Description of the Field/Laboratory Experience Requirement for the Masters of Science Degree in Public Health Microbiology and Emerging Infectious Diseases (MS PHMEID) (2CREDITS)

Course Description

The overall purpose of the Field/Laboratory Experience requirement is to introduce students in the MS PHMEID Program to a supervised practical experience to reinforce the classroom and laboratory work in their academic program. Experiences generally take place in one of the following areas:

- infectious disease research;
- public health laboratories; or
- a qualifying public health entity (local, state or federal public health department, multilateral health organization, private contractor, etc.) to introduce them to epidemiologic research, particularly, surveillance and its tie-in with laboratories either in the United States or in an international setting.

Students choosing a laboratory-focused experience will gain concrete experiences in key laboratory functions. This includes but is not limited to gaining experience in specimen collection, use of test kits, specimen storage and transport, chain of custody procedures, specimen processing in the laboratory, Good Laboratory Practices, general quality control issues, use of basic lab instrumentation, issues of biosafety, and exposure to one or more key laboratory test methods.

Students seeking a more epidemiology-focused experience will carry out the field placement in contexts where they will be exposed to epidemiologic research, surveillance, and the interaction between the laboratory and public health epidemiologists.

The Field/Laboratory Experience is a 2-credit course. Students are required to spend a minimum of 120 hours in their field placement. While the timing of the field placement is flexible, the typical arrangement is about one day a week for 12 to 14 weeks.

F/L E Procedures:

- Before beginning the field placement, students and Site Preceptors develop a contract that outlines the learning objectives that will be met and defines the project activities.
- Site Preceptors are asked to certify the student’s hours and evaluate the student (certification and evaluation documents can be sent via mail, fax, or email).
- Students are required to produce a brief report on their experience.
Course Prerequisite(s):

Before a student can enroll in the Field/Laboratory Experience course, they must complete the following epidemiology and microbiology courses. These courses are:

- PubH 6002 (Biostatistical Applications for Public Health)
- PubH 6003 (Principles and Practice of Epidemiology)
- PubH 6245 (Infectious Disease Epidemiology)

In the event a student has not completed one of these courses, the student must seek permission from a Program Director prior to enrolling in the Field/Laboratory Experience.

In addition, the student must have completed the following course requirements:
1. Attend the GWU Biosafety training course offered every semester.
2. Attend the mandatory MS Field/Lab Experience Orientation offered every semester.
3. Complete CITI and HIPAA on-line training (turn in copy of certificate to Student Records).

Course Objective – Upon completion of the course, students will be able to:

- Description of the key elements of specimen collection (biological, entomological and environmental) and transport and storage of these specimens.
- Description of the key aspects of chain-of-study for collection, transport, receipt and processing of specimens
- Description of the proper use of the specific test kits and containers for the specimen collection
- Description of the key elements of the Good Clinical Laboratory Practices (GCLP) or Good Laboratory Practices (GLP) and how they apply to specific laboratory activities
- Discussion of privacy issues and identity protection of sensitive laboratory information
- Description of the proper use of the various lab instruments and understanding key calibration and maintenance issues

Examples of Epidemiology and/or Surveillance oriented experiences:

- Identify and assess patterns of emerging diseases to postulate hypotheses and to identify appropriate strategies in order to evaluate the impact of health problems
- 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
- Apply epidemiological and biomedical concepts in identifying and describing the determinants and the distribution of disease in human populations

Methods of Instruction

- Lectures
- Case Studies
- Required Readings/Textbook
- Recommended/Supplemental Readings
- Class and Small Group Discussions
- Student Presentations
- Other: FIELD WORK
- Other [Specify]
Methods of Evaluation

<table>
<thead>
<tr>
<th>Methods of Evaluation</th>
<th>Percent of Grade</th>
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<tbody>
<tr>
<td>Field/Laboratory Experience Contract</td>
<td>5%</td>
</tr>
<tr>
<td>Field/Laboratory Experience Report</td>
<td>45%</td>
</tr>
<tr>
<td>Preceptor Evaluation</td>
<td>50%</td>
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</tbody>
</table>

Class Policy:

This is a 2-credit field-based course. This translates into a minimum of 120 hours in the field. Procedures:

- Students begin by working with the Course Director to identify a site (public health/epidemiology or laboratory).
- Once the site is identified they develop a Field/Laboratory Experience Proposal (See Appendix A).
- Students must keep a log of their time (minimum 120 hours), including dates, hours, and activities completed, certified by the preceptor (See Appendix B).
- At the completion of the Field/Laboratory Experience, the student will prepare a detailed report (4 pages or more) describing the various activities in which they were involved, the specific learning objectives achieved, and new knowledge gained. See the suggestions below and the template for the Field/Laboratory Experience report in Appendix C.
- The PD must receive electronic versions of the student's proposal, log and report for the Field/Laboratory Experience. These will be placed in the student's electronic folders.

