



Proposal for a Re-Envisioned UW School of Public Health Master of Public Health (MPH) Program

**Phase 1 Report to Executive
Sponsors**

Oct. 30, 2018



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The Value Proposition for a Re-Envisioned UW MPH Program

The original motivation for changing how we educate MPH students in our School of Public Health was to maintain the high quality of our programs in an increasingly competitive environment of public health education. This included recognition of the need to refresh some aspects of our curriculum, maintaining the emphasis on scientific rigor while improving the skill sets of our graduates to become more attractive to our local and state health departments, national and international organizations, as well as other community partners who would like to hire them. Our graduates receive rigorous training in methods of public health research, but our public health practice community colleagues reported that they lacked skills around teamwork, communication, leadership and other applied skills necessary for success in practice environments. Indeed, our current [Strategic Plan 2012-2020](#) calls for “...ensuring that graduates have the skills and practical competencies necessary to be productive, effective, and transformational public health leaders, scientists, and practitioners.”

Developments in the national public health academic environment also contribute to the need for the SPH MPH curriculum to change. As noted, the number of new programs and schools of Public Health, in our state and in our region, has increased dramatically. Also, in 2016 the Council on Education for Public Health (CEPH) adopted new competency-based accreditation criteria. Over the years our Curriculum and Education Policy Committee (CEPC) has introduced incremental changes in our current MPH core course offerings and sequencing to meet accreditation requirements and other needs that were identified. The process of incorporating changes into core courses that are offered at the departmental level has proven to be increasingly inefficient.

Our rigorous science has always been a hallmark of our School. The rigorous science is practiced in evidence-based research throughout our departments and programs, and we must not lose this. BUT:

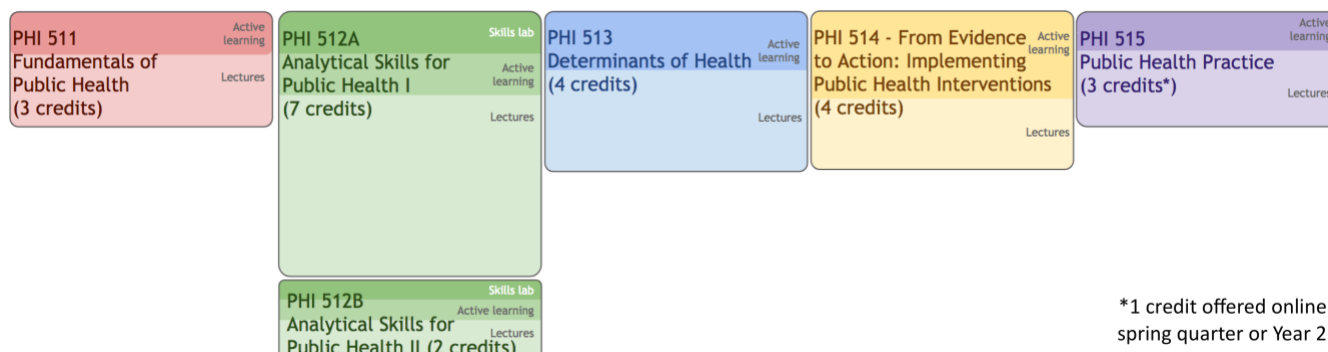
1. We need to remain competitive in the marketplace for jobs of all types for MPH graduates.
2. Several of our fellow Public Health Schools and Programs across the country have implemented (or are implementing) innovative educational models. While these programs have documented pain in the transition phases, ultimately they show enthusiasm and recognition that integrated approaches to learning are much more intellectually rewarding and effective than “traditional” approaches.
3. The SPH at the University of Washington wants to remain competitive in attracting applications to the MPH Program.
4. Our current core courses fragment students (e.g., health services MPH students are not enrolled in the health services courses that are attended by epidemiology MPH students). Our MPH training thus does not take advantage of the full range of disciplinary student perspectives that are critical for MPH training.
5. We need to include more student-centered learning strategies in our MPH training, taking advantage of what we know (and can realistically scale up) from our COPHP degree program and other existing, successful models. This program has demonstrated that integrated approaches that use a variety of pedagogical strategies can support rigor, and greatly improve leadership and practical skills.

