UNMC | COLLEGE OF PUBLIC HEALTH

Master of Public Health Program

CPH 529 Capstone Experience – Handbook

Contents

1. Overview

The capstone addresses a topic of public health significance and is evidence that the student can integrate skills and competencies from across the curriculum to conduct public health research and/or practice. Approval of the final capstone report constitutes an assessment that the student is prepared to enter public health practice.

Students work with a faculty advisor (Capstone Chair) and committee to select foundational and concentration competencies to design a capstone experience appropriate to their educational and professional goals. Capstone planning typically begins halfway through the program of study as the capstone proposal must be approved prior to registering for CPH 529 Capstone Experience (3 credit hours).

Requirements for completion of the capstone experience include: (1) a formal written proposal, (2) a written report, and (3) an oral presentation and defense of the completed project. Students complete the written report and presentation as part of CPH 529 Capstone Experience for MPH students in the final term of enrollment.

Examples of types of capstone projects include: systematic literature review, research report, program planning report, program evaluation report, training manual, policy statement, and legislative testimony with accompanying supporting research. Other written formats are acceptable with the approval of the student's advisory committee and the Director of Professional Programs. Students who work full-time can conduct a project in addition to their regular employment role and responsibilities at their place of employment to satisfy capstone requirements.

The capstone is the culminating experience of the MPH degree and meets requirements of the national accrediting body in public health, the Council on Education for Public Health (CEPH) for an integrative learning experience.

2. Capstone Roles and Responsibilities of Student and Committee

Students are guided through the capstone experience by a three-person committee. The committee must include at least two COPH faculty members. The Committee Chair serves as the capstone advisor and must be a COPH faculty member from the student's home department. Committee Chairs and faculty must hold a full or part time appointment in the COPH. Adjunct and courtesy faculty are not eligible to serve as a Committee Chair or committee faculty, but may serve as additional members of the committee. Students enrolled in a dual-degree program must have a committee member representing the other degree program.

Roles and Responsibilities of the Student

The capstone project is the culmination of the MPH degree. Students must start their capstone project planning early, at least one or two semesters before they plan to enroll in CPH 529. Responsibilities of the student include:

- Choose a topic and identify a Chair;
- Select committee members, in consultation with the Chair;
- Submit proofread drafts of materials to the committee with adequate time for review;
- Schedule meetings with the committee;
- Submit required paperwork to the Director of Professional Programs;
- Communicate any issues or concerns to the committee.

Roles and Responsibilities of the Chair

Students must select a Chair for their capstone project who is a faculty member in their home department. The Chair of the capstone committee works most closely with the student. Responsibilities of the Capstone Chair include:

- Assist the student in identifying a topic (if necessary) and narrow the scope of the project;
- Assist in the identification of other committee members;
- Ascertain whether IRB approval is needed and assist in preparing any IRB materials.
- Guide the student in the project design and methodology;
- Assist the student in identifying foundational and concentration competencies;
- Review and approve the capstone proposal;
- Meet with the student regularly through project completion to provide editorial and substantive feedback in a timely fashion;

- Communicate, as needed, with other committee members and the Director of Professional Programs regarding project progress;
- Provide final evaluation of the project and complete all paperwork.

Roles and Responsibilities of the Committee Members

In addition to the Chair, the capstone committee must include at least two members, one of whom must be faculty in the College. While there are instances in which a committee member may take on shared responsibility with the Chair, the capstone committee members generally serve as reviewers of the proposal and final project. All members of the capstone committee, including the Chair, have a shared responsibility for ensuring a high-quality capstone project. Responsibilities of the committee members include:

- Review the capstone proposal and provide feedback within the agreed-upon time frame;
- Review the final capstone paper and provide feedback within the agreed-upon time frame;
- Attend the capstone project presentation;
- Confer with other committee members and the Chair to determine whether the student has met the requirements;
- Sign all required paperwork.

3. Capstone Proposal

The Capstone proposal is typically 8-10 pages, but can be longer. It should essentially cover much of the material of the first three chapters of your project. See below (Outlines of Capstone projects) for more specific examples of what can go in these sections, and work closely with your Chair on this process. The format for the capstone proposal is:

TITLE PAGE (1 page)

- Project Title
- Student Name and Concentration
- Committee Information
  - Chair Name, Credentials
  - Member 2 Name, Credentials
  - Member 3 Name, Credentials
- Abstract (200 words)

CHAPTER 1: INTRODUCTION (2 pages)

- Specific Aims or Problem Statement: State concisely and realistically what the project described in the proposal is intended to accomplish. What hypothesis is to be tested or what question is to be addressed?

