

**PubH 215.13**  
**Epidemiology and Biostatistics Culminating Experience (2 credits)**

For more information, please visit:  
<http://www.gwumc.edu/sphhs/departments/epibio/practicum.cfm>

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The **Culminating Experience** is a graded course which consists of four elements that focus on the synthesis and summary of data acquired through epidemiologic research or surveillance activities. The four elements are: (a) Concept Paper, (b) Proposal, (c) Final Report, and (d) Oral Presentation. These elements are fully described in the Appendix – Guidelines for Culminating Experience Elements.

MPH students are required to demonstrate proficiency in the application of the skills they acquire during their academic programs through the **Practicum** (PubH 214.13) and the **Culminating Experience** (PubH 215.13). The two courses can be linked but this is not a departmental requirement. In addition, they can be taken simultaneously or sequentially, in which case the Practicum would come first.

*Course Prerequisites*

- PubH 202 Biostatistical Applications for Public Health
- PubH 203 Principles and Practice of Epidemiology
- PubH 247 Design of Health Studies
- PubH 205 Policy Approaches to Public Health

*Co-Requisites*

- PubH 249 Use of Stat Packages for Data Management/Data Analysis
- PubH 214.13 Epidemiology and Biostatistics Practicum

*Recommended Course*

- PubH 204 Environmental and Occupational Health
- PubH 207 Social and Behavioral Science Methods

- PubH 252 Advanced Epidemiologic Methods

*Other prerequisites*

- Students must take the online training courses relating to research with human subjects (CITI) and personal health information (HIPAA). (see SPHHS Student Practicum Guidebook for details)
- Students must have participated in the Department of Epidemiology and Biostatistics mandatory Practicum orientation
- If applicable, students must have submitted IRB paperwork before participating in the Practicum.

*Student responsibilities*

1. Before registering for the Culminating Experience, students should talk to the Practicum Director to discuss their plans and interests.
2. The first step in the Culminating Experience is identification of a topic. In some cases students work on a topic during the Practicum that can be linked and continued to fulfill the requirements of the Culminating Experience. At other times they may decide to choose a new topic.
3. The first requirement of the Culminating Experience is the development of a concept paper which describes the work that will be done for and how it will be carried out. (See Appendix for Concept Paper template)
4. The Concept Paper is reviewed by the Practicum Director and GW Faculty Advisor to assess the appropriateness of its scope as well as its feasibility.
5. Once the Concept Paper is approved by Department faculty, the student expands the Concept Paper into a Proposal which requires the approval of the GW Faculty Advisor and Site Preceptor. (See Appendix for Proposal guidelines)
6. Students work with their GW Faculty Advisor and Site Preceptor to determine whether IRB review is required. If it is, an IRB submission must be assembled (See Appendix for guidance)
7. Students should submit their Concept Paper, Proposal and IRB paperwork (if applicable) by the end of the first semester of the Practicum.
8. After completion of the Culminating Experience, students produce a Final Report which expands on their Proposal by including their results and discussion. (See Appendix for guidelines for the Final Report) The GW Faculty Advisor must receive an advanced draft of the report four weeks before the student intends to make their Oral Presentation.
9. Once the GW Faculty Advisor gives authorization, the students work with their GW Faculty Advisor and Practicum Director to schedule their Oral Presentation. Students are encouraged to invite their Site Preceptors to their Oral Presentations.
10. Students must provide the GW Faculty Advisor with a copy of their PowerPoint presentation two weeks before the scheduled date of their Oral Presentation. (See Appendix)

Course Objectives – Upon completion of the course, students will be able to:
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| <ol style="list-style-type: none"> <li>1. Identify and assess patterns of emerging diseases to postulate hypotheses and to identify appropriate strategies in order to</li> </ol> |
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2. Enumerate and apply underlying principles and methods to design, plan, and conduct epidemiologic studies including observational and experimental designs, screening programs, public health surveillance, and other epidemiologic designs.
3. Apply epidemiological and biomedical concepts in identifying and describing the determinants and the distribution of disease in human populations.
4. Synthesize data and relevant literature to interpret findings in a causal framework, write manuscripts, and make oral presentations.

