



University of Massachusetts Amherst

School of Public Health and Health Sciences

MPH Practicum Student Handbook

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Definitions:

Practicum: The internship or field experience.

Faculty Advisor: Your SPHHS faculty advisor.

SPHHS Practicum Coordinator: The SPHHS staff person or faculty member in each division/department who is responsible for assisting you in locating practica.

Practicum Site Supervisor: The professional mentor supervising the practicum.

Overview

MPH students in Biostatistics, Community Health Education, Environmental Health, Epidemiology, Health Policy & Management, Nutrition, Public Health Practice, and the Worcester MPH Program are required to complete a three credit practice experience (200 hours) as part of their degree requirements. Some other concentrations in SPHHS also require a practicum, please contact your faculty advisor for clarification.

The checklist below is for your own use. Each step is described on the following pages.

Student Checklist for Completion of Practicum

One to Two Semesters Prior to the Practicum:

- Step 1. Attend the Practicum Orientation Session
- Step 2. Complete the prerequisite course requirements.
- Step 3. Complete the *Practicum Planning Form*
- Step 4. Review the *Practicum Planning Form* with your Faculty Advisor.
- Step 5. Review the *Practicum Planning Form* with the SPHHS Practicum Coordinator.
- Step 6. Identify and meet with Practicum Sites/Practicum Site Supervisor.
- Step 7. Complete the *Practicum Scope of Work Form*.

Semester of the Practicum:

- Step 8. Register for PUBHLTH 698 or NUTRITN 698 and start the Practicum.
- Step 9. Maintain the *Practicum Contact Hour Log*.
- Step 10. Complete the *Student One Month Evaluation of the Practicum Form*.
- Step 11. Have your Site Supervisor submit the *Site Supervisor Evaluation of the Student's Practicum Performance Form*.
- Step 12. Complete the *Student Evaluation of the Practicum Form* which involves a 10 page written report within 2 weeks of completing the practicum.
- Step 13. Present your practicum.

One to Two Semesters Prior to the Practicum

Step 1. Attend the Practicum Orientation session.

All MPH students are required to participate in a **practicum orientation** conducted at the division/department level. For Amherst students, this is typically scheduled for October in your first year. For on-line students, the orientation may be available on-line. For Worcester campus students, this is included in the orientation meeting scheduled for late August, prior to the start of your first year. This meeting is facilitated by the SPHHS Practicum Coordinator. At the orientation session, the following are provided to you: (1) the overall goals and specific objectives of the practicum (Table 1), (2) lists of previous placements, past contacts, and (3) new possibilities. Following this meeting, the SPHHS Practicum Coordinator will pursue the identification of appropriate practicum placements. You are also encouraged to investigate potential placements on your own.

Table 1. Goals and Objectives of the Practicum (adapted from the Albany School of Public Health).

1. The **overall goal** of the SPHHS practicum experience is successful completion of **at least one** of the following public health activities:
 - Assessment, monitoring, or public health surveillance of a health problem/services in a population.
 - Development of health objectives and priorities.
 - Research on population-based health problems including biological, environmental, or behavioral issues.
 - Development and/or implementation of health policies and/or intervention strategies to meet public health needs.
 - Study of the natural history of a disease and/or its health-related effects in a population.
2. The **specific objectives** of the SPHHS practicum specific are to develop and apply **at least five** concentration specific competencies. Please see the *Appendix: Concentration Specific Competencies*.

Step 2. Complete the prerequisite course requirements.

The following prerequisite courses must be completed prior to the start of the Practicum:

For Biostatistics, Community Health Education, Environmental Health, Epidemiology, Health Policy & Management, and Nutrition students: 3 of the 5 core courses [Environmental Health Sciences PH565, Principles of Epidemiology PH630, Introductory Biostatistics PH540, Principles of Public Health Practice PH620, Application of Social and Behavioral Theories in Public Health Interventions PH601.

For Public Health Practice on-line students: All 5 core courses

For Worcester MPH-Epidemiology students: 3 of the 5 core courses.

For Worcester MPH – General MPH students: All 5 core courses.