Core Curriculum Overview

The Core Courses are designed as a series, one of which is split across two quarters ([Figure 1](#)). Each course is comprised of units in which concepts are grouped thematically. The committee recommends courses be taught by teams of instructors representing multiple disciplines. The committee also strongly recommends that each course include some small interdisciplinary group activity. We see this as an advantage both to build team-work

skills and as a way to listen to, reflect on, and contribute different perspectives in a respectful way. One course includes an asynchronous module that can be completed at any time convenient to the student, although it is recommended that it be completed concurrent with the student’s Interprofessional education experience.

Figure 1: Proposed Core MPH Courses



The fall quarter Core Course load of 10 credits (Figure 2) will start students with a strong school-wide cohort experience while still affording at least 6 credits to start discipline-specific studies. Likewise, in the spring quarter the school-wide cohort will collaborate on 7 credits of practical applied public health coursework; where students will be expected to share their concentration perspectives to practice thinking about public health issues through an interdisciplinary lens.

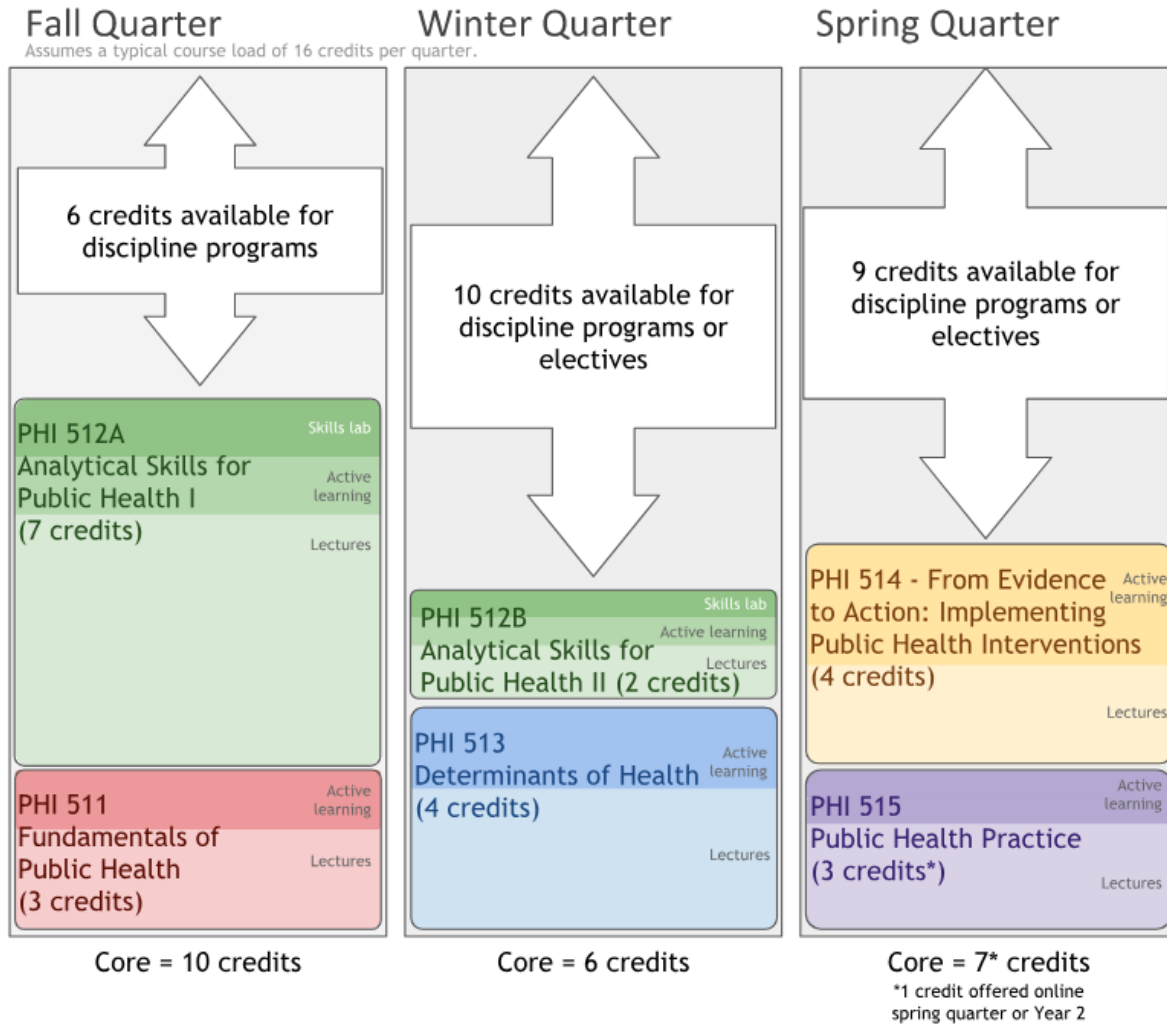
Planning the distribution of Core Courses over the first year required making assumptions about the number of credits students may typically take in a quarter. The committee acknowledges that different programs have expectations for student course loads ranging from 13 to 18 credits. For planning purposes, 16 credits per quarter represented workable course load for most programs.