CHAPTER 2: BACKGROUND AND LITERATURE REVIEW (3-4 pages)

- Significance: Sketch the background (or literature review) for the capstone. Critically evaluate existing knowledge, and specifically identify the gaps which the project is intending to fill. State concisely the importance of the research described in the proposal by relating the specific aims to longer term objectives.

CHAPTER 3: METHODS (2-3 pages)

- Methods: Briefly discuss the design and procedures to be used to accomplish the specific aims of the proposal. Include the kinds of data to be gathered (when applicable) and the means by which the data will be analyzed and interpreted.

LITERATURE CITED - Cite the pertinent literature in the text and provide the complete reference list in the

Literature Cited section. Each citation must include the names of all authors, the name of the book or journal, volume number, page numbers, and year of publication. Although no page limitation is specified for this part of the proposal, make every attempt to be judicious in compiling the biography. It should be relevant and current. *It is recommended that students use a citation manage from the Library.* This will save a significant amount of time.

APPLICATION OF PUBLIC HEALTH COMPETENCIES – list a minimum of 2 foundational competency and 2 concentration competencies that will be the focus for the capstone. Provide an explanation as to how the capstone will integrate the selected competencies. (1 page).

HUMAN SUBJECTS – Statement of whether project requires IRB review and approval. If IRB review is needed, attach IRB approval letter or email.

4. IRB Requirements

The policy #1.8 Investigational Activities Requiring IRB Review and Approval can be found at: https://www.unmc.edu/irb/_documents/HRPPPoliciesProcedures.pdf. In summary, a systematic investigation conducted by a student that involves living individuals, but is performed solely to meet educational requirements of a single academic course is not considered human subject research providing the results of the investigation are presented only within the confines of the classroom or similar forum and to the students, their instructors, parents/family members, or other invited guests. However, it is recommended that the students' supervisor and/or department exert appropriate review and oversight of the project, including, for example, completion of an IRB application without submission to the IRB. **A systematic investigation conducted by a student with intent to present the results of the investigation outside of the confines of the institution does constitute human subject research.**

Students can use the IRB inquiry "Does my project need IRB approval?" (https://www.unmc.edu/irb/procedures/human-subjects.html) to check whether approval may be needed if they are unsure. Please consult with your Chair before submitting.

Activities Which Are Not Human Subject Research

- **Public health surveillance activities**: including the collection and testing of information or biospecimens, conducted, supported, requested, ordered, required, or authorized by a public health authority. Such activities are limited to those necessary to allow a public health authority to identify, monitor, assess, or investigate potential public health signals, onsets of disease outbreaks, or conditions of public health importance (including trends, signals, risk factors, patterns in diseases, or increases in injuries from using consumer products).
- **Systematic investigation involving data or human biological materials (HBM) without investigator access to subject identifiers**: A systematic investigation involving data or HBM obtained from living individuals where (1) there are no identifiers which would allow any of the investigators to readily identify the individual, and (2) where the specimen or data was not collected specifically for the purposes of the research does not constitute human subject research under this policy. Required de-identification (i.e., the number of identifiers which must be removed) before the data or HBM is given to the investigator depends on whether or not the research is subject to HIPAA.
- **Quality Improvement (QI) Activities:** QI activities take place in a particular localized health care setting, their design is expected to incorporate the specific features of the setting, they are led by people who work in that setting, and they incorporate rapid feedback of results to bring about positive change for the patients in that setting. Instead of a fixed protocol implemented for a

time period that may last for years, QI methods often require repeated modifications in the initial protocol as experience accumulates over time and as the desired changes engage the local structures, processes, patterns, habits, and traditions.

- **Program Assessment:** Program assessment (or program evaluation) is a systematic collection of information about the activities, characteristics and outcomes of a specific program or model, to contribute to continuous program improvement, and/or to inform decisions about future program development (https://www.cdc.gov/eval/index.htm). Program assessments do not constitute human subject research under this policy.

5. Course Registration

Students enroll in the CPH 529 course (3 credit hours) during completion of the capstone project. Students must identify a project title, form a capstone committee, and receive approval of their project from the committee in order to register for the CPH 529 Capstone Experience course. Committee members must sign off on the project to indicate their approval. The completed form must be submitted to the Director of Professional Programs, along with the updated Plan of Study form and whether the student is an online or on-campus student, in order to obtain permission to register for CPH 529. The form can be found in Canvas in the Student Success Center under MPH Capstone Information. Students should refer to the timeline guidance in the Canvas Student Success Center to know when to start planning for their Capstone project.