Examples of Laboratory-oriented experiences:

- Describe two procedures for specimen preparation for at least two key laboratory tests.
- Participate in at least two laboratory tests (depending on the scope of the project). This will entail observing the proper techniques of specimen preparation and test procedures.

Examples of Epidemiology and/or Surveillance oriented experiences:

- Produce a study proposal including an analysis plan and the results for the epidemiologic/surveillance project in which you participated.
- Design a questionnaire and test it for validity.

The Site Preceptor will complete an evaluation form evaluating the student's performance (Appendix D). The student will complete an evaluation form evaluating the Site Preceptor and Field/Laboratory Experience (Appendix E). Failure to complete the evaluation of the Site Preceptor and Field/Laboratory Experience will result in a 5% deduction from the overall grade.

Statistical Programming Support

Students can seek advice from DEB faculty on epidemiologic methods issues such as:

- Study design
- Sample size calculations
- Data management and analysis (SAS Coach)

If you require assistance, please contact your assigned Course Director or the departmental SAS Coach, Dr. Angelo Elmi (afelmi@gwu.edu).

Grading Scale and Standards [describe]

The Field/Laboratory Experience is a graded course, based upon the preceptor's evaluation of the student and the student's Field/Laboratory Experience report.

Final Grades will be assigned as follows:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Total points earned</th>
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<tbody>
<tr>
<td>A</td>
<td>95 - 100%</td>
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<td>A -</td>
<td>90 – 94%</td>
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<td>B +</td>
<td>86 – 89%</td>
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<tr>
<td>B</td>
<td>80 – 85%</td>
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The grading scale may be adjusted to the benefit of the students.

**Blackboard**

This course will not use Blackboard

**Department of Epidemiology and Biostatistics Field/Laboratory Experience Resource Page**

In an effort to provide students with additional information and guidance regarding the Field Laboratory Experience, the Department has developed a web resource page for students. Students are encouraged to review the materials on this page prior to and during the completion of the course. The web resource page is available at [http://publichealth.gwu.edu/departments/epidemiology-and-biostatistics/practice-experience-ms-phmeid](http://publichealth.gwu.edu/departments/epidemiology-and-biostatistics/practice-experience-ms-phmeid)

**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](http://gwired.gwu.edu/dss), to establish eligibility and to coordinate reasonable accommodations.

**Adverse Weather/Class Cancellation**

In the advent of inclement weather or any other emergency, The School of Public Health and Health Services will follow the decision of the University, and I will follow the SPHHS decision. Call the University hotline at 202.994.5050 or check the website Campus Advisories at [http://campusadvisories.gwu.edu](http://campusadvisories.gwu.edu). In the event of class cancellation, I will email you about rescheduling, assignments due, etc.
APPENDIX A

MS Public Health Epidemiology and Emerging Infectious Diseases
The George Washington University School of Public Health and Health Services

Sample Field/Laboratory Experience Proposal Template

Student: [Name, contact information]

Preceptor: [Name, contact information]

Site: (this can be a lab or private or public health organization) [Please provide the complete name and address of the site.]

Learning Objectives: (examples)

- To learn molecular biology techniques and apply them to cloning, expressing and characterizing AcSPI, a serine protease inhibitor produced by *Ancylostoma caninum*
- To learn about regulation, accreditation, and other policy aspects of the Human Hookworm Vaccine Initiative
- To learn about all the stages of vaccine development
- To learn good laboratory practices, standards of procedure and quality control
- To learn how to design and implement an epidemiologic survey

Proposed Activities: (examples)

- To clone, express and characterize novel hookworm proteins for the preceptor
- To run assays as directed
- To perform basic functions in lab management such as ordering supplies, maintenance, keeping a laboratory notebook
- To develop a survey to be implemented in the community

Duration and proposed schedule:

Evaluation:

- Detailed report and notebook outlining all work and data obtained in the laboratory
- Written paper describing the process of antigen discovery in vaccine development
- Written paper with analysis from the data collected
- Written evaluation of student performance by supervisor
APPENDIX B
MS Public Health Epidemiology and Emerging Infectious Diseases
The George Washington University School of Public Health and Health Services
Sample Field/Laboratory Experience Log Template

Student's Name:
Title of FLE:
Semester and Year:
FLE Site:
Preceptor's Name:

Preceptor's Signature:

<table>
<thead>
<tr>
<th>Date</th>
<th>Number of Hours Completed</th>
<th>Activities Completed</th>
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Total Number of Hours Completed: __________________________
APPENDIX C

MS Public Health Epidemiology and Emerging Infectious Diseases
The George Washington University School of Public Health and Health Services

Field/Laboratory Experience Report Template
(4-5 pages)

Student Name

Field/Laboratory Experience Preceptor Name and Title
Field/Laboratory Experience Site, complete name and address

Please describe your Field/Laboratory Experience using this outline:

Objectives

Methods Activities

• If the Field/Laboratory Experience took place in a laboratory, describe two laboratory methods you learned.
• If the Field/Laboratory Experience took place in a public health/surveillance setting, describe the epidemiologic methods you learned.