Step 3. Complete the *Practicum Planning Form*

Step 4. Review the *Practicum Planning Form* with your Faculty Advisor.

Placements are arranged in consultation with your faculty advisor and the SPHHS Practicum Coordinator. Although the faculty advisor and SPHHS Practicum Coordinator can provide you with appropriate guidance, the ultimate responsibility for obtaining a suitable practicum rests with you.

Table 2. Faculty Advisor Roles and Responsibilities (adapted from University of North Texas Health Science Center at Forth Worth).

- Review the Practicum Planning Form with you.
- Discuss readiness for practicum with you.
- Serve as a content resource for you as needed.
- Consult with the SPHHS Practicum Coordinator and Practicum Site Supervisor as needed.
- View your Presentation once the practicum is completed.

Step 5. Review the *Practicum Planning Form* with the SPHHS Practicum Coordinator.

Placements are arranged in consultation with your faculty advisor and the SPHHS Practicum Coordinator.

Table 3. SPHHS Practicum Coordinator Roles and Responsibilities (adapted from University of North Texas Health Science Center at Forth Worth).

- Develop and maintain affiliation with public and private agencies where appropriate practicum placements may be made.
- Conduct site visitations to verify that the site can provide appropriate practicum experiences as needed.
- Serve as a resource and consultant to you in defining practicum goals and selecting an appropriate placement.
- Consult with Practicum Site Supervisors concerning selection, experience and your progress while working at the agency.
- Visit you on-site as appropriate.
- Keep individual student files with all practicum forms.
- Act as an advocate for you.
- Coordinate the Practicum Orientation Session and the Student Presentation Session.
- Perform the necessary administrative functions relative to your placement.
- Complete forms as needed.
- View your Presentation once the practicum is completed.
- Review the *Student Evaluation of the Practicum Form* once the practicum is completed.

The SPHHS Practicum Coordinator:

- For Biostatistics, Epidemiology, Community Health Education, and Health Policy and Management the Practicum Coordinator is Shirley Mietlicki
mietlicki@umext.umass.edu
- For Nutrition and Environmental Health, the Practicum Coordinator is your faculty advisor

- For Public Health Practice (PHP) on-line, the Practicum Coordinator is your faculty mentor (TBA)
- For Worcester, the Practicum Coordinator is Carol Bigelow
cbigelow@schoolph.umass.edu

You may also visit the Office for Public Health Practice & Outreach to learn about opportunities for working in the community both to gain skills and share their expertise (please email risa@schoolph.umass.edu to set up a time).

Step 6. Identify and meet with Practicum Sites/Practicum Site Supervisor.

Table 4. Practicum Site Selection Criteria (adapted from University of South Florida College of Public Health)

All Practicum Sites must meet the following selection criteria:

- The Practicum site is an organization, agency, or community that provides planning or services relevant to public health.
- The Practicum site enables you to further develop and apply specific skills or competencies learned in the SPHHS academic program.
- The Practicum site provides a Practicum Site Supervisor who is willing and able to spend regularly scheduled time with you and provide guidance.
- The Practicum site should afford you regular contact with public health practitioners.
- The Practicum site exhibits a willingness to provide support, ranging from a workspace, to stipends or salary if available and appropriate.
- The Practicum site is a good match with your needs and interests.

Table 5. Practicum Site Supervisor Roles and Responsibilities (adapted from University of South Florida College of Public Health)

The Practicum Site Supervisor should have:

- Substantial experience with the organization
- A working knowledge and practical experience in the project areas assigned to you.
- An interest in and commitment to helping you.

In addition, the Practicum Site Supervisor:

- Establishes training goals and an evaluation procedure for you. This program should attempt to meet your needs for professional growth and allow sufficient time with the Practicum Site Supervisor to help you recognize the practice roles of your public health concentration.
- Monitors your activities through regular meetings and provides feedback.
- Helps you meet your goals and objectives for the practicum.
- Gives professional career development advice
- Integrates you with the regular staff.
- Offers you a chance to learn new skills.
- Explains the structure and function of the agency.
- Helps you plan and execute specific programs/activities.
- Introduces you to other community agencies.