6. CPH 529 – Capstone Experience – Use of Canvas

Students enrolled in CPH 529 will use Canvas to submit documentation after initial course registration. Students must upload all documentation into Canvas, including signed proposal approval form, approved proposal paper, final written paper, presentation, competency evaluation form, and final signed approval form. The College of Public Health must keep all student capstone materials for accreditation purposes, and Canvas is used to submit all documentation to the College. In addition, the CPH 529 course instructor will post announcements and reminders related to due dates, as well as resources students may find useful as they complete their projects.

7. Written Report

The content and format of the written report will vary according to the type of project. The main types of capstone projects include: systematic literature reviews, research reports, program planning, and program evaluation and a suggested format for each of these is provided.

Formatting Requirements for the written capstone are:

- Double-spaced, one-inch margins, 11 or 12 point font, use subheadings;
- Use a reference style typical for the discipline.
- Figures must include a key and all tables/figures must be discussed in the paper text.
- Spell out acronyms when first mentioned, but use sparingly. If the paper necessarily contains a significant number of acronyms, provide a glossary.
- Use correct grammar, punctuation and spelling in all written work.

A journal article *accepted* for publication/published in a peer-reviewed journal, based on the capstone project, will be accepted in lieu of a final written report.

Examples of outlines of Capstone projects:

Example A: Comprehensive Literature Review

A *comprehensive literature review* provides an in-depth analysis of an important public health problem, including describing the problem, evaluating causes and determinants, and proposing evidence-based solutions regarding appropriate interventions or policy or regulatory changes for prevention and control.

Abstract

Chapter 1 – Introduction

- Research question
- Objectives
- Rationale for the review

Chapter 2 – Background

- Description of the health problem

Chapter 3 – Methods

- Search strategy
- Inclusion and exclusion criteria
- Data extraction
- Quality assessment

Chapter 4 – Results

- Search results
- Selection process
- Description of studies
- Summary of findings
- Quality assessment

Chapter 5 – Discussion

- Summary
- Public health implications
- Strengths and limitations
- Gaps in evidence
- Conclusions

Bibliography
Appendices
Biography & CV

Example B: Research Report

A *research report* addresses a public health related research question and involves the collection, analysis, and interpretation of data.

Abstract
Chapter 1 – Introduction

- Research question
- Specific aims
- Significance

Chapter 2 – Background and Literature Review

- Description of the health problem
- Scientific background
- Limitations and gaps in existing literature
- Rationale

Chapter 3 – Data and Methods

- Study design
- Setting and study population
- Variables (outcomes, exposures, confounders) and operational definitions
- Data sources and measurement
- Analytic plan

Chapter 4 – Results

- Study population

- Descriptive data
- Outcome data
- Main results
- Other analyses

Chapter 5 – Discussion

- Summary
- Key results
- Strengths and limitations
- Interpretation
- Generalizability

Cited Literature
Bibliography
Biography & CV

Example C: Program Planning

A *program plan* develops a program or policy to address a specific public health problem for a specific organization or agency and involves a needs assessment, implementation and evaluation plans, and discussion of management, fiscal, and ethical factors.

Abstract

Chapter 1 – Introduction

- Specific aims
- Significance

Chapter 2 – Background and Literature Review

- Description of the health problem
- Scientific background and rationale
- Organization/agency description

Chapter 3 – Methods

- Needs assessment
- Program description
- Logic model

Chapter 4 – Results

- Implementation plan
- Evaluation plan

Chapter 5 – Discussion

- Expected outcomes
- Strengths and limitations
- Sustainability plan
- Recommendations

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Example D: Program Evaluation

A *program evaluation* involves the evaluation and/or monitoring of an existing public health program to improve public health services.