**Required Texts**

None. Students will conduct research to support their research project or public health practice activity.

**Key Definitions – Course Participants**

Students – Students identify and develop a topic applying and integrating the knowledge and skills they have obtained through epidemiologic research or surveillance data. At times this data comes from the student’s Practicum.

Site Preceptor – The individual in the field who supervises the student’s work and provides input to the GW Faculty Advisor on the student’s performance, through an evaluation.

GW Faculty Advisor – A member of the GW SPHHS Department of Epidemiology and Biostatistics faculty who works with the student throughout the process to ensure that the student’s project and work meet Departmental standards. The GW Faculty Advisor is responsible for the student’s final evaluation and grade.

Practicum Director – guides student through Practicum-CE process.

**Method of Instruction**

Students are actively involved in the integration of knowledge and skills gained in their MPH program under the supervision of the Site Preceptor and the GW Faculty Advisor. The student’s progress in accomplishing the four basic elements of the course is tracked with the use of the Student Checklist, which assists students by outlining the specific steps needed to complete the Practicum and Culminating Experience.

**Methods of Evaluation**

Students will be assessed on how well they accomplish the objectives for the Culminating Experience through the evaluation of their (a) Concept Paper, (b) Proposal, (c) Final Report, and (d) Oral Presentation. The Site Preceptor completes an evaluation of the student’s performance. The GW Faculty Advisor will give the student the final grade taking into account the Preceptor’s evaluation and input.

## **Grading Scale**

The Culminating Experience will be graded as follows:

- Concept Paper and Proposal –25%
- Final Report – 40%
- Oral Presentation – 25%
- Site Preceptor evaluation – 10%

## **Class Policy: Attendance/Participation**

This is not a classroom experience but one where students work semi-independently, under the supervision of their preceptor and GW Faculty Advisor.

Blackboard will be used for posting files you may require, guidelines, templates, evaluation forms, etc., and communicating with the Practicum Director, GW Faculty Advisor and Department faculty. You are already “signed up” for this course on Blackboard, since it is linked to the course registration system. It is your responsibility to periodically check the course site (log in at <http://blackboard.gwu.edu/> using your gwu.edu address) for information and announcements.

## **Academic Integrity**

Please review the University’s policy on academic integrity, located at [www.gwu.edu/~ntegrity/code.html](http://www.gwu.edu/~ntegrity/code.html) All graded work must be completed in accordance with The George Washington University Code of Academic Integrity.

Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information. Common examples of academically dishonest behavior include, but are not limited to, the following: cheating; fabrication; plagiarism; falsification and forgery of University academic documents; facilitating academic dishonesty.

## **Students with Disabilities**

If you feel you may need an accommodation based on the impact of a disability, please contact me privately to discuss specific needs. Please contact the Disability Support Services Office at 202.994.8250, Suite 242 Marvin Center, <http://gwired.gwu.edu/dss> , to establish eligibility and to coordinate reasonable accommodations.

## APPENDIX

### Guidelines for Culminating Experience Elements

#### 1. Title Page

A Title Page must be included with each of the written documents (Concept Paper, Proposal, and Final Report) submitted to your GW Faculty Advisor, Site Preceptor, and through Blackboard. The proper format of the Title Page should be:

TITLE

DATE

Protocol Approved by  
The George Washington University  
Institutional Review Board IRB #  
(if applicable)

Submitted by:  
Student Name  
Contact Information

Preceptor Name  
Contact Information

GW Faculty Advisor Name  
Contact Information

In Partial Fulfillment of the Requirements  
For the Masters of Public Health Degree  
Department of Epidemiology and Biostatistics  
The George Washington University  
School of Public Health and Health Services

#### 2. Concept Paper: 2-3 pages double-spaced (including references)

Please follow this template by maintaining the headings of each section. If they are not applicable, please explain why.