- Establishes a regular meeting time with you, sets standards for your reporting, and arranges for a substitute Site Supervisor during periods when the Site Supervisor will not be at the site.
- Creates and signs the *Practicum Scope of Work Form* that outlines your duties, site expectations with respect to hours, mutually arrived at goals, and agreement on such matters as payment for mileage when you use a personal vehicle, if appropriate.
- Signs the *Practicum Contact Hour Log* for time spent with the site.
- Invites you to professional meetings and encourages presentations at those meetings when appropriate.
- Models professional work habits and attitudes.
- Evaluates your performance on the *Site Supervisor Evaluation of the Student's Practicum Performance Form*.
- Attends the Practicum Presentation session if available or within proximity.
- Provides the School with on-going evaluation of the practicum program and makes suggestions for alteration and improvement in the academic program

Step 7. Complete the Practicum Scope of Work Form.

Your placement at your preferred site is subject to the approval of your faculty advisor and the practicum coordinator who must sign this form.

Table 6. Student Roles and Responsibilities for Participating in Practica **Students participating in the Practicum must:**

- Identify goals and objectives in collaboration with the Practicum Site Supervisor.
- Adhere to agency regulations.
- Dress appropriately for role and responsibilities during the practicum; be timely and responsible.
- Maintain professionalism, confidentiality, and ethical standard.
- Maintain the *Practicum Contact Hour Log*.
- Participate in professional and in-service activities as appropriate.
- Perform additional duties as assigned by Practicum Site Supervisor.

Semester of the Practicum

Step 8. Register for PUBHLTH 698 or NUTRITN 698 and start the practicum.

Step 9. Maintain the *Practicum Contact Hour Log*.

Step 10. Complete the *Student One Month Evaluation of the Practicum Form*.

Step 11. Have your Practicum Site Supervisor submit the *Site Supervisor Evaluation of the Student's Practicum Performance Form*.

Within two weeks of completion of the practicum, the Practicum Site Supervisor evaluates your performance and returns this form to the SPHHS Practicum Coordinator. You will need to ensure that

this is completed within the two week time frame.

Step 12. Complete the *Student Evaluation of the Practicum Form*.

Within two weeks of completion of the practicum, you are required to submit this evaluation which involves a 10 page written report to the SPHHS Practicum Coordinator. Please see the form for details.

Step 13. Present your practicum.

Using guidelines prepared by the individual department or concentration, you are required to prepare a presentation on your practicum.

For Amherst-based students: A symposium session will be scheduled each Fall. You will be allocated approximately 15 minutes for your presentation. The presentation should be 10 minutes long with an additional 5 minutes allocated for questions at the end of the talk. You should prepare the oral presentation as if it were to be given at a professional conference. Examples of presentations include a PowerPoint presentation, a poster, a community-based discussion, or an interactive workshop. The session will be attended by all MPH students, Practicum Site Supervisor (if available), faculty advisors, and the SPHHS Practicum Coordinators.

For On-line students: On-line students will post a PowerPoint presentation of no more than 15 slides and dialogue will occur through threaded discussions.

For Worcester Campus MPH students: Worcester campus MPH students will present a PowerPoint presentation of no more than 15 slides at a place and time to be determined.

Frequently Asked Questions

Is the practicum paid?

Agencies and organizations may provide paid or unpaid practica opportunities. There is no guarantee of financial support for you during your practicum. However, the School will assist you in finding paid placements whenever possible.

Can I do the practicum at my current job?

If you can do a practicum only in your regular place of employment, the assignment must extend beyond your regular work duties and allow application of knowledge and skills acquired through the MPH course of study.

After I have finished my practicum, what next?

Students who are interested in building on the practicum are encouraged to complete an MPH Project. You are also encouraged to utilize your practica to prepare a poster for inclusion in the SPHHS Research Day, which takes place each March.

How am I graded?

The practicum is graded on a pass/fail basis. In order to pass the practicum, your practicum file must contain all the items listed in Steps 1-13.

What is a suggested timeline for the practicum?

The Practicum process usually starts in the Fall of your first year.