Abstract
Chapter 1 – Introduction

- Specific aims

- Significance

Chapter 2 – Background and Literature Review

- Epidemiologic description of the health problem (distribution and determinants)
- Program description
- Evaluation framework

Chapter 3 – Methods

- Evaluation methods
- Standards and criteria
- Data sources and measurement

Chapter 4 – Results

- Evaluation findings

Chapter 5 – Discussion

- Summary
- Strengths and limitations
- Recommendations
- Resource implications
- Dissemination plan

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8. Oral Presentation

An oral presentation with PowerPoint of the Capstone report is required for the successful completion of the project. The oral presentation is 20 minutes, and includes 15 minutes for the presentation and an additional 5 minutes for a question and answer session. This is a public presentation, therefore notification of the Capstone presentation should be sent to all COPH faculty, students and staff. Students are allowed to invite additional guests and family members. Online students will complete their presentation via Zoom or another digital presentation platform. All Capstone presentations should have a Zoom link to allow online students and faculty and staff working remotely to access the presentation. Following the presentation, the student will meet with their Capstone committee. It is recommended that students practice their presentation with their Chair before the final presentation.

***Note**: Scheduling of the capstone presentation is the responsibility of the students' department.*

The PowerPoint presentation should include the following basic information. Students should consult with Chair to ensure they've adequately covered their topic.

- Title slide (1 slide)
- Outline (1 slide)
- Foundational and concentration competencies (1 slide)
- Background and significance of the project
- Research/policy/evaluation question
- Methods
- Results or Outcomes
- Summary/Discussion

9. Capstone Experience Final Evaluation

The Capstone committee is responsible for assigning the final grade based on the quality of the written

product, oral presentation, and professionalism. Upon successful completion (Pass) of the capstone experience, the capstone completion form must be filled out and signed and sent to the Director of Professional Programs to release the final grade. The form can be found in Canvas in the Student Success Center

10. Competency Evaluation Form

The student must demonstrate that identifies competencies were addressed during their capstone project. The competency evaluation form is used to document those competencies (see Appendix B). The form can be found in Canvas in the Student Success Center. The student will complete column one during the proposal phase. Upon completion of the capstone the student will complete column two and the Committee Chair will complete column three. The committee evaluation should be discussed at the final evaluation meeting with the student and the student will submit to Canvas.

11. Capstone Grading

Grading: A rubric is provided to assess the capstone experience. The capstone course is Pass/Fail. Based on the rubric, a result of Meets Expectations and Exceeds Expectations is a Pass and Does Not Meet Expectations is a Fail.

Incompletion of Project during One Semester: If a student does not complete the capstone in one semester, s/he will receive a grade of In Progress. In Progress (IP) indicates satisfactory work in progress, as determined by the faculty supervisor. The student will have to re-register for CPH 529 again for 3 credits, which means s/he will have to pay tuition and fees. Students can only take this course a maximum of two times. The CPH 529 course is one-time repeatable, which means students can re-register for the course one time. On a transcript, IP will count toward attempted credit hours.

Incompletion of Project during Two Semesters: Students who do not complete the capstone in two terms of registration in CPH 529 will have the equivalent of one academic year of non-enrollment status from the last term of enrollment in CPH 529 to complete the capstone. If a student fails to successfully complete their capstone during this period of time, the grade of IP will be converted to a grade of F. Students can be in non-enrollment status the equivalent of one academic year from the last term of enrollment in CPH 529. The IP remains on the transcript during non-enrollment. Upon successful completion of the capstone, a P (for *Pass*) grade will be submitted and the grade of IP will be converted to a P. Students who do not successfully complete their capstone project at the end of the one academic year of non-enrollment will be subject to the UNMC non-enrollment policy and administrative withdrawal. Any IP grades not resolved at the time of administrative withdrawal will convert to an F grade.

Note: In previous years, students who did not complete their capstone project in one semester registered for CPH 699N. University policy no longer allows students to register for CPH 699N. For students who were enrolled before this policy change, if the student registered for CPH 699N for the maximum two academic terms and has not completed their project, they will not be allowed to further re-enroll. The student will enter non-enrollment status for one academic year. If program completion has not occurred at the end of one year non-enrollment, the College of Public Health will take action to administratively withdraw the student.

Extenuating Circumstances: There are circumstances that make it difficult to complete a semester such as medical conditions, death in the family and other emergencies. If a student is facing difficult circumstance, s/he may want to consider taking a Leave of Absence (LOA). LOA is a period of time when a student is not enrolled in classes and the student clock for time to graduation is stopped. The student should contact the

advisor, the Director of Professional Programs, or the Assistant Dean of Student Affairs to discuss LOA options. Timelines for completion of the capstone for students on LOA will be determined on a case-by-case basis.

12. Dual-Degree Students

Capstone requirements for dual-degree students may differ from standard requirements, depending on the dual-degree program. Therefore, dual-degree students should work with their academic advisor and the Director of Professional Programs to determine their requirements for Capstone completion. Capstone committees for dual-degree students should include faculty from both degree programs.