Describe the learning experience
Thank you for taking the time to supervise and evaluate this student. Your evaluation will be weighed when grading the student’s Field/Laboratory Experience. We strongly encourage you to discuss your assessment of the student’s performance directly with the student. Concerns or questions about this process, this evaluation, or this student should be directed to the staff member listed on the first page of this form.

Name of Student: __________________________ Date: __________________________

Name of Preceptor: __________________________ Title: __________________________

Preceptor’s e-mail: __________________________ Phone: __________________________

Organization/Office and mailing address: __________________________

Please return this evaluation to:

Professor Amanda Castel (students with last names A-G) or Professor Ann Goldman (students with last names H-Z)
Department of Epidemiology and Biostatistics
2100-W Pennsylvania Avenue, NW, 8th Floor, Washington, DC 20037
Tel.: (202) 994-5330; Fax:(202) 994-0082;
Email: Amanda Castel at acastel@gwu.edu; Ann Goldman at annieg@gwu.edu

PERFORMANCE EVALUATION

5 = Superior Accomplishments
4 = Commendable
3 = Competent
2 = Requires Improvement
1 = Unsatisfactory
NA = Not Applicable

Please base your evaluation on the student’s performance on this particular project. Use the scale above to rate the student on each area. Your written comments are a very valuable part of the evaluation; use specific examples whenever possible.

☐ UNDERSTANDING OF THE PUBLIC HEALTH CONTEXT OF THE PROJECT
Consider the student’s understanding of: the topic; the target population for the project; and, the nature of the problem and/or relevant risk factors.

Comments:
RESEARCH AND PROGRAM SKILLS
Consider the student’s ability to: conceptualize the questions; select and apply the appropriate methods to achieve the objectives (instruments, etc.); and, analyze information and interpret results.

Comments:

COMMUNICATION SKILLS
Consider the student’s skills in: general oral communication; writing; visual presentation of data and information; and, oral presentation.

Comments:

PROFESSIONAL CHARACTERISTICS
Consider the student’s: reliability; professional maturity/judgment; initiative; ability to seek advice appropriately; response to feedback/ability to accept criticism; ability to work as part of a team; ability to work independently; organizational skills; and, ability to meet deadlines.

Comments:

WORK HABITS
Was the student punctual? Reliable? Cooperative?
Did the student willingly undertake assignments and follow instructions?

Comments:

OVERALL QUALITY OF WORK ON THIS PROJECT
Did the student display unusual talent or initiative in performing assigned tasks?

Comments:

DEVELOPMENT
Has the student shown improved work habits? Sense of professionalism? Communication skills? Are there areas for improvement?

Comments:

What grade would you recommend the student receive for the Final Report?______________

What grade would you recommend the student receive for the Final grade?______________

Final Grades will be assigned as follows:

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<tr>
<td>B -</td>
<td>76 – 79%</td>
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<tr>
<td>C +</td>
<td>70 – 75%</td>
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<tr>
<td>C</td>
<td>66 – 69%</td>
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<tr>
<td>C -</td>
<td>60 – 65%</td>
</tr>
<tr>
<td>F</td>
<td>≤ 59%</td>
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</tbody>
</table>

Evaluator’s signature: ____________________________ Date: _____________
APPENDIX E
The George Washington University School of Public Health and Health Services

Department of Epidemiology and Biostatistics
MSPHMEID FIELD/LABORATORY EXPERIENCE
STUDENT FINAL EVALUATION

Thank you for taking the time to evaluate your Field/Laboratory Experience (FLE). All of the information that you provide will remain confidential. Your evaluation will be used to improve the course and provide feedback to the Course Directors.

