EHESP
French School of Public Health

Ecole des Hautes Etudes en Santé Publique

The Master of Public Health

Epidemiology (EPI) and Biostatistics (BIOSTAT) tracks

2023 - 2024

Practicum Guidebook

for M2 students; academic & professional advisors & jury members

Every year, the *Ecole des Hautes Etudes en Santé Publique* (EHESP School of Public Health) offers a one-year Master 2 program allowing students to acquire deeper knowledge and skills in the various disciplinary fields of public health, and choose to specialize in one of them. The M2 course draws on the content and skills acquired during the first year of the MPH (or equivalent course) with the overall aim of equipping graduates for leadership positions in institutions of public health at national and international levels.

As part of the program, students must complete a “Practicum” (internship) lasting a minimum of 4 months, which results in the submission of a thesis and an oral defence before a jury. This practicum is supervised by an advisor within the host institution (the « professional advisor ») and an advisor from the programme faculty (« academic advisor »).

This guidebook aims to provide necessary information for:

1. **Students** by covering instructions related to the practicum/internship & thesis,
2. **Professional** and **Academic advisors** on their supervisory roles,
3. **Members of the jury** regarding the thesis and oral defence evaluations.

The EPI and BIOSTAT tracks are separate tracks. However, one conjoint guidebook is presented, rules being largely similar.

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THE PRACTICUM

1 – PRACTICUM OBJECTIVES

The practicum is an internship during which the student will have the opportunity to learn more about the roles and responsibilities of public health professionals within a host institution. The practicum in the EPI or BIOSTAT track should focus primarily on **one main project** and address core **competences targeted by the track programmes** (data analysis and interpretation, report writing, but can also include data collection). The host institution may assign **additional activities** and missions to the student, **if they address relevant competences in public health**. While the practicum is an opportunity for the students to put into practice the technical knowledge and skills relating to epidemiology / biostatistics acquired during the program, they should also draw on their broader competences in public health: initiative, creativity, networking, teamwork, communication skills, etc.

The host institution and the student need to **formalize objectives** and **expectations** in the internship contract.

The work on the main project should take a **scientific approach**, based on a scientific hypothesis that is grounded in public health evidence and that the students evaluates using appropriate data and quantitative methods. **Results from this main project will be presented in the Master thesis**, which the student will write as part of the practicum, with guidance and scientific input from the professional advisor.

2 – CHOOSING A PRACTICUM HOST & THESIS TOPIC

The relevance of the host & topic:

The practicum should allow the student to apply several core competences targeted by the EPI and BIOSTAT tracks. The host institution and/or professional advisor must have expertise in the field and/or the methods that relate to these core competences. The goal of a scientific publication of the main project is strongly encouraged (with the student as first author, if applicable).

For the EPI track, the analyses must include at least one thoroughly conducted multivariable regression. Meta-analyses are accepted as research topics (if a scoping review has previously suggested sufficient evidence for a meta-analysis), but not systematic reviews.

For the BIOSTAT track, the use of advanced statistical methods is expected.

Feasibility:

The main project should be shaped for a duration of 4-6 months, as offered by the host institution, with the goal to submit at least an interim report in form of Master thesis.

When choosing a topic for the thesis, there are several factors that can make a topic difficult to study. Some topics may be beyond the scope of a Master's thesis and require that the student narrow down to a more realistic question. Alternatively

a topic may be perceived as too sensitive or controversial thereby making it difficult for the student to gain access to necessary data. Finally, the timing of the project, missions or activities must take into consideration the need for the student to have the necessary data in time to complete the thesis before the due date.

Other criteria:

Consideration should also be given to ethical requirements or the need for confidentiality; student interns will be seeking employment at the end of their program and will need to be able to present their work in the recruitment process.

Practicum project outline

By 18 December 2023, students must submit a **practicum project outline** directly to the EPI or BIOSTAT track leader. This outline must have been drafted in collaboration by the student and the professional advisor. The outline must include:

1. A short description of the host institution and the professional advisor's expertise
2. The name of persons at the host institution who are expected to contribute relevant expertise on the project conduct
3. Specific research objectives of the main project that the student will write the thesis on
4. A description of the data that will be used (date of availability, mode of access, any other relevant information)
5. 1-3 publications by the host institution with relevance to the main project

DURING THE PRACTICUM

1 - THE FRAMEWORK REPORT

At the end of first month (EPH & MPH: 4 March 2024), the student must submit via REAL a **framework report,** which has been validated and signed by the professional and academic advisor. This document is an outline of the main project, thus follows the structure of a scientific abstract and should be **5 pages maximum**:

1. Description of the host institution and the tasks assigned to the student
2. Background (based on a literature review), rational and aim (to contribute to..)
3. Specific quantitative objectives (to estimate, to evaluate …)
4. Methods : description of the data base, the statistical methods that will be applied (including outlook to advanced methods that could be used)
5. Calendar (over the 4-6 months of practicum period)

The Framework report will be commented by the Track Leader.

