Overview

The thesis/capstone, also referred to as the culminating experience, constitutes a significant part of the work toward a Master’s degree and is the culmination of all other activities. Students have the option to complete a thesis or capstone project to satisfy this requirement. For the thesis option, a student develops a research question, for which they pose a research question based on previous research on the topic, obtains and analyzes the data to address a research question, and discuss the findings in relation to the research question. A capstone project is typically more applied in nature and can involve work for a community partner to address a specific problem, a grant application to a funder, a policy analysis, or the production of some other specific work product.

There can be various reasons a student would select one or the other option, but some examples include:

- A student is working with a community partner who has a need that would be suitable for a student capstone (i.e. preparation of a grant proposal, development of training materials, conducting a needs assessment, designing an intervention, etc.)
- A student is working with a faculty member on a research project that would provide opportunities for primary data collection or data for secondary data analysis that would be suitable for a thesis project.

A student typically starts thinking about their culminating experience project (i.e. project) as early as their first year in the program, with the bulk of the work being completed during the fall and winter quarters of the second year. Steps involved in completing the project are described below:

- Step 1: Choosing a Topic
- Step 2: Selecting an Advisor (Committee Chair) and Committee Members
- Step 3: Enrolling in FMPH 495/499
- Step 4: Preparing a Project Proposal
- Step 5: Getting the Project Proposal Approved
- Step 6: Completing the Project
- Step 7: Oral Presentation
- Step 8: Evaluation and Approval of the Final Project

Step 1: Choosing a Topic

It is the student’s responsibility to identify their thesis/capstone topic. Ideally, a student should have a reasonably well-defined topic in mind before requesting a faculty to chair or serve as members on their committee. Students should aim to produce novel research or application material. Efforts should be unique and innovative, considering the existing research and materials on the topic of interest. In other words, there is no reason to answer a research
question that has already been answered, unless there were limitations or other considerations in current studies that would justify the student’s replicating those efforts. Likewise, there is no reason to conduct a community assessment or public health program just like one that has already been developed, unless there were limitations or other considerations -- such as a need for updated data -- in the current assessment or program that would justify the student’s building on those efforts. A common limitation of existing research is that it is not generalizable to a different population or context. In this situation new research applying existing approaches but focused on a novel population or context is merited.

Students are encouraged to seek out multiple resources to help generate and define a thesis/capstone topic. Ways that students can accomplish this is are by talking with faculty who have experience in their field of interest, conducting informational interviews with public health practitioners and researchers, talking with other students, and completing a literature review to identify gaps in the literature that need to be addressed. Students are also encouraged to attend the thesis/capstone fair held each year in the Winter Quarter where faculty present research opportunities for MPH students that may be suitable for their thesis/capstone project.

While students are encouraged to select a topic they are interested in, it should be noted that the choice of a thesis/capstone topic does not dictate an MPH graduate’s career choices. The thesis/capstone is designed to be a demonstration of skills and knowledge gained from the core and concentration courses, including research and critical thinking skills, and all of those skills are translatable among an array of public health careers.

**Step 2: Selecting a Chair and Committee Members**

Students are encouraged to reach out to faculty whose research is of interest to them to inquire about potential availability to serve as a thesis/capstone chair. It is advisable that students spend some time beforehand reviewing the faculty member’s previous published work to get a sense of what types of projects they work on and what their area of expertise is. Committee composition requirements for both the thesis and capstone committees are discussed below.

**Committee Composition Requirements**

**Thesis Committees**

Per Graduate Division guidelines, the MPH thesis committees will consist of three faculty members, at least two of whom must be from the Herbert Wertheim School of Public Health and Human Longevity Science (HWSPH). Additional committee members may be added up to a total of five and may include approved “outside” members. All rules set forth by the Graduate Division will be adhered to regarding the composition of the thesis committee.

The thesis committee chair must be a faculty member of the HWSPH and must have one of the following titles: Professor Emeritus, Distinguished Professor, Professor, Associate Professor, Assistant Professor,
or Adjunct (with conditions). If you would like an adjunct faculty member to serve on your committee, please consult with the MPH program coordinators.