Active Learning

The steering committee recommends that each course feature a minimum level of active learning, as designated by the labels and color gradients within each course in Figure 1 and Figure 2. While there is tacit agreement from faculty feedback that ‘active learning’ should be an integral part of all teaching approaches—including lectures—the steering committee articulated that a portion of each course should be allocated to activities that promote deep, constructive, learning experiences such as case-based, problem-based, or project-based learning that can be accomplished in small groups with faculty guidance.

While the committee felt it was important to build active learning into the curriculum, decisions about the particular form of active learning appropriate to various teaching approaches is left to course instructors and education developers responsible for implementing this curriculum.

Figure 2: Overview of Proposed Re-Envisioned First Year MPH Core Curriculum



Crosscutting Themes & CEPH Coverage

The Core Curriculum addresses all the 2016 Committee on the Education in Public Health (CEPH) requirements for Foundational Public Health Knowledge and Foundational Public Health Competencies. In addition, we propose a set of 6 Cross-Cutting Themes that will run through the entire Core Curriculum.

Figure 3: Crosscutting themes throughout all Core Courses

CROSS-CUTTING THEMES	Ethics & Equity
	Global & Local
	Communication
	Systems Thinking
	Leadership & Collaboration
	Evidence to Action & Back (Cycles & Synergies)

How the Cross-Cutting Themes will be woven into the course programming will be left to the discretion of course instructors and developers, however to provide some guidance, the steering committee brainstormed some potential thematic access points that will be relevant at various times throughout the Core Course series:

- **Ethics & Equity:**
 - Acknowledgement of other cultural epistemologies
 - Small population outliers in datasets
 - Institutional racism, poverty, socioeconomic status, income inequality, neighborhood segregation
 - Role of place, role of community participation in designing solutions for population health issues, how to create equitable health care systems
 - Sustainability of programs as an equity issue
- **Communication:**
 - Writing for public health
 - Writing reviews of research
 - Grant writing
 - Scientific reporting
 - Writing brief for community or lay readers
 - Communicating systems using diagrams
 - Public communications: writing press releases, speaking to media, using social media

- **Global and Local:**
 - Prevention and healthcare in resource-constrained settings
 - Application of quantitative methods in global and local contexts
 - Closing the know-do gap; implementation science research methods
 - Comparative health systems
 - Sustainability and balancing funding
 - Community engagement
 - Program life cycles
 - Policy and budget impact
- **Leadership & Collaborative Skills:**
 - Defining group values & ethics
 - Establishing group norms; roles & responsibilities
 - Leadership organization & delegation
 - Collaborative effort
 - Evidence-based reasoning
 - Small group discussion and report out
 - Building partnerships
 - Facilitating public meetings
- **Evidence to Action Cycle:**
 - Evidence based public health
 - Assess frequency of ill health & its risk factors
 - Designing evidence-based interventions; Public health as a mechanism to address risk and promote health; Implement & test changes to systems
 - Learning from program & policy units
- **Systems Thinking**
 - Recognizing the adaptive complexity inherent in public health systems
 - Use of multidisciplinary and transdisciplinary teams
 - System conceptualization and mapping
 - Stakeholder recognition and network analysis