2 – EVOLUTION OF THE PROJECT

The practicum may occasionally end up being carried out under conditions that differ from those envisaged at the outset. This may be due to:

- the absence or unavailability of human resources,
- difficulties/impossibility in accessing data,
- the quality of this data,
- the obsolete nature of the subject of the practicum itself,
- the emergence of a dimension of the problem not initially considered at the outset,

If this occurs, the project/thesis topic may need to be re-orientated and modified and this must be discussed as soon as possible involving both the professional and academic advisors, and the result be validated by the EPI or BIOST coordinator. If such a change occurred, the circumstances, justification and consequence of these changes must be presented in the thesis - to have them taken into account in the evaluation by the jury, as appropriate.

3 - THE THESIS PROJECT PRESENTATION

After 1,5 months of the practicum (on 13 March 2024), all students of the EPI and BIOSTAT tracks will participate in an online thesis project presentation session, during which each student will give a 5-minute presentation of the thesis work, followed by a short discussion with the track leaders and fellow students. Elements to be presented are those expected in the framework report, supplemented by the available results and initial interpretation.

The objective of this session is to create and maintain a group dynamic among students, allow kind benchmarking and identify any situations that may hinder the timely thesis writing.

THE ROLE OF THE PROFESSIONAL AND ACADEMIC ADVISORS

1 – THE PROFESSIONAL ADVISOR

The **professional advisor** defines the missions, tasks and activities that the student intern will be involved in throughout the internship. She/he also ensure that the thesis topic is feasible and relevant to the objectives of the internship. The professional advisor provides support on two levels:

- on a primary level: by creating a conducive environment in which the practicum can take place (providing relevant contacts, allowing authorised access to internal documentation, encouraging initiatives, evaluating phases of completion, ensuring the student intern is exposed to relevant experiences),
- on a secondary level: by providing insider knowledge and clarification regarding the professional culture and know-how, the regulations and working procedures of the host institution.

The professional advisor is the representative of the host institution and in this regard, she/he is:

- deemed to represent the opinions of the institution,
- responsible for the progress of the student intern during the practicum, in particular related to the compliance with the specifications of the internship which the student has been charged with completing,
- in a position to notify the academic advisor or track leader of any significant evolutions during the practicum (as discussed above), both in respect to the chosen topic or as a result of any relational or behavioural problems of the student.

At the end of the internship, the professional advisor completes a report evaluating the student on aspects such as:

- the quality of the students' work
- the integration of the student within the host institution
- the degree of compliance with the terms of the internship's activities and missions
- the student's capacity for analysis and synthesis
- the student's autonomy, organisational and planning skills
- the student's personal commitment, motivation and responsibility over the course of the practicum
- the student's interpersonal communication skills and capacity to adapt and fit into their team.

The professional advisor must fill in the evaluation sent by the MPH team as a Microsoft form at the latest:

- For Europubhealth students**: by 3 June 2024**
- For MPH students: **by 17 June, 2024**

2 – THE ACADEMIC ADVISOR

The academic advisor if a programme faculty member chosen by the student (choice validated by the track leader). If the professional advisor is a member of the programme faculty, then no academic advisor is required and the professional advisor communicates directly with the EPI or BIOST track leader.

The **academic advisor** is expected to:

- help the student meeting the formal requirements of the thesis.
- guide and monitor the progress of the thesis
- provide methodological and expert advice, as applicable.
- liaise with the student, professional advisor and the EPI or BIOST track leader (individually or as a group), in particular if specific questions arise with the progress or scope of the thesis
- review and comment a first draft of the thesis (at a date agreed upon with the academic advisor).

The academic advisor should clarify upfront with the student which submission of preliminary material is expected at which stage. The student is the sole author of the thesis and entirely responsible of the writing.

THE THESIS

1. CONTENT

The thesis should structured, similar to a scientific manuscript, with the following sections:

1. Introduction: Presentation of the problem, the state of the art, the rational, the hypothesis underlying this work, and specific objectives. Include a paragraph on the specific condition during which the work was carried out and which contributions the student made.
2. Methods: Data sources, data collection, statistical methods. Include an ethical statement. If appropriate, introduce advanced methods and justify their use.
3. Results: Factual description of the participant characteristics or the data set, factual description of results corresponding to the specific objectives – without interpretation.
4. Discussion: Presentation of the key results and discussion in light of existing evidence literature. Discussion of limitations and of relevance for public health. Recommendations that can be made (or not) for public health and/or research based on the findings.