For detailed information about acceptable academic title, visit the Graduate Division’s website: https://grad.ucsd.edu/academics/progress-to-degree/committees.html#Appointment-of-the-Master’s-
The

Capstone Committees
MPH capstone committees consist of two faculty members from the HWSPH. One will serve as the chair and the second will serve as the second reviewer. The capstone committee chair must be a faculty member of the HWSPH and must have one of the following titles: Professor Emeritus, Distinguished Professor, Professor, Associate Professor, Assistant Professor, or Adjunct (with conditions). If you would like an adjunct faculty member to serve on your committee, please consult with the MPH program coordinators. The second committee member may come from outside the HWSPH as indicated in the Table linked above, and with permission of the MPH Program may also be a community public health professional. In addition, with permission of the committee chair, non-faculty academic members, including project scientists, research scientists, and post-doctoral researchers from within and outside the HWSPH can serve as the third committee member.

Step 3: Enrolling in FMPH 495
How to enroll in FMPH 495 and 499
Students must submit a pre-enrollment form signed by their committee chair in order to enroll in FMPH 495: Master’s Thesis/Capstone Independent Study. This form must indicate the name of the committee members, the research topic, and a brief description of the thesis or capstone project. The prerequisite for enrollment in FMPH 495 is the successful completion of FMPH 400, FMPH 401, FMPH 402, FMPH 403, FMPH 404, FMPH 405, and FMPH 406. FMPH 495 should be taken no later than the quarter before you graduate. The MPH program coordinators will announce the deadline for submission each quarter in advance. Forms can be found here: https://ph.ucsd.edu/mph/curriculum/FMPH%20495%20and%20498%20Forms.html

Grading for FMPH 495
FMPH 495 is graded on a satisfactory or unsatisfactory basis (i.e. S/U). In order to satisfactorily complete the course, the following must be completed:

- Project proposal (see Step 4 below) needs to be drafted and approved by committee chair
- Outline for the thesis or capstone project
- Draft introduction section to the project
- Draft literature review section
Step 4: Preparing a Project Proposal

Once the topic has been selected, the student will prepare a project proposal for approval by their committee chair. The project proposal should be approximately 300-500 words and contain the following information:

- A description of the public health problem to be studied
- A description of the research question or proposed need project would fill
- A description of the methods used to complete the project
- A list of project deliverables
- A timeline for completion of major project milestones
- A list of the MPH Program competencies that will be demonstrated through the completion of the project. The 22 MPH competencies as described by the Council on Education for Public Health (CEPH) are:
  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
  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
  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
  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
  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
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
21. Perform effectively on interprofessional teams
22. Apply systems thinking tools to a public health issue

Step 5: Getting the Project Proposal Approved
Once committee chair approves the project proposal, they fill out the MPH Thesis/Capstone Proposal Approval form and submit to the MPH program office.

Step 6: Completing the Project
Students enroll in FMPH 499 once they have completed FMPH 495 while they are working on their thesis/capstone projects (i.e. the prerequisite for enrolling in FMPH 499 is the successful completion of FMPH 495). FMPH 495 and FMPH 499 are designed to be taken as a sequence. FMPH 499 is a 2-unit course that can be taken up to a total of 3 times for a maximum of 6 units. FMPH 499 should be taken the quarter you graduate. For example, if you plan to graduate in Winter Quarter Year 2, FMPH 495 should be taken in Fall Quarter Year 2, and FMPH 499 should be taken in Winter Quarter Year 2. Grading for FMPH 499 is on a satisfactory or unsatisfactory basis (i.e. S/U). In order to satisfactorily complete the course, students must either complete their thesis or capstone project or make significant progress towards completing their thesis or capstone project.

Thesis
The ultimate goal of the thesis is to add new information to an existing body of research on an important public health topic. The thesis should be written as a publicly accessible document, such as a governmental agency report or peer-reviewed journal article. The student should work with their mentor to refine their topic or methodology, to insure that it has not previously been explored or has been investigated only to a limited extent. Additionally, the thesis is designed to showcase rigorous quantitative and/or qualitative methods to answer the research question. It strongly encouraged that the results of this work can be prepared for publication in a scientific journal.

Some examples of previous thesis projects include:

- “A Geospatial Analysis of Public 4-Year Universities and Open Hookah Bars in the United States.”
- “The Effect of Urbanicity and Region on Trends in Adolescent Suicide From 2007-2018.”
• “Is Muscle Density an Effect Modifier in the BMI-Mortality Relationship?”
• “Parkour and Intrinsic Motivation: A Mixed Methods Analysis of Self-Determination Theory in an Emerging Youth Sport.”