Course Details

The following pages provide a more detailed description of each of the Core Courses follows in a format that includes:

- ✓ A draft description (of the sort that might be included in a course catalog)
- ✓ A list of proposed course outcomes
- ✓ An outline of the concepts covered, and
- ✓ A list of CEPH “touchstones” (competencies and knowledge) that will be covered. These are based on a mapping of the competencies and knowledge to each course, and are coded to indicate the extent to which they are emphasized in each course.

PHI 511 - Fundamentals of Public Health (3 credits)

Year One: Fall Quarter

In-Class Time: 3.0 hr/week

Active learning strategies, including small, interdisciplinary, group work: at least 1.5 hr/week (cohort divided into sections to fit available active learning classroom spaces)

Description

This introductory interdisciplinary core course covers foundational elements of public health, including but not limited to history and impact of public health and global health, health equity and human rights, effects of racism on health, ethics, determinants of health of populations, and distinctions between and interconnectedness of population and individual health. Building on the foundations and frameworks presented, students will work through current challenges and trends facing public health locally and globally. This course serves to build a sense of community and public health mindset among each entering MPH cohort by having all students learning together.

The committee discussed the following guidelines, recognizing that the final course development will be the task of the next phase. Guidelines: The course will introduce the skills of contributing to a team, with different prior training and future goals, by having the students actually work in small groups. The groups will be organized around cases or thematic problems (to be developed in the next phase). It is anticipated that students will be able to choose from a menu of such themes, and then assigned to the appropriate small group. It is hoped that faculty from different departments and disciplines will participate at different times during the quarter in facilitating the small groups.

Proposed Course Outcomes

- Define ethics generally, and in the context of public/global health
- Define and apply the concepts of health disparities and health equity in both health status and in access to health services.
- Identify data types that can be used to distinguish between causes and correlations?
- Describe how much evidence and what kinds of evidence we need before we accept hypotheses?
- Describe the role of theory in scientific investigation
- Describe the history, components, organization and operation of the health care and public health systems
- Define and summarize evidence indicating the contribution of individual-level social determinants (income, education, race and ethnicity, gender) and contextual-level social determinants (such as neighborhood income inequality and social capital,) to population health.

CROSS-CUTTING THEMES	Ethics & Equity
	Global & Local
	Communication
	Systems Thinking
	Leadership & Collaboration
Evidence to Action & Back (Cycles & Synergies)	

Proposed Course Outcomes (cont.)

- Describe the changing nature of work as the result of technology and globalization and its possible impact on health.
- Recognize the means by which social inequities and racism, generated by power and privilege, undermine health.

Concepts covered

Unit 1: History and Philosophy of Public Health/Global Health Science

Suggested weight for 'History and Philosophy of Public Health Science' is 0.5 credit. Topics below should be presented in sufficient depth that students will be able to use these concepts in their professional work.

- History and impact of public health/global health
- Philosophy of science
- Introduction to 10 Essential Services
- Global perspective
- Globalization

Unit 2: Ethics and Equity

Suggested weight for 'Ethics and Equity' is 0.5 credit. Topics below should be presented in sufficient depth that students will be able to articulate these concepts.

- Ethics
- Health equity
- Health effects of social inequities and racism
- Human rights

Unit 3: Determinants of Health

Suggested weight for 'Determinants of Health' is 1 credit. Topics below should be presented in sufficient depth that students will be able to articulate these concepts.