References

The principles of research integrity and ethics requires that students accurately reference and cite all their sources and support with references any affirmations and claims. These include:

- articles, books, along with authors' names and years
- web sites
- anonymizing participants' data and using quotation marks for verbatim

References must be formatted in Vancouver style (see https://www.imperial.ac.uk/media/imperial-college/administration-and-support-services/library/public/vancouver.pdf).

The school uses COMPILATIO – an anti-plagiarism software. See EHESP regulation and disciplinary consequences for plagiarism at https://mph.ehesp.fr/wp-content/uploads/2009/08/EHESP-Academic-Regulations-.pdf

Other sections of the thesis include:

- Appendices, tables, illustrations charts etc.

- The appendices should only include information relevant to understanding the main text
- Cross-references to the appendices should be made in the main document.
- For simple graphics, ensure that colours can be printed legibly in black and white.
- All tables, graphics, figures and diagrams must include a label and be referenced in the text. In the event that they have been borrowed from other authors they must be clearly referenced.

- Abstract in English

The abstract should be between 250 and 300 words long, made up of simple, short sentences. The title and abstract together must form a comprehensible whole. It should provide answers to these four questions:

- What was the reason for the project? (backround, rational and aims)
- What was the project expected to yield? (objectives)
- How was this project carried out? (methods)
- What was found using these methods? (results)
- How can the results be interpreted and what conclusions may be drawn? (conclusions)
- Include 3-5 key words

- Abstract in French

In addition to the English language abstract, the document must include an abstract in French, preceded by the translation of the title of the thesis.

2. FORMAT

<u>The Cover Page</u>:

Use the cover page below in your thesis. The title must be as explicit as possible, while still being concise (potential for inclusion of a sub-title).

Master of Public Health

Master de Santé Publique

<Title of the Thesis>

< First name and SURNAME >

Class and year of the Master:

Location of the practicum:

Professional advisor: (name, institution)

Academic advisor: (name, institution)

3. LAYOUT

When structuring your thesis, use the following to layout to organise the different sections:

- Cover page with a title and sub-title
- Acknowledgements
- Table of contents with page numbers (use of *Styles* is highly recommended)
- List of acronyms
- Abstract
- Introduction
- Methods
- Results
- Discussion
- Conclusion/Recommendations/Implications
- References
- List of Appendices
- Abstract in French

4. LENGTH

The thesis ***should not exceed 30 pages,*** with Arial font, size 11 with 1.5 spacing and 2,5 cm margins.

The appendices and references are not included in the 30 pages. Efforts should be made to limit appendices to what is strictly relevant to the topic at hand. Illustrations should be included solely insofar as they contribute useful information.

THE THESIS SHALL BE UPLOADED BY THE STUDENT ON THE REAL PLATFORM ON

- **Europubhealth students : 4 June 2024 before 11:55 pm**
- **MPH students: 18 June 2024 before 11:55 pm**

CRITERIA FOR THE EVALUATION OF THE THESIS

The jury is composed of two reviewers and two presidents and their role is to assign grades to the theses.

The final grade takes into account both the oral and written components:

- Written thesis: 50%
- Oral defence: 30%
- Q&A with the jury: 20%

The jury also considers:

- elements gathered during the oral exchange with the professional and academic advisors,
- written evaluations from these same advisors which also cover the soft-skill competences (see section on the role of advisors) and the assimilation or otherwise of advice given at various stages of the practicum.

1 - EVALUATION OF THE ORAL DEFENCE

The oral defence evaluates the student's ability to present his or her work in a synthetic manner to a group of people who are not necessarily experts on the issue (but who are scientists/academics) and the student's ability to defend their choices throughout the project and respond to jury members' questions. The jury can use the table below to guide their evaluation of the oral defence:

COMPONENT	CRITERIA	EVALUATION
PRESENTATION	Quality of the oral & visual presentation Clarity of speech Coherence	
DISCUSSION WITH THE JURY	Relevance of answers Authenticity Reflexivity	

2 - <u>EVALUATION OF THE WRITTEN THESIS</u>

Below is a rubric to guide students in the redaction of their thesis and guide the reviewers in their grading of it.

Thesis rubric

Criteria		Excellent (15-20)	Satisfactory (10-15)	Poor (<10)
Title (0,5)		Title is informative, succinct & offers specific details about the issue, context & methodology	Title offers some detail about the issue, but is lacking in relevant details	Title is irrelevant or fails to offer appropriate details of the study
Abstract (1,5)		Clearly & concisely states the research question, context, methodology, results, conclusion & implications for public health	Includes parts but not all of the following: research question, context, methodology, results, conclusion & implications for public health. Also includes vague or confusing information	Does not clearly state the research question, context, methodology, results, conclusion & implications for public health and provides inaccurate or irrelevant information.
Introduction (3)	*Background/literature review*	Identifies relevant literature that highlights a specific & significant public health problem. Articulates clear definitions of relevant concepts (operationalized if relevant) and frames the problem in its wider context.	Provides a few references from the literature that vaguely point to public health problem. Concepts are vaguely defined and operationally defined and problem is adequately framed.	Incomplete or disorganized literature review that does not adequately identify a public health problem or justify its importance, or the topic is of little importance. Fails to identify relevant concepts and the problem is not adequately framed.
	Problem identification	Clearly articulates the public health problem. Well-conceptualized.	States the public health problem in vague terms but understandable.	Incomplete or unfocused public health problem.
	Research question/objectives	Clearly formulates a research question or objective that is coherent with the literature & problem that was identified.	States the purpose of the research but questions lack focus or are disconnected from the background literature.	Does not provide a research question/objective.