Please return this evaluation to:
Ms. Toni Thibeaux, MPH
Practicum Manager
Department of Epidemiology and Biostatistics
950 New Hampshire Ave NW 5th Floor Washington, DC, 20052
Tel: (202) 994-7154; Fax: (202) 994-0082; Email: tonithibeaux@gwu.edu

PART I: STUDENT INFORMATION
1. Name__________________________________
2. Project Title______________________________________________________
3. Keywords________________________________________________
4. Semester/Year Completed________________________________
5. How many semesters did it take you to complete your Field/Laboratory Experience?
   One          two          three          four or more
6. Did you link your Field/Laboratory Experience with your Final Project?
   Yes          No

PART II: SITE PRECEPTOR (SP)
1. Name of Site Preceptor____________________________________________
2. Was your FLE Site Preceptor (SP) the same SP for your Final Project?
   Yes          No
3. On average, how often did you communicate with your Site Preceptor?
   >2x/ week  Weekly  Twice a month  Less than monthly  Monthly
4. Which part of the FLE did your SP assist you with the most?
   Proposal/Contract  Report  Final paper/PowerPoint presentation (if linked with Final Project)
5. Would you recommend your SP as a future FLE preceptor?
   Maybe          Yes          No

PART III: FIELD/LABORATORY EXPERIENCE and DEB RESOURCES
Please answer the following questions using the rating scale below:
1- Not at all
2- A little
3- Somewhat
4- Very
5- Extremely
6- Not applicable
Circle your response.

Course Directors
1. The Course Directors were approachable, helpful and available for assistance.
   1   2   3   4   5   6
2. The Course Directors provided adequate information and guidance throughout the FLE.
   1   2   3   4   5   6
Satisfaction with the FLE and the DEB Resources to support students

3. I am satisfied with the knowledge/skills gained in this course.
   1 2 3 4 5 6
4. I received adequate laboratory, epidemiologic and/or biostatistical support.
   1 2 3 4 5 6
5. I found the SAS coach useful.
   1 2 3 4 5 6
6. Attendance at the required Department of Epidemiology and Biostatistics orientation for the Field/Laboratory Experience assisted me in completing my FLE requirements.
   1 2 3 4 5 6
7. Attendance at the Department of Epidemiology and Biostatistics Skills Building Seminar assisted me in completing my FLE requirements.
   1 2 3 4 5 6
8. The Department’s Resource Page for the Field/Laboratory Experience was useful.
   1 2 3 4 5 6

Competencies (complete for either laboratory or epidemiology/surveillance)

For Laboratory oriented experiences:

9. After completing my FLE, I am able to describe the key elements of specimen collection (biological, entomological, and environmental) and transport and storage of these specimens
   1 2 3 4 5 6
10. After completing my FLE, I am able to describe the key aspects of chain-of-custody for collection, transport, receipt and processing of specimens
    1 2 3 4 5 6
11. After completing my FLE, I am able to describe the proper use of specific test kits and containers for specimen collection
    1 2 3 4 5 6
12. After completing my FLE, I am able to describe the key elements of Good Clinical Laboratory Practices (GCLP) or Good Laboratory Practices (GLP) and how they apply to specific laboratory activities
    1 2 3 4 5 6
13. After completing my FLE, I am able to discuss privacy issues and identity protection of sensitive laboratory information
14. After completing my FLE, I am able to identify and describe key biosafety issues in the laboratory
    1 2 3 4 5 6
15. After completing my FLE, I am able to describe of the proper use of various lab instruments and understand key calibration and maintenance issues
    1 2 3 4 5 6

For Epidemiology and/or Surveillance oriented experiences:

16. After completing my FLE, I am able to identify and assess patterns of emerging diseases to postulate hypotheses and to identify appropriate strategies in order to evaluate the impact of health problems
    1 2 3 4 5 6
17. After completing my FLE, I am able to 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
    1 2 3 4 5 6
18. After completing my FLE, I am able to apply epidemiological and biomedical concepts in identifying and describing the determinants and the distribution of disease in human populations
    1 2 3 4 5 6
19. The FLE course allowed me to improve my communication skills (e.g., writing, oral presentation, general communication and presentation of data).
    1 2 3 4 5 6
20. The FLE course allowed me to improve my research skills (e.g., selecting the appropriate methods, analyzing and interpreting data).

1 2 3 4 5 6

ADDITIONAL FEEDBACK:

1. What do you think were the best aspects of this course?

________________________________________________________________________________________

________________________________________________________________________________________

2. What do you think could be improved about this course?

________________________________________________________________________________________

________________________________________________________________________________________

3. What, if any, additional preparation would you have liked to receive prior to the FLE?

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

4. Additional Comments:

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

Thank you for taking the time to fill out this evaluation. Concerns or questions about the Field/Laboratory Experience should be directed to the Course Directors.

Toni Thibeaux 202-994-7154, tonithibeaux@gwu.edu
Ann Goldman 202-994-4581, annieg@gwu.edu