13. Change of Capstone Project after Approved Proposal

If a student's capstone project falls through after the committee has approved the proposal, the student should communicate with the committee on how to move forward with identifying another project. The student should also update the Director of Professional Programs. After a new project topic has been approved, the student will need to work diligently to complete the project in order to finish within the semester. The final approval forms should reflect the new project.

14. Plagiarism

University policy on academic dishonesty is clear: academic dishonesty in any form is strictly prohibited. Anyone found to be cheating or helping someone else cheat will be referred directly to the Associate Dean for Academic and Student Affairs for disciplinary action. Penalties are severe and may include dismissal from the University. The risks associated with cheating far outweigh the perceived benefits. Academic dishonesty includes citing someone else's work as your own - if you are unsure whether your planned action constitutes academic dishonesty, seek clarification from your instructor. All capstone reports will be checked for originality.

15. Manuscript Development and Authorship

Students should work with their Chair and committee to determine if they intend to develop a manuscript to submit for publication from the Capstone project. This conversation should occur during the planning and proposal phase of the project, and authorship should be planned at that time, using standard authorship criteria. If a Capstone project goes to publication, the Capstone Chair should make final determination of authorship, using standard authorship criteria. Some journals may provide guidelines for authorship. Another resource for defining the roles of authors and contributors can be found here: http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html.

16. Electronic Submission of the Capstone Written

After receiving approval from your Capstone committee, the final approved written report must be submitted electronically (as a PDF file) to the McGoogan Library of Medicine for deposition into the UNMC electronic repository (DigitalCommons@UNMC). There will be no opportunity for editorial or other changes to the capstone after submission to the library.

The submission process consists of the following steps:

- Read and accept the Submission Agreement (provided online at the beginning of the process)
- Provide information about yourself and committee members
- Upload your PDF and any associated files

Before you begin, please be sure you have the following items:

- The exact title of your capstone written report
- The abstract

- A list of keywords
- A PDF file of your work

Embargoes & Restrictions

What is an embargo? An embargo is a delayed release of information. Consult with your capstone Committee Chair about whether or not you require an embargo and the appropriate length of the embargo (6 months, 1 year, or 2 years). By default, no embargo will be applied. You will have an opportunity to establish a different embargo duration when uploading your capstone. Your capstone will not be available to download from the DigitalCommons@UNMC until the embargo has expired. If you choose not to embargo your work, it will be immediately available to the public.

Why would you want to embargo your capstone report? Some reasons to request an embargo include:

- There may be patentable rights or sensitive data in the work.
- There is an ethical need to prevent disclosure of sensitive information.
- You plan to submit portions of the work for publication in a journal.
- Your committee members plan to use some of the results as preliminary data for a grant.

Submission Instructions

1. Once you have completed your capstone report and are ready to electronically submit it to DigitalCommons@UNMC, go to http://digitalcommons.unmc.edu/coph_slce/ and click on the **Submit Your Work** link, located on the lower right hand menu bar under Author Corner.
2. You will be asked to login or create an account. Most graduates will need to **Create new account**. In order for you to receive monthly usage reports, please use your permanent email address.
3. Before proceeding, you must check the email address you provided to confirm your account.
4. Once confirmed, you will be directed to the **Submission Agreement**. Please read the agreement and accept the terms.
5. You will now see a form in which you must enter all of the required information – title, keywords, capstone committee members, abstract, etc.
6. At the end of the form, you must upload your final paper (**Upload Full Text**) as a **PDF** file.
7. Upon submission, the library will notify the College of Public Health, Office of Public Health Practice that the submission process has been completed.
8. The document will be available for download from DigitalCommons@UNMC after the library's review or at the end of the embargo period (if any).

17. Additional Questions Regarding MPH Capstone Experience

If students or faculty have additional questions regarding Capstone, please contact the Director of Professional Programs.