	Research design	The research design is appropriate to answer the research question/objective. The purpose, question and design are coherent.	The research design has been described but lacks in detail or is insufficiently justified.	The research design is absent, confusing or not coherent with the research question.
Methodology **(5)**	*Sample design*	The description of the sample and sampling procedure is appropriate and clearly described and well justified.	The sample and sampling procedure is described but lacks in detail or is insufficiently justified.	The description of the sample and sampling strategy is vague or absent and lacks relevance and/or justification.
	Data collection procedures	Data collection methods are clearly and accurately described and are coherent with the research question. Ethical considerations are addressed.	Data collection methods are described but are lacking sufficient detail. Ethical considerations are addressed.	Data collection methods are confusing, incomplete or lack relevance with research question. Ethical considerations are not addressed.
	Data analysis	Data analysis methods are clearly described and appropriate given the research question and research design.	Data analysis method is vague but complete but is relevant with research question and design.	Data analysis method is absent or confusing and not relevant to the research question and design.
Results **(2)**		Clearly and thoughtfully presented and described.	Accurately presented but lacking in thoughtful organization of data.	Inaccurate or messy presentation of data with no organization.
Discussion (*Can include recommendations for actions in the context of the objectives)* **(5)**		Thoughtful, detailed and comprehensive discussion of the findings that relates back to the research question. Key findings are confronted with the literature and implications are clearly stated. Shows creative and critical thinking with insight into the topic.	Limited discussion with some comparisons with the literature. Relates material to research question with some implications. Show some critical analysis.	No confrontation with the existing literature, fails to discuss key findings or relate to the research question. Shows little or no critical analysis.

Quality of writing (3)	*Composition & formatting*	Manuscript is well-written, with attention to spelling, punctuation; sentence and paragraph structure and transitions that facilitate a logical flow from one section to the next.	Manuscript is well-written but there are some typos and poor punctuation (less than 5) with only minor problems with the flow of sentence and paragraph structure.	Manuscript is poorly written, disorganized and difficult to read. There are more than 5 typos or problems with punctuation.
	Referencing system	Well-referenced and appropriate and consistent referencing system (appropriate for publication)	Minor issues with referencing throughout the text and in the reference list (would need some minor revisions for publication).	Fails to cite references or mixes up different referencing styles within the manuscript (not appropriate for publication).

THE JURY

1 – THE ORAL DEFENCE

It is the student's responsibility to inform their professional advisor of the dates of the oral defence which will be held on

- ***For EPH students: 14 June 2024***
- ***For MPH students : 1-2 July 2024***

If there are associated time constraints, notify the MPH coordinator.

The Oral Defence:

The oral defence is not simply a summary of the thesis. Rather it is intended to focus on the main findings and implications of the findings. The oral defence is public (except in the case of confidential theses) and lasts around ***40 minutes***, according to the following schedule:

- ***15 minutes*** for the oral accounts of the candidate
- ***25 minutes*** of questions from the jury to the candidate and the candidates responses,

At the end of the oral defence, deliberations take place in private with only the reviewers and jury presidents.

Professional advisors can be present at the oral defence only if their presence will not interfere with the student's ability to provide a critical appreciation of the contents of their thesis. If present, professional advisors can provide their point of view, their motivations leading to the topic of the thesis, the conditions in which the project was conducted, their expectations and their level of satisfaction. If absent, the professional advisors will have provided this information in their final evaluation report for the jury. The professional advisors do not participate in the final evaluation of the thesis.

2 - THE ROLE OF THE THESIS REVIEWERS

As soon as the student's thesis has been submitted on REAL, these documents are sent to the members of the jury with this practicum guidebook and the thesis rubric.

Two reviewers are appointed for each thesis by the track leader, including internal or external experts, of the topic and methodology employed. Each reviewer will have reviewed and evaluated the thesis before the oral defence, prepare questions for the student and submit a proposal for the grades on the written work and oral defence.

3 - THE JURY PROCESS

The oral defences generally occur over two days. The jury consists of the thesis reviewers and whenever possible, the track leader. It is presided by a member of the programme faculty.