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www.umass.edu/sphhs

Practicum Planning Form
School of Public Health & Health Sciences
University of Massachusetts, Amherst

Student information

Name _____ Phone _____

Address _____

Email _____

Degree program (please circle)

MS MPH

Dept/Concentration (please circle):

BIO CHE EPI EHS HPM NUTR PHP Worcester MPH

Faculty Advisor _____

Semester and year of Practicum _____

Resume attached to this form ____yes ____no

1. What type of educational or professional experience are you seeking during your practicum? Is there a specific content area of interest (environmental, occupational, communicable disease, cancer, reproductive, nutritional, etc.)?

2. List your goals for the practicum. Examples of typical goals:

By the end of this Practicum, I will have:

- *Applied occupational hygiene risk assessment methods in exposure assessments.*
- *Evaluated the effectiveness of a community health program.*
- *Assisted in the design of an epidemiological study.*
- *Assisted in the analysis of a public health data set.*
- *Assisted in the analysis of public health surveillance data.*
- *Participated in field activities associated with a public health research or surveillance.*
- *Assisted in the analysis of organizational systems or health policy process.*

3. What type of organization or setting do you want to work in that will provide you with the kind of educational & professional experiences you would like (hospital, health department, research group, federal agency, etc.)?

4. Are there any geographical needs or preferences regarding the location of your placement?

5. Are you willing to work in Boston? ____yes ____no

6. Do you have transportation available? ____yes ____no

7. Detail earlier jobs you have held, highlighting any health related experience. Also indicate any interviewing, data collection or abstracting, data management, computer knowledge and/or data analysis experience (include any experience at SPHHS as well).

8. If you are seeking a practicum in your regular place of employment, the assignment must extend beyond her regular work duties and allow application of knowledge and skills acquired through the MPH course of study. Please provide a comprehensive description of:

- a. Current job functions, expectations, and projects.

b. Describe how your practicum will provide additional activities outside of your job expectations. Be as specific as possible.

9. Does your practicum site require you to possess any specific licensure and /or certification?

____no ____yes

If yes, please describe.

10. Are there any other special considerations that should be taken into account?

Student Signature: _____ Date: _____

Faculty Advisor Signature: _____ Date: _____

(Faculty signature indicates approval of the planning process.)

SPHHS Practicum Coordinator Signature: _____ Date: _____

Submit the completed form to the SPHHS Practicum Coordinator.



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**Practicum Scope of Work Form
 School of Public Health & Health Sciences
 University of Massachusetts, Amherst**

Student information

Name _____ Phone _____
 Address _____
 Email _____
 Degree program (please circle)
 MS MPH
 Dept/Concentration (please circle):
 BIO CHE EPI EHS HPM NUTR PHP Worcester MPH
 Faculty Advisor _____
 Semester and year of Practicum _____

Practicum Site Supervisor

Dates of Practicum: From: _____ To: _____ Total Weeks: _____ Hours/Wk _____
 Name of Practicum Site Supervisor: _____
 Practicum Site Supervisor's Title: _____
 Agency, Organization, or Company: _____
 Address: _____
 Telephone Number: _____
 Fax Number: _____
 E-mail Address: _____

Attached Site Supervisor CV yes no

Alternate supervisor (if necessary)

Name _____ Phone _____

1. Practicum Administration:

Plan for interacting with your Practicum Site Supervisor. Please note that if you will not always be working alongside your supervisor, please also include a brief statement about how you will interact with your supervisor during the practicum (e.g., weekly, over the phone).

2. Describe your overall goals for your practicum using, as a guide, Table 1 on page 4 of the MPH Practicum Student Handbook.

3. List your specific objectives for your practicum using, as a guide, the *Appendix: Concentration Specific Competencies*. Note that at least 5 of your concentration specific competencies are required.

I agree with the goals of the practicum:

Student Signature _____ Date _____

Faculty Advisor Signature _____ Date _____

SPHHS Practicum Coordinator Signature _____ Date _____

Practicum Site Supervisor Signature _____ Date _____

Submit the completed form to the SPHHS Practicum Coordinator



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Student One Month Evaluation of the Practicum Form
School of Public Health & Health Sciences
University of Massachusetts, Amherst

Student Information

Name: _____

Title of Practicum (or location): _____

Faculty Advisor: _____

Practicum Site Supervisor: _____

Semester and year of Practicum: _____

1. Describe and explain any changes in the goals, activities or schedules of your practicum. Also describe any changes made to the learning objectives you are working towards.