- a. Title Page: as above
- b. Background: brief review of the literature, public health significance, and justification of need for the activity to be carried out (gaps in research area).
- c. Scope: explicit statement of what will be done during the Culminating Experience.

- d. Hypothesis and Principal Aims: Clear statement of the research hypothesis and principal aims to accomplish these goals.
- e. Methods: outline of the proposed analytic methods, including:
  - a. study design: Type of study or activity to be conducted (e.g. case-control study or surveillance project).
  - b. data sources - defend adequacy in terms of the availability and quality of data
  - c. variables: principal independent and dependent variables, and potential confounders
  - d. statistical analysis methods
  - e. human subjects protection issues
- f. Deliverables: report of research or public health practice activity
- g. Discussion: of the public health significance of the proposed project.
- h. Timeline: for the project or activity and a description of projected meetings with field preceptor and GW Faculty Advisor.
- i. References

### **3. Proposal: about 5-10 pages double-spaced pages**

The proposal represents an expansion of the approved Concept Paper. In addition to the above elements which should be described in greater detail, a scientific abstract using standard *American Journal of Public Health* format should be included after the Title Page.

### **4. Institutional Review Board (IRB) Review**

Students must work with their GW Faculty Advisor to decide whether the topic for a proposed Practice Activity must be submitted for IRB approval. If IRB Review is required, students must work with their GW Faculty Advisor, the Practicum Director, and the Office of Human Research (OHR) to obtain access to the appropriate forms; OHR has a Blackboard course which has forms and worksheets to assist students. Once an IRB submission has been prepared, the GW Faculty Advisor should review it, sign it if needed, and the package should then be submitted to the Practicum Director for review and signature in lieu of the Chair's signature.

The IRB is a committee mandated by federal law to protect the rights and welfare of human subjects participating in research activities. The IRB achieves its primary function, protecting the rights and welfare of subjects participating in research, by educating researchers.

Human Subject Research course requirements – please consult the SPHHS Student Practicum Guidebook.

Other institutions with their own IRBs: Students will sometimes work with institutions other than GWU that have their own IRB. The general rule is that students still have to complete an IRB submission for GW once the IRB used by the site has approved the project. Students should include the other IRB's documentation of project approval.

For students conducting research at Children’s National Medical Center (CNMC), submissions are made directly to the CNMC IRB. There is no need for a submission to the GW IRB because there is an agreement between the two institutions and the CNMC IRB will notify the GW IRB of any submissions.

## **5. Final Report Guidelines – about 18-20 double-spaced pages**

The Final Report follows the outline of a published research paper, and represents an expansion of the Proposal. It should include the following elements:

- a. Title Page
- b. Abstract \*
- c. Background
- d. Scope
- e. Hypothesis and Principal Aims
- f. Methods: including study design, data sources, variables, statistical analysis methods, and human subjects protection issues
- g. Results: a description of the data and the principal findings
- h. Discussion: of the public health significance of the proposed project
- i. Conclusions and recommendations
- j. Tables and Figures
- k. References
- l. Appendices: e.g., data collection instruments

\*The abstract should follow this outline:

- a. Background
- b. Objective
- c. Methods
- d. Results
- e. Conclusions

## **6. Oral Presentation Guidelines**

Students are expected to prepare a concise, 20-minute oral presentation using PowerPoint slides. The basic outline of the talk should include a Title Slide, Background, Hypotheses or Objectives, Methods, Results, Summary and/or Conclusions, Recommendations, and Acknowledgments. The number of slides presented should be limited to about 20, as each slide takes about one minute to present. Each presentation will be followed by a 10-minute question and answer session with Department faculty and other students.

At least two weeks prior to the scheduled presentation date, students must provide a copy of and review their PowerPoint presentation with their GW Faculty Advisor. The GW Faculty Advisor must authorize the student’s presentation to the Practicum Director via email. The student must also provide an abstract of the written report to the Practicum Director one week before the

presentation is scheduled so that announcements can be made to Department faculty and students.