IRB Approval
Thesis/capstone projects that utilize data or information about human subjects must have Institutional Review Board (IRB) approval from the UC San Diego Human Research Protections Program (https://irb.ucsd.edu/Home.FWx). For projects with existing data, students must check with their faculty advisor to confirm that IRB approval has been previously obtained. Students working on projects analyzing secondary data sources or who will collect new data from study participants will require a review by UC San Diego’s IRB. Students should discuss the importance of IRB review with their faculty mentor and ensure their project undergoes the appropriate review.

Data Analysis
As previously mentioned, the thesis is a “culminating experience.” This means that it is intended to be a demonstration of what students have already learned from their MPH classes and articulated in the MPH core and concentration competencies. If the student’s thesis/capstone topic requires an advanced statistical or qualitative analysis that they were not taught during their MPH coursework, students will need to receive prior approval from their committee chair to ensure that they will have access to the appropriate expertise through the members of their committee. Students should generally not attempt an analysis that they have never learned and that is beyond the scope of their MPH training.

Writing the Thesis
Students completing a thesis must follow UC San Diego’s Graduate Division formatting guidelines. More information can be found here: https://grad.ucsd.edu/_files/academics/BlueBook%202019-20%20updated%2011.12.19.pdf Please note that these guidelines update yearly.

Suggested Format for Traditional Thesis
The traditional thesis is written in four chapters: Introduction, Methodology, Results, and Discussion/Conclusion.

• Initial pages. Use Roman numerals when assigning page numbers to the initial pages, until the body of the thesis begins.
  o Abstract not counted or numbered
  o Title page: number “i” is assigned but not typed
  o Approval page: number “ii” is assigned but not typed
  o Acknowledgments optional; if used, it should be listed in the Table of Contents.
  o Author’s Statement required, but not numbered.
  o Table of Contents may have more than one page • List of Tables used if necessary • List of Figures used if necessary
• Body of Thesis. These pages are numbered with Arabic numerals beginning with “1”. All Chapters must begin on a new page.
  o Chapter I – Introduction
    ▪ Include the study purpose and research questions and related literature review
  o Chapter II – Methods and Procedures
    ▪ Include a description of study instrument, recruitment of study participants, ethical considerations (e.g., IRB approval and informed consent process), and methods of data collection and analysis.
  o Chapter III – Results
    ▪ List results of data analysis and includes relevant tables
  o Chapter IV – Discussion
    ▪ Include interpretation of results, study limitations, suggestions for future research, and a conclusion
  o References
  o Appendices

Suggested Format for Manuscript Thesis
The manuscript format can be used when a manuscript prepared for publication is incorporated as a chapter into the thesis. The manuscript will be prepared according to the guidelines of the journal to which the manuscript will be presented. The student should reach out to his/her committee for guidance on the manuscript format, as these may vary by concentration.

• Initial pages. Use Roman numerals when assigning page numbers to the initial pages, until the body of the thesis begins.
  o Abstract not counted or numbered
  o Title page: number “i” is assigned but not typed
  o Approval page: number “ii” is assigned but not typed
  o Acknowledgments optional; if used, it should be listed in the Table of Contents.
  o Author’s Statement required, but not numbered.
  o Table of Contents may have more than one page
  o List of Tables used if necessary
  o List of Figures used if necessary

• Body of Thesis. These pages are numbered with Arabic numerals beginning with “1”. All Chapters must begin on a new page.
  o Chapter I – Background
    ▪ This should provide additional context and include a more thorough literature review than is possible to fit within the word limitations of the journal article (Include references at the end of this chapter)
  o Chapter II – Manuscript in style of journal
  o Chapter III – Discussion
• Include more extensive interpretation of results, study limitations, suggestions for future research, and conclusions than can be included in a journal article
  - Appendices

**Capstone**

A **capstone project** is typically more applied in nature. A capstone may or may not utilize systematic data analysis but should be written for a specific target organization or community. There is usually an end-product that provides some sort of materials, guide, plan, or evaluation that can be used by the community, agency or group facing the issue or problem at hand. The length of the capstone can vary depending on the subject matter and methodology and should be discussed in consultation with your capstone chair.