2. Describe how the practicum has been going, including successes and challenges. Include a description of progress related to attaining your learning objectives.

Student Signature: _____ Date: _____

SPHHS Practicum Coordinator Signature: _____ Date: _____

Submit the completed form to the SPHHS Practicum Coordinator



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Site Supervisor Evaluation of the Student's Practicum Performance Form
School of Public Health & Health Sciences
University of Massachusetts, Amherst

Name of Student: _____
Student's Division/Department: _____
Dates of Practicum: From: _____ To: _____ Total Weeks: _____ Hours/Wk _____
Name of Practicum Site Supervisor: _____
Practicum Site Supervisor's Title: _____
Agency, Organization, or Company: _____
Address: _____
Telephone Number: _____
Fax Number: _____
E-mail Address: _____

1. Give a brief description of the experiences provided for the student by you and your organization.

2. What type of project did the student perform? Was it completed to your satisfaction?

3. What were the positive aspects of the practicum for you and/or your organization?

4. What were the challenges of the practicum for you and/or your organization?

5. Are there any areas of our student's educational background that you feel could be added to, improved, or made more complete? What are these?

6. Indicate your judgment of the student's work on a scale of 1 (LOW) to 5 (HIGH) by circling the appropriate number next to each item. Circle NA for those items you do not feel qualified to evaluate or for those items that did not apply to this experience.

	LOW		AVERAGE		HIGH	
Personal Qualities						
Ambitious	1	2	3	4	5	NA
Takes the Initiative	1	2	3	4	5	NA
Enthusiastic	1	2	3	4	5	NA
Dependable/Reliable	1	2	3	4	5	NA
		2	3	4	5	NA
Relationships with Others						
Able to accept suggestions & criticism	1	2	3	4	5	NA
Sensitive to cultural diversity	1	2	3	4	5	NA
Able to work as part of a team	1	2	3	4	5	NA
Respectful of others	1	2	3	4	5	NA
Professional Qualifications and Job Performance						
Command of technical subject matter	1	2	3	4	5	NA
Able to organize work/time	1	2	3	4	5	NA
Able to express ideas in writing	1	2	3	4	5	NA
Able to communicate ideas orally	1	2	3	4	5	NA
Knowledge of public health topics	1	2	3	4	5	NA
Able to research problems	1	2	3	4	5	NA
Accepts responsibility	1	2	3	4	5	NA
Potential for professional growth	1	2	3	4	5	NA
Overall quality of work	1	2	3	4	5	NA

* Adapted from the University of Oklahoma Health Sciences Center

7. The specific objectives of the practicum are for the student to achieve at least 5 of their concentration specific competencies. Please rank the student on the achievement of these competencies using, as a guide, the *Appendix: Concentration Specific Competencies*.

Concentration Specific Competency	LOW		AVERAGE		HIGH	
1.	1	2	3	4	5	NA
2.	1	2	3	4	5	NA
3.	1	2	3	4	5	NA
4.	1	2	3	4	5	NA
5.	1	2	3	4	5	NA

8. What recommendations do you have regarding our Practicum placement policies?

9. Are you willing to have another University of Massachusetts student placed with you?
 ____yes ____no If yes, are you willing to supervise another student? ____yes ____no

Practicum Site Supervisor Signature: _____

Practicum Site Supervisor Title: _____

Date: _____

Submit the completed form to the SPHHS Practicum Coordinator

Thank you!



