weaknesses of the project? • Are the results presented completely with appropriate measures of success and failure in implementation?		
Conclusions and Lessons Learned from the Project (20 Points) • Are the conclusions reasonable, given the overview of the project? • Is the project critiqued with lessons learned whether the project is deemed successful or a failure? • What recommendations are made for next steps as a result of this project?		
Oral Defense (10 points) • Was the project presented clearly and succinctly? • Did the defense clarify the rationale for the capstone project? • Did the defense make recommendations for future application and learning?		
Total Score		

Capstone Project Paper Title Page: Formatted Using APA Guidelines

John Q. Public

A capstone submitted in partial fulfillment of the requirements for the degree

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Health Professions Education

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