APPENDIX A: CAPSTONE RUBRIC

Criteria	Does Not Meet Expectations	Meets Expectations	Exceeds Expectations
Background/ Literature Review	• Background/ rationale for the project are incorrect, incoherent, or flawed • Does not reflect understanding of subject matter and associated literature • Poor critical assessment of the literature and identification of gaps • Objectives are poorly supported by background literature • [if applicable] Demonstrates poor understanding of theoretical concepts	• Background/ rationale for the project coherent and clear • Reflects understanding of subject matter and associated literature • Adequate critical assessment of the literature and identification of gaps • Objectives are adequately supported by background literature • [if applicable] Demonstrates understanding of theoretical concepts	• Background/ rationale for the project are superior • Exhibits mastery of subject matter and associated literature • Superior critical assessment of the literature and identification of gaps • Objectives are superiorly supported by background literature • [if applicable] Demonstrates mastery of theoretical concepts
Methods/ Process/ Strategies/ Planning & Implementation	• Methods are partially aligned with objectives • Methods are poorly described (e.g., process, setting, participants, measures) • Variables, targets, measures, and implementation process is unclear and poorly developed • [if applicable] Proposed analyses are wrong, inappropriate, or missing • [if applicable] Conceptual framework not identified	• Methods are adequately aligned with objectives • Methods are adequately described (e.g., process, setting, participants, measures) • Variables, targets, measures, and implementation process is clear and adequately developed • [if applicable] Proposed analyses are routine, objective, correct • [if applicable] Conceptual framework is clear and adequately linked to project	• Methods are fully aligned with objectives • Methods are superiorly described (e.g., process, setting, participants, measures) • Variables, targets, measures, and implementation process is clear, fully developed, and imaginative • [if applicable] Proposed analyses are sophisticated, robust, precise • [if applicable] Conceptual framework is exceptional with superior links to project
Results/ Product/ Outcomes	• Results/ products/ outcomes are partially aligned with objectives • Results/ products/ outcomes are poorly described and do not align with description of methods • Tables/ figures/ products/ outcomes are missing or do not clearly present the project findings (e.g., formatting, appropriate # of tables/figures to display the range of results) • Interpretation of data or outcomes is wrong, inappropriate	• Results/ products/ outcomes are adequately aligned with objectives • Results/ products/ outcomes are adequately described and aligned with description of methods • Tables/ figures/ products/ outcomes are present and adequately present the project findings • Interpretation of data or outcomes is routine, objective, correct	• Results/ products/ outcomes are fully aligned with objectives • Results/ products/ outcomes are superiorly described and aligned with description of methods • Tables/ figures/ products/ outcomes are present and superiorly present the project findings • Interpretation of data or outcomes is sophisticated, robust, precise

Discussion/ Conclusion/ Evaluation & Reflection	• Key findings are poorly summarized with reference to objectives • Poor integration and interpretation of results across findings (e.g. simply repeats results or describes no results in discussion) • Findings poorly evaluated within the context of the literature • Does not identify or poorly describes project limitations • Poor discussion of impact on community setting/ practice/ end-users • Weak recommendations are made to community settings/ practices/ end-users; recommendations are poorly linked to results /products/ outcomes	• Key findings are adequately summarized with reference to objectives • Adequate integration and interpretation of results across findings • Findings adequately evaluated within the context of the literature • Project limitations are adequately identified and described • Adequate discussion of impact on community setting/ practice/ end-users • Adequate recommendations are made to community settings/ practices/ end-users; recommendations are linked to results/ products/ outcomes	• Key findings are fully summarized with reference to objectives • Superior integration and interpretation of results across findings • Findings fully evaluated within the context of the literature • Project limitations are superiorly identified and described • Superior discussion of impact on community setting/ practice/ end-users • Superior recommendations are made to community settings/ practices/ end-users; recommendations are very clearly linked to results/ products/ outcomes
Significance/ Scope	• Project represents limited expansion upon previous research/work and has limited evidence of public health significance • Demonstrates rudimentary critical thinking skills	• Project builds upon previous research/work and shows some evidence of public health significance • Demonstrates average critical thinking skills	• Project greatly extends previous research/work and shows exceptional evidence of public health significance • Exhibits mature, critical thinking skills
Synthesis of competencies	• No competencies were not identified • No discussion of how the specified competencies were synthesized	• Competencies were identified • Some discussion of how the specified competencies were synthesized	• Competencies were identified • Thoughtful and extensive discussion of how the specified competencies were synthesized
Quality of writing and formatting	• Writing is weak • Numerous grammatical and spelling errors apparent • Organization is poor • Formatting is poor	• Writing is adequate • Some grammatical and spelling errors apparent • Organization is logical • Formatting is adequate	• Writing is publication quality • No grammatical and spelling errors apparent • Organization is excellent • Formatting is exceptional
References	• Few references (<25%) are timely and appropriate to the subject matter • References selected below average or poor for the chosen subject (relies on websites or non-peer reviewed sources; outdated; missing key works) • Statements consistently not supported by references when references are clearly needed • In-text and reference list citations are formatted incorrectly or inconsistently (e.g., switching between formatting styles, websites improperly cited, etc.)	• Many references (~50%) are timely and appropriate to the subject matter • References selected are adequate for the chosen subject • Statements generally supported by references when references are clearly needed • The majority of in-text and reference list citations are properly cited (e.g., switching between formatting styles, websites improperly cited, etc.)	• Most references (>75%) are timely and appropriate to the subject matter • References selected are the best available for the chosen subject • Statements always supported by references when references are clearly needed • All in-text and reference list citations are properly cited (e.g., switching between formatting styles, websites improperly cited, etc.)