- Conceptual frameworks
- Introduction to social determinants of health
- Socio-ecological model
- Differentiation of public health from medical care (Population vs. Individual)
- Human migration
- Technology
 - Changing nature of work
- Climate change
- Sustainability (sustainable communities; sustainability of programs and interventions)
- One health

Unit 4: Systems Thinking

Suggested weight for 'Systems Thinking' is 1 credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Essential infrastructure
- Public health and personal health services
- Occupational Health
- Systems thinking
- Intersectoral nature of today's public health issues

CEPH Touchstones

- Previewed
- Reviewed
- ✓ Emphasized

D1. MPH & DrPH Foundational Public Health Knowledge

- ✓ Explain public health history, philosophy and values (D1-1)
- ✓ Identify the core functions of public health and the 10 Essential Services (D1-2)
- Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc. (D1-5)
- Explain the critical importance of evidence in advancing public health knowledge (D1-6)
- Explain effects of environmental factors on a population's health (D1-7)
- Explain biological and genetic factors that affect a population's health (D1-8)
- Explain behavioral and psychological factors that affect a population's health (D1-9)
- Explain the social, political and economic determinants of health and how they contribute to population health and health inequities (D1-10)
- Explain how globalization affects global burdens of disease (D1-11)
- Explain an ecological perspective on the connections among human health, animal health and ecosystem health (eg, One Health) (D1-12)

D2. MPH Foundational Competencies

- Apply epidemiological methods to the breadth of settings and situations in public health practice. (D2-1)
- Interpret results of data analysis for public health research, policy or practice (D2-4)
- Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings (D2-5)
- Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels (D2-6)
- Assess population needs, assets and capacities that affect communities' health (D2-7)

CEPH Touchstones (cont.)

- Previewed
- Reviewed
- ✓ Emphasized

D2. MPH Foundational Competencies (cont.)

- Apply awareness of cultural values and practices to the design or implementation of public health policies or programs (D2-8)
- Design a population: based policy, program, project or intervention (D2-9)
- ✓ Discuss multiple dimensions of policy: making process, including the roles of ethics and evidence (D2-12)
- ✓ Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes (D2-13)
- ✓ Perform effectively on interprofessional teams (D2-21)

PHI 512A - Analytic Skills for Public Health I (7 credits)

Year One: Fall Quarter

Lecture: 4 - 5 hrs /week

Lab (skills): 1 - 2 hr/week skills lab and discussion

Active learning strategies, including small, interdisciplinary, group work: 1 - 2 hr/week case-based studies

Description

To explore problems in public health/global health research and practice using both quantitative and qualitative methods, this course will introduce mixed methods approaches to produce rigorous results. The importance of contextual understanding and integration of conceptual, theoretical, and methodological frameworks will be emphasized in the first of this two-part series. This first part focuses on principles and methods of epidemiology and biostatistics, including: descriptive epidemiology, overview of study designs, measures of excess risk, causal inference, screening, measurement error, misclassification, effect modification, confounding, data summaries and presentation, statistical inference (including hypothesis testing, p-values, and confidence intervals), sample size calculation, and modeling approaches such as linear regression analysis. Includes hands-on data analysis. The material in this course will position students to continue with EPI 513 and BIOST 512 in the Winter Quarter should they seek more depth in their quantitative methods training.

Proposed Course Outcomes

Advanced Level Outcomes

- Exhibit confidence in performing the following skills independently when requested:
 - Construct appropriate descriptive summaries (numerical, graphical) of data using R
 - Interpret graphs, plots and tables

CROSS-CUTTING THEMES	Ethics & Equity
	Global & Local
	Communication
	Systems Thinking
	Leadership & Collaboration
Evidence to Action & Back (Cycles & Synergies)	

Intermediate Level Outcomes

- Apply knowledge to provide analysis of concepts:
 - Evaluate the integrity and comparability of data and identify gaps in data sources commonly used in epidemiologic research and practice
 - Translate a research question into a statistical model/hypothesis
 - Describe/define different sources of bias and identify different sources of bias in scientific studies
 - Evaluate appropriateness of different study designs and their strengths and limitations

Proposed Course Outcomes (cont.):

Intermediate Level Outcomes (cont.)