**Acceptable formats or designs for the capstone project are listed below:**

- **Grant Proposal/Research Plan:** This example should include a clearly defined research question, the specific objectives of the proposal, review of literature, study design, methods of analysis, and implications of the work. This work product should be written with a specific funder or organization in mind.
- **Community Needs Assessment:** Students will work with a community partner to plan and conduct a needs assessment and develop an action plan based on the findings of the needs assessment.
- **Public Health Program/Community Intervention Plan:** Students will design and develop a plan to implement a public health program or community intervention. Management, fiscal, and ethical factors must be addressed. Students will develop instructions, procedures and manuals for the program/intervention.
- **Policy Analysis:** Students will select a public health problem of interest to them and identify and analyze proposed solutions to address the problem utilizing the Bardach 8-fold path or similar policy analysis framework.
- Other work products commissioned by a community organization such as development of a video, training materials, or comprehensive resources document will be considered on a case by case basis.

Some examples of previous **Capstone** projects include:

- “Evaluation of UCSD’s Integrated Behavioral Health and Primary Care Pilot,” a project to develop, implement, and evaluate the Whole Person Healthcare Clinic Pilot.
- “Chronic Pain Intervention Utilizing Telehealth and Digital Technologies in a Rural Community,” a research plan for a proposed research project in rural Wyoming.
- “Analysis of Policy Options to Expand Refugee Mental Health Screenings,” a policy analysis of options to address mental health in San Diego’s refugee population.
Suggested Format for Capstone Project
While the formats of capstone projects will vary, each capstone project must contain the following elements.

- Abstract
- Background
- Literature Review
- Methods used to produce the work product
- Description of work product
- Discussion and Implications
- Appendix including work product

In some cases, such as a grant proposal, these elements will be interwoven into the work product itself, in other cases, such as designing a website or training materials, the work product will be included as an Appendix and the other items will be written up in a separate document.

Step 7: Oral Presentation
Students are encouraged to present the results of their thesis or capstone projects at the end of the year at the thesis/capstone presentation seminar. Although participation in this event is voluntary, students are encouraged to participate to take advantage of this valuable opportunity to gain experience presenting in front of peers and faculty. Presentations should be approximately 10 minutes in length, similar to a typical presentation made at a scientific conference. Tips for designing an effective presentation can be found here: https://www.jhsph.edu/academics/degree-programs/master-of-public-health/curriculum/capstone/Designing%20and%20Writing%20an%20Effective%20Presentation.pdf

Step 8: Evaluation and Approval of the Final Project
The final project will be graded on an Satisfactory/Unsatisfactory basis. In order to earn a satisfactory grade, final projects must meet the following guidelines:

- Significance of the public health problem is clear
- Background is sufficient to understand the topic
- Literature is adequately reviewed
- Methods are clear and appropriate
- Describes results to reveal insightful and important patterns, differences, or similarities in the data. (Thesis only)
• Clearly states a persuasive interpretation of significant results in relation to the research question. (Thesis only)
• Situates interpretations of results in relation to high-quality, credible, and relevant literature in the field, and suggests persuasive and specific potential broader significance of study. (Thesis only)
• Contribution of the project to the stakeholder/organization is clear [Capstone only]
• Writing and/or other materials is clear, well organized and free from errors

Tasks for Completing Thesis or Capstone
The following tasks should be completed during the Quarter in which the thesis or capstone will be completed.

Thesis Students
• Email the MPH Program Coordinators at mphinfo@health.ucsd.edu no later than the end of Week 1 to initiate processing of two electronic forms.
  o Application to Candidacy
  o Thesis Constitution Form
• Attend a Thesis Submission and Formatting Workshop hosted by the Graduate Division (Dates TBA)
• Schedule and attend preliminary appointment with Sara Miceli at the Graduate Division
• Schedule and attend final appointment with Sara Miceli at the Graduate Division
• Communicate completion of the final thesis to the MPH Program Coordinators via email and they will initiate the Final Report Form via DocuSign. The Final Report Form must be signed by all Thesis Committee Members and the Program Director by the last day of the completing Quarter and submitted to the Graduate Division.

Capstone Students
• Email the MPH Program Coordinators at mphinfo@health.ucsd.edu no later than the end of Week 1 to initiate processing of the Degree and Diploma Application (DDA)
• Communicate completion of the final capstone to the MPH Program Coordinators via email and submit the Capstone Final Report form by the last day of the completing Quarter.