Presentation Design	• Presentation slides do not support the key messages. • Font formats, color schemes and contrast are inconsistent used and/or slides are too low contrast and hard to read. • Slides contain too many bullets (no white space) or are too busy that they detract from the presentation. • Tables and charts are not presented or not accurate or not used effectively in the presentation.	• Presentation slides support the key messages but are cluttered and unclear. • Font formats, color schemes and contrast are inconsistent. • Some slides contain too many bullets (no white space) or are too busy that they detract from the presentation. • Tables and charts are presented but are not effectively used in making the point of the presentation.	• Presentation slides support key messages are clear and uncluttered. • Font formats, color schemes and contrast is consistent, simple and clean. • Slides contain 0-5 bullets and have adequate white space so they do not detract from the presentation. • Tables and charts are clear, accurate and summarize findings effectively and add to the point of the presentation.
Delivery	• Presenter reads the slides and makes no eye contact • Presentation does not reflect a thorough preparation and coordination among students • Presenter was hard to hear and understand the majority of the time • Presentation does not reflect a thorough preparation • Presentation was not within the assigned time limit	• Presenter maintains eye contact and uses the notes effectively • Presenter was easy to hear and understand the majority of the time • Presentation partially reflects a thorough preparation • Presentation was within the assigned time limit or over/under by a small amount of time	• Presenter maintains eye contact and uses the notes effectively • Presenter was easy to hear and understand throughout the presentation • Presentation reflects a thorough preparation • Presentation was within the assigned time limit
Professionalism	• Project timeline poorly managed by student; consistently missed deadlines; consistently required prompting by committee • Student rarely sought feedback; feedback was clearly needed • Minimally response to written/ verbal feedback • Communication with committee lacked professionalism	• Project timeline mostly managed by student with some oversight from committee; some deadlines missed • Student sought some feedback and occasionally asked for help when it was needed • Adequately response to written/ verbal feedback • Communication with committee was usually professional	• Project timeline completely managed by student; student worked independently and met all project deadlines • Student struck an exceptional balance between working independently but asking for necessary feedback/help • Exceptionally responsive to written/ verbal feedback • Student communicated professionally with committee members
FINAL RATING	☐ **DOES NOT MEET EXPECTATIONS**	☐ **MEETS EXPECTATIONS**	☐ **EXCEEDS EXPECTATIONS**

APPENDIX B: MPH COMPETENCIES

MPH Foundational Competencies

Evidence-based Approaches to Public Health

1. Apply epidemiological methods to the breadth of settings and situations in public health practice
2. Select quantitative and qualitative data collection methods appropriate for a given public health context
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
4. Interpret results of data analysis for public health research, policy or practice

Public Health & Health Care Systems

5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels

Planning & Management to Promote Health

7. Assess population needs, assets and capacities that affect communities' health
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
9. Design a population-based policy, program, project or intervention
10. Explain basic principles and tools of budget and resource management
11. Select methods to evaluate public health programs

Policy in Public Health

12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
14. Advocate for political, social or economic policies and programs that will improve health in diverse populations
15. Evaluate policies for their impact on public health and health equity

Leadership

16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making
17. Apply negotiation and mediation skills to address organizational or community challenges

Communication

18. Select communication strategies for different audiences and sectors
19. Communicate audience-appropriate public health content, both in writing and through oral presentation
20. Describe the importance of cultural competence in communicating public health content

Interprofessional Practice

21. Perform effectively on interprofessional teams

Systems Thinking

22. Apply systems thinking tools to a public health issue

MPH Concentration Competencies

MPH Concentration Competencies: Biostatistics

NAME	TITLE
BIOSMPH1	Employ effect size, sample size, and power calculations in the design or interpretation of studies as appropriate for the specific research questions and hypotheses.
BIOSMPH2	Apply appropriate statistical methods for estimation and inference, using a software package for data management, statistical analyses, and data presentation.
BIOSMPH3	Apply statistical methods for quality control and data cleaning to already collected data, verify assumptions of statistical tests and models, and implement appropriate methods to address any issues discovered.
BIOSMPH4	Develop written and oral presentations based on statistical findings for both public health professionals and lay audiences.
BIOSMPH5	Evaluate the strengths and limitations of study design and statistical analyses of public health and biomedical studies.
BIOSMPH6	Communicate ethical considerations in research, study design, and data handling, analysis, and interpretation.