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Student Evaluation of the Practicum Form
School of Public Health & Health Sciences
University of Massachusetts, Amherst

Name of Student: _____
 Student's Division/Department: _____
 Dates of Practicum: From: _____ To: _____ Total Weeks: _____ Hours/Wk _____
 Name of Practicum Site Supervisor: _____
 Practicum Site Supervisor's Title: _____
 Agency, Organization, or Company: _____
 Address: _____
 Telephone Number: _____
 Fax Number: _____
 E-mail Address: _____

I. Please describe at least 5 competencies that you gained from your experience in the practicum using the following framework (*Appendix*):

Competency Area	Specific Competency	Activities in which you participated in order to achieve competencies in this area

II. Write a **written report** on the practicum. This report is limited to 10 double-spaced pages and should follow the structure outlined in Table 7.

Table 7. Guidelines for Written Report as part of the Practicum Student Report

Below is a list of questions to assist you in writing your paper. While you do not have to answer each and every question, they are provided to generate ideas about the site and your experiences.

- **Introduction:** Describe the background illustrating the importance of your project and its context. How did you decide on your project?
- **Methods:** What were the goals and objectives you and your site supervisor agreed upon for your experience?
- **Results/Outcomes:** What did you do? Who were the people that you interacted with during your experience? What were their roles? Describe the best thing that happened during the experience – something you or someone else said or did, a feeling, insight gained, or goal accomplished.
- **Lessons learned:** What surprised you? What were your positive and negative experiences during the practicum? What did you learn that will enhance your classroom-based experiences? In what ways has this experience changed how you think about public health practice? What insights did you gain that might assist you in your career? What did the experience teach you about public health issues? What specific suggestions do you have that would have improved the project you worked on, the site itself or the experience?

III. Reflect on your experience in the practicum and indicate your judgment of the following on a scale of 1 (LOW) to 5 (HIGH) by circling the appropriate number next to each item. Circle NA for those items you do not feel qualified to evaluate or for those items that did not apply to this experience.

	LOW		AVERAGE		HIGH	
I was oriented to the site environment	1	2	3	4	5	NA
The site created an atmosphere of acceptance, friendliness and belonging.	1	2	3	4	5	NA
The Site Supervisor clarified my responsibilities.	1	2	3	4	5	NA
The Site Supervisor assisted in establishing goals and objectives for my practicum.	1	2	3	4	5	NA
The Site Supervisor demonstrated effective administrative methods and techniques.	1	2	3	4	5	NA
The Site Supervisor encouraged me to participate in departmental and/or program meetings.	1	2	3	4	5	NA
The Site Supervisor allowed me to take initiative and be creative.	1	2	3	4	5	NA
The Site Supervisor met with me at least weekly to discuss progress and/or problems.	1	2	3	4	5	NA
The Site Supervisor provided constructive criticism and guidance.	1	2	3	4	5	NA
The Site Supervisor served as an effective professional role model for me.	1	2	3	4	5	NA
Overall, how would you rate the learning experience you received?	1	2	3	4	5	NA
Overall, how would you rate your Site Supervisor?	1	2	3	4	5	NA

* Adapted from the University of Oklahoma Health Sciences Center

____ Attach a copy of any work produced for the organization

Student Signature: _____ Date: _____

SPHHS Practicum Coordinator Signature: _____ Date: _____

Submit the completed form to the SPHHS Practicum Coordinator

9/25/08

APPENDIX: Concentration Specific Competencies

Your practicum should allow you to apply at least 5 of these concentration-specific competencies learned in the academic program to a public health setting.

Biostatistics

- Describe the roles biostatistics serves in the discipline of public health.
- Distinguish among the different measurement scales and the implications for selection of statistical methods to be used based on these distinctions.
- Apply descriptive techniques commonly used to summarize public health data.
- Describe basic concepts of probability, random variation and commonly used statistical probability distributions.
- Apply common statistical methods for inference.
- Describe preferred methodological alternatives to commonly used statistical methods when assumptions are violated.
- Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.
- Interpret results of statistical analyses found in public health studies.
- Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.
- Apply basic informatics techniques with vital statistics and public health records in the description of public health characteristics and in public health research and evaluation.
- Apply biostatistical methods to the design of studies in public health.
- Use computers to appropriately store, manage, manipulate and process data for a research study using modern software.
- Select and conduct appropriate statistical analysis.
- Integrate analysis strategies in biostatistics with principles and issues in epidemiology.
- Describe conceptual frameworks in biostatistics.
- Critically evaluate basic statistical aspects of public health research reported in the literature