Suggested timeline for completion of thesis/capstone project
The timeline below assumes a student is attempting to complete their thesis/capstone by the end of Winter quarter of their second year. If you plan to graduate earlier or later, adjust the timeline accordingly.

*General Public Health concentration students may work directly with MPH program leadership to determine a proposed timeline.*
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<th>First Year</th>
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<tr>
<td><strong>Fall Quarter</strong></td>
<td>- Start thinking about whether you’d like to complete a thesis or capstone project.</td>
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| **Winter Quarter** | - Browse faculty profiles and reach out to faculty whose research is of interest to you.  
- Attend the thesis/capstone panel event. |
| **Spring Quarter** | - Determine thesis/capstone chair and as much of your committee as possible.  
- Work with your committees on developing a thesis/capstone proposal. |
| **Summer Quarter** | Submit IRB applications (if applicable) |

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<tr>
<th>Second Year</th>
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| **Fall Quarter** | - Enroll in FMPH 495  
- Submit approved thesis/capstone proposal  
- Complete outline of project  
- Complete drafts of the introduction and literature review |
| **Winter Quarter** | - Enroll in FMPH 499  
- If you will be completing your thesis/capstone in this quarter, follow deadlines set forth by the Graduate Division to ensure all appointments and paperwork is completed in a timely manner. The MPH Program Coordinators will run Degree Audits for students scheduled to complete their thesis/capstone.  
- Application to Candidacy for all thesis students are due by the end of Week 2.  
- Degree and Diploma Application for all capstone students are due by the end of Week 5. |
| **Spring Quarter** [For students who did not finish during winter quarter] | - Enroll in FMPH 499 or pay a filing fee in lieu of registration (~$188)  
- If you are enrolling again in FMPH 499, the course must be taken for 2 units. You can take the course for up to 6 times (12 units max). |
Student and Committee Roles

Student Responsibilities

- Select a thesis/capstone topic
- Secure a thesis/capstone committee chair
- Work with committee chair to select remaining committee members
- Work with committee chair to refine thesis/capstone topic to ensure feasibility of project
- Draft thesis/capstone proposal and receive approval from committee
- Develop timeline for completion of project
- Complete enrollment request for FMPH 495/499 courses
- Submit an application for approval to the University’s IRB, if applicable
- Stay on track with the committee’s agreed-upon timeline, submitting drafts by their due dates
- Remain in regular communication with the committee chair
- Give committee members a minimum of 2-week turnaround time on any specific requests to review project progress
- Follow and complete Graduate Division tasks the quarter you are completing thesis/capstone

Committee Chair Responsibilities

- Assess the student’s proposed topic and skill level to independently carry out the proposed analysis. Provide feedback and suggestions for modifications or resources to ensure that the student will be able to successfully complete the project.
- Communicate expectations to the student early in the process. If participation in a formal thesis defense is expected, the committee chair must establish this with the student at the beginning of the process.
- Work with the student to establish a realistic timeline for completion, ensuring that it allows for sufficient time to receive committee members’ feedback and approval, and hold student accountable to the timeline.
- Determine if and what kind of IRB approval will be required, and supervise student submission of IRB approval documents, if necessary.
- Provide timely feedback throughout the process
- Ensure that the committee members provide their feedback on the draft(s) and approves the final version in accordance to the set timeline.
- Monitor student’s progress to complete the thesis/capstone by the quarter deadline. If the student is not adequately prepared, the student should continue their progress in the following quarter.
- Attend the thesis/capstone presentation, if student is participating
- Submit grades for each quarter student is enrolled in FMPH 495/499 courses
• Approve the final document of the Thesis/Capstone to be uploaded to eScholarship.

Committee Member Responsibilities
• Read, advise on, and sign the FMPH 495/499 forms
• Agree upon a realistic timeline for completion, as guided by the committee chair
• Read the student’s drafts and provide timely feedback, as guided by the committee chair
• Advise on specific aspects of the thesis/capstone in which the committee member has expertise
• Work with committee chair to assess the student’s progress and readiness to complete the thesis/capstone by the proposed quarter deadline
• Attend the thesis/capstone presentation, sign the approval form, and provide feedback and suggestions for edits to the final document, if necessary

Other Resources and Important Contacts
• MPH Program Coordinators: mphinfo@health.ucsd.edu
• Sara Miceli, Academic Advisor in Graduate Division:, smiceli@ucsd.edu