- Demonstrate proficiency in performing the following skills when requested:
 - Choose and implement a study design (including identifying where mixed methods might be incorporated) that will appropriately address a research question
 - Calculate (and define) the:
 - major measures of disease frequency used in epidemiologic research and practice
 - measures of association between a given risk factor and a disease or health outcome
 - Compute and interpret appropriate summaries of a screening study
 - Conduct and interpret one and two sample tests of hypotheses
 - Conduct and interpret results from a simple linear regression analysis
 - Make predictions from a simple linear regression model
 - Critically review the relevant scientific literature, synthesize the findings across studies, and make appropriate public health recommendations based on current knowledge
 - Construct and interpret confidence intervals for means, proportions, relative risks and odds ratios
 - Write a clear description of the rationale, methods, results and interpretation of a scientific investigation

Basic Level Outcomes

- Demonstrate comprehension level of knowledge by defining or explaining the following concepts:
 - List and define the basic terms and methods used in outbreak investigation, infectious disease epidemiology, chronic disease epidemiology, disease prevention trials, and evaluation of screening tests
 - Define/explain the meaning of a p-value
 - Define/explain the meaning of a confidence interval
 - Describe the assumptions underlying the binomial, Poisson and normal probability models
 - Define the concept of conditional probability and be able to express conditional probabilities in words
 - Describe and apply guidelines to support causal inference in scientific studies
 - Distinguish between an experimental and observational study and applications of each

Proposed Course Outcomes (cont.):

Basic Level Outcomes (cont.)

- Demonstrate the following skills when given appropriate instructions to follow:
 - Conduct appropriate statistical analyses adjusting for simple confounders
 - Conduct appropriate statistical analyses in the presence of an effect modifier
 - Implement basic data cleaning and manipulation procedures (e.g. subsetting, merging) in R
 - Input data into R from a variety of sources
 - Use R for data analysis

Concepts covered

- Data visualization
- Measures of location and spread
- Measures of disease in populations
- Introduction to probability
- Traditional epidemiologic study designs (cross-sectional, cohort, case-control, randomized trials)
- Probability distributions
- Data sources
- Data description
- Experimental vs. observational studies
- Measures of excess risk (comparing disease between groups)
- Alternative study designs (case series, time-series)
- Measurement error
- Misclassification
- Informatics
- Causal inference
- Epidemiological methods in applied public health
- Sources bias
- Assuring rigor
- Mediation
- Confounding
- Effect modification
- Screening
- Confidence intervals
- Hypothesis testing and p-values
- One-sample statistical tests
- Two-sample statistical tests
- Simple linear regression
- Introduction to mixed methods (interweaving quantitative and qualitative research)

CEPH Touchstones

- Previewed
- Reviewed
- ✓ Emphasized

D1. MPH & DrPH Foundational Public Health Knowledge

- ✓ Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health (D1-3)
- List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program (D1-4)
- ✓ Explain the critical importance of evidence in advancing public health knowledge (D1-6)
- Explain effects of environmental factors on a population's health (D1-7)
- Explain biological and genetic factors that affect a population's health (D1-8)
- Explain behavioral and psychological factors that affect a population's health (D1-9)
- Explain the social, political and economic determinants of health and how they contribute to population health and health inequities (D1-10)
- Explain how globalization affects global burdens of disease (D1-11)
- Explain an ecological perspective on the connections among human health, animal health and ecosystem health (eg, One Health) (D1-12)

D2. MPH Foundational Competencies

- ✓ Apply epidemiological methods to the breadth of settings and situations in public health practice. (D2-1)
- ✓ Select quantitative and qualitative data collection methods appropriate for a given public health context. (D2-2)
- ✓ Analyze quantitative and qualitative data using biostatistics, informatics, computer: based programming and software, as appropriate (D2-3)
- ✓ Interpret results of data analysis for public health research, policy or practice (D2-4)
- Assess population needs, assets and capacities that affect communities' health (D2-7)
- Design a population: based policy, program, project or intervention (D2-9)
- Discuss multiple dimensions of policy: making process, including the roles of ethics
- Evaluate policies for their impact on public health and health equity (D2-15)
- Communicate audience: appropriate public health content, both in writing and through oral presentation. (D2-19)
- ✓ Perform effectively on interprofessional teams (D2-21)