Epidemiology

- Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion on health issues.
- Describe a public health problem in terms of magnitude, person, time and place.
- Apply the basic terminology and definitions of epidemiology.
- Identify key sources of data for epidemiologic purposes.
- Calculate basic measures.
- Evaluate the strengths and limitations of epidemiologic reports.
- Draw appropriate inferences from epidemiologic data.
- Communicate epidemiologic information to lay and professional audiences.
- Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data
- Identify the principles and limitations of public health screening programs.
- Articulate the role of epidemiology in preserving and improving public health. Contrast the epidemiologic population-based approach with the clinical perspective. Pose the appropriate

research question when given a public health or medical problem requiring an epidemiologic investigation.

- Identify sources of health-related data in order to describe the distribution of disease in populations. Generate hypotheses from descriptive data on disease frequency in relation to person, place and time. Interpret health status indices based on these data, such as mortality and morbidity rates.
- Explain the critical differences between epidemiologic descriptive and analytic study designs, the measures that can be estimated from each, and their strengths and limitations. Describe how to select an appropriate study design for a specific research question or health problem.
- Develop field epidemiological procedures consistent with recognized standards of good epidemiological practice. Identify practical issues in conducting epidemiologic studies.
- Identify primary and secondary sources of health data and methods for accessing these sources. Identify the key theoretical and practical issues in selecting study subjects. Identify demographic, social/behavioral and environmental factors which have an impact on the problem under investigation.
- Analyze data using appropriate epidemiologic and biostatistical techniques under the guidance of someone with more advanced training. Define, compute, and interpret epidemiologic measures of prevalence, incidence, relative risk, attributable risk, mortality ratios and estimates of their variance. Use computer software for data processing and statistical analyses.
- Recognize the various forms of potential bias in epidemiological data and their potential for occurrence in specific study situations. Propose methods to measure them and (adjust for them) reduce their influence on the measures of major interest. Explain and apply methods of standardization or adjustment for factors such as age and gender in a study population. Discuss the implications of study findings.
- Evaluate the evidence in favor of and against the likelihood that an observed association in epidemiologic studies is causal using a set of criteria. Define the concept of the multifactorial nature of disease.
- Conduct a systematic critical assessment of published epidemiological and clinical studies and present these findings to a variety of audiences.
- Evaluate the extent to which existing epidemiological findings can be translated into practical public health interventions.
- Articulate the role of epidemiology in public health surveillance. Present the purpose and problems of interpretation in surveillance for acute and chronic diseases and other factors important for public health.

Health Policy and Management

- Identify the main components of the organization, financing and delivery of health services and public health system in the U.S.
- Describe the policy process for improving the health status of populations.
- Describe the legal and ethical bases of public health and health services.
- Apply quality and performance improvement concepts to address organizational performance issues.
- Demonstrate leadership skills for building partnerships.
- Apply principles of strategic planning and marketing to public health.
- Communicate health policy and management issues using appropriate channels and technologies.
- Apply the principles of program planning, development, budgeting, management and

evaluation in organizational and community initiatives.

- Explain methods of ensuring community health and safety preparedness.
- Apply “systems thinking” for resolving organizational problems.
- Identify and analyze the social, economic, legal, ethical and political issues germane to national and local health policies.
- Demonstrate knowledge of the history, dynamics, structure, financing and function of the health care delivery system.
- Apply theoretical concepts and practical techniques of administration to the management of health programs.
- Design and implement effective health services.
- Prepare budgets for and control the financial performance of health organizations.
- Plan and implement research, quality improvement and/or evaluation projects within agencies, institutions and organizations.
- Identify, analyze and solve strategic and operational leadership and managerial problems.
- Demonstrate a mastery of oral and written communication skills.