MPH Concentration Competencies: Emergency Preparedness

NAME	TITLE
EMPMPH1	Coordinate an adverse event response within the scope of authority and chain of command.

NAME	TITLE
EMPMPH2	Evaluate protective behaviors in responders to disasters.
EMPMPH3	Analyze epidemiological, environmental or health data from disaster responses.
EMPMPH4	Direct the management of information for incident action planning.
EMPMPH5	Implement organizational capabilities for disaster preparedness and response.

MPH Concentration Competencies: Environmental and Occupational Health

EOHMPH1	Analyze sources of exposure in the workplace and the environment that can cause health risks to humans or degradation of ecosystems.
EOHMPH2	Examine exposures and pathways for environmental and occupational agents associated with human injuries and diseases.
EOHMPH3	Compare and contrast specific symptoms and health outcomes associated with occupational and environmental exposures.
EOHMPH4	Apply genetic and physiological factors that affect susceptibility to adverse health outcomes following exposure to environmental and occupational hazards.
EOHMPH5	Apply the dose-response principle in assessing risk from occupational and environmental exposures.
EOHMPH6	Develop and implement methodologies for measurement and estimation of workplace and environmental exposures.
EOHMPH7	Employ measures to control workplace injury and illness including engineering, education, regulations, incentives and best practices.
EOHMPH8	Examine information sources and public health indicators in occupational and environmental health.

MPH Concentration Competencies: Epidemiology

EPIMPH1	Determine strengths and weaknesses of the scientific literature and synthesize the evidence to inform public health practice.
EPIMPH2	Apply appropriate study designs and data collection methods to answer specific epidemiologic questions and address public health issues.
EPIMPH3	Analyze datasets using computer software.
EPIMPH4	Utilize analytical approaches to describe, summarize and interpret epidemiologic data.
EPIMPH5	Apply principles of ethical conduct, cultural sensitivity and social justice to public health research and practice.

MPH Concentration Competencies: Health Promotion

HPROMPH1	Apply scientific theories and models in planning health promotion program, policy, systems, and environmental change strategies.
HPROMPH2	Analyze and address contexts and key factors relevant to the implementation of evidence-informed health promotion strategies.
HPROMPH3	Develop rigorous projects to improve public health outcomes, community wellbeing, and reduce health disparities.
HPROMPH4	Demonstrate skills needed to coordinate and facilitate community partnerships to prioritize community needs, identify community assets, and create action to improve public health outcomes and reduce health disparities.
HPROMPH5	Apply administrative and management plans for health promotion strategies using a systems approach.

MPH Concentration Competencies: Maternal and Child Health

MCHMPH1	Examine the historical development of MCH public policies and practices in the U.S. for federal, state, and local agencies and programs serving MCH populations and analyze the current gaps in MCH services and programs.
MCHMPH2	Apply the life course perspective in addressing health, diseases and behaviors of MCH populations.
MCHMPH3	Identify the key public health issues for MCH populations at the local, state, national, and global levels.

MCHMPH4	Examine how the major determinants of health and disease affect the MCH populations at the local, state, national and global levels
MCHMPH5	Develop rigorous projects to improve health and to reduce inequalities and inequities of MCH populations.

MPH Concentration Competencies: Public Health Administration and Policy

HSRAMPH1	Demonstrate the skills to analyze and resolve organizational issues through a multidisciplinary systems-based approach.
HSRAMPH2	Demonstrate the skills to evaluate financial and managerial performance, perform asset valuation, conduct operating and capital budget analysis, and undertake financial decision-making in public health and health services organizations.
HSRAMPH3	Apply relevant theories and identify principles, best practices, and challenges of human resources management in health care organizations.
HSRAMPH4	Summarize the legal, political, social, and economic issues that impact the structure, financing, and delivery of health services within health systems in the US.
HSRAMPH5	Examine information about health policy issues and problems, and evaluate alternative policy options for these issues.