Community Health Education

- Describe the role of social and community factors in both the onset and solution of public health problems.
- Identify the causes of social and behavioral factors that affect health of individuals and populations.
- Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice.
- Apply ethical principles to public health program planning, implementation and evaluation.
- Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies.
- Identify individual, organizational and community concerns, assets, resources and deficits for social and behavioral science interventions.
- Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.
- Describe the merits of social and behavioral science interventions and policies.
- Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions.
- Identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and interventions.
- Conduct health needs assessments at both the individual and community level, including analysis of social, political and bureaucratic barriers that impede health promotion efforts.
- Identify, analyze and interpret factors influencing people's health status through a strong foundation in epidemiology and social and behavioral theory.
- Demonstrate sensitivity to diversity in communities.
- Plan, develop, and implement community health education programs using a variety of strategies to improve a community's health.
- Develop, analyze and evaluate public policies that have an impact on people's health.
- Manage and administer fiscal and organizational resources to insure optimal program and service delivery.
- Evaluate the process and outcome of community-based health education programs.
- Identify and articulate the ethical dilemmas inherent in planned, intentional social and

behavioral change strategies.

- Communicate the mission of public health effectively.

Environmental Health Sciences

- Specify approaches for assessing, preventing and controlling environmental hazards that pose risk to human health and safety.
- Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.
- Specify current environmental risk assessment methods.
- Describe genetic, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards.
- Discuss various risk management and risk communication approaches in relation to issues of environmental justice and equity.
- Explain the general mechanisms toxicity in eliciting a toxic response to various environmental exposures.
- Develop a testable model of environmental insult.
- Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues.
- Recognize the major sources of environmental insults and the physical, chemical, radiological, and biological characteristics involved in establishing materials as potentially deleterious.
- Assess the potential impact of these insults on human health.
- Explain the factors and principles basic to determining the pathways by which humans are exposed to environmental insults.
- Evaluate the environmental fate and transport of materials and biological uptake by humans.
- Apply models for estimating human exposure from the dispersion of contaminants into air, surface and ground water.
- Determine the biological basis of injury for a given exposure to toxic materials through environmental pathways and the resulting human health effects produced from such exposure.
- Interpret models used to perform risk assessments for exposure to such materials.
- Critique the basic methods for measuring environmental media, requirements for sampling, the sensitivity and reliability of analytical methods.
- Identify mandates from regulatory agencies, advisory bodies and professional organizations for the development and dissemination of technical information which control policies for environmental health problems.
- Demonstrate skills in technology transfer acquired during academic training.

Worcester MPH

- Be competent in the identification and interpretation of health-related data in order to describe the distribution of disease in populations.
- Identify and analyze the social, economic, legal, ethical and political issues germane to national and local health policies.
- Explain the factors and principles basic to determining the pathways by which humans are exposed to environmental insults.
- Demonstrate knowledge of the history, dynamics, structure, financing and function of the health care delivery system.
- Conduct health needs assessments at both the individual and community level, including analysis of social, political and bureaucratic barriers that impede health promotion efforts.

- Apply theoretical concepts and practical techniques of administration to the development and management of health programs.
- Demonstrate knowledge of terms, concepts and methods in biostatistics and data management.
- Manage and analyze data using appropriate epidemiologic and biostatistical techniques under the guidance of someone with more advanced training.
- Critically evaluate statistical aspects of public health practice and research.
- Demonstrate a mastery of oral and written communication skills, especially vis a vis the missions of public health and community based health education. Interpret and communicate results of studies to public health practitioners and the public.
- Demonstrate sensitivity to diversity in communities.

Nutrition

- Critique the terms, concepts and methods in nutritional sciences and in public health.
- Select and use appropriate anthropometric, biochemical, clinical, dietary, functional and socioeconomic assessment techniques to identify and prioritize nutritional problems and needs of populations and communities.
- Develop intervention strategies to correct nutritional problems in target populations.
- Demonstrate critical thinking skills in evaluation of the literature.
- Design and conduct applied nutrition research.
- Describe the role of agencies, advisory bodies, and professional organizations responsible for development and dissemination of technical information and for formulation of nutritional policies.
- Identify the relationships between local, national, and global nutritional and public health problems.
- Translate results of nutritional research to different target populations (public, peers, parents, etc.).
- Integrate knowledge in nutrition, public health, and other disciplines for the identification and evaluation of nutritional problems and in development and implementation of guidelines and policies.