PHI 512B - Analytic Skills for Public Health II (2 credits)

Year One: Winter Quarter

Lecture: 1.5 hrs /week

Lab (skills): 0.5 hr/week skills lab and discussion

Active learning strategies will include small, interdisciplinary, group work: 0.5 hr/week case-based studies

Description

To explore problems in public health/global health research and practice using both quantitative and qualitative methods, this course will introduce mixed methods approaches to produce rigorous results. The second of this two-part course conceptualizes research questions using constructs that integrate quantitative measures of magnitude and frequency with qualitative measures of meaning to produce rich contextual understandings of complex behaviors, cultures, and characteristics, and derives meaning from qualitative and alternative forms of data such as: open-ended interviews, geospatial information, visual imagery, and social media text and graphics. This course places a strong emphasis on qualitative data analysis as an integral dimension of the mixed-methods approach; other research methods will be introduced including; meta-analysis, systematic review, surveillance, and monitoring and evaluation.

Proposed Course Outcomes

- Choose and implement a study design that will appropriately address a research question
- Evaluate appropriateness of different study designs
- Be able to design and implement different data collection methods, such as paper forms, CASI, ACASI, electronic data capture, medical records
- Be able to design a questionnaire
- Design and implement different data collection methods including focus groups, structured interviews, etc.
- Develop and pilot interview guide (semi-structured) for in-depth interviews, focus groups
- Develop proficiency with approaches to organize qualitative analyses including a coding structure and inter-coder agreement using manual or computer-assisted coding
- Code a transcript
- Compute intercoder agreement
- Use inductive and deductive methods to develop themes from transcripts
- Develop a codebook

CROSS-CUTTING THEMES	Ethics & Equity
	Global & Local
	Communication
	Systems Thinking
	Leadership & Collaboration
Evidence to Action & Back (Cycles & Synergies)	

Concepts covered

Unit 1: Integrating Analytic Methods to Understand and Solve Health Challenges

Suggested weight for 'Integrating Analytical Methods...' is 0.5 credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Study Design
- Mixed methods/iterative qualitative and quantitative
- Concepts being measured

Unit 2: Qualitative Methods

Suggested weight for 'Qualitative Methods' is 0.5 credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Frameworks for qualitative research
- Qualitative Methods
- Data Collection: Asking questions, Interviews and Focus Groups
- Purposive sampling
- Qualitative Data Analysis--Using computer software,
- Coding, Interpretation, Inter-rater reliability
- Displaying data and dissemination
- Deep structure analyses of complex constructs, e.g. acculturation, emotional states

Unit 3: Implementation Science and Alternative Study Designs

Suggested weight for 'Implementation Science' is 0.5 credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Implementation Science methods, frameworks and study designs
- Data analysis
- Program evaluation
- Introduction to Systematic Review and Meta-Analysis
- Surveillance
- Community-based participatory research

Unit 4: From Data to Evidence to Action

Suggested weight for 'From Data to Evidence to Action' is 0.5 credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Knowledge translation (from research to practice) and back

CEPH Touchstones

- Previewed
- Reviewed
- ✓ Emphasized

D1. MPH & DrPH Foundational Public Health Knowledge

- ✓ Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health (D1-3)
- ✓ Explain the critical importance of evidence in advancing public health knowledge (D1-6)
- Explain effects of environmental factors on a population's health (D1-7)
- Explain biological and genetic factors that affect a population's health (D1-8)
- Explain behavioral and psychological factors that affect a population's health (D1-9)
- Explain the social, political and economic determinants of health and how they contribute to population health and health inequities (D1-10)
- Explain how globalization affects global burdens of disease (D1-11)
- Explain an ecological perspective on the connections among human health, animal health and ecosystem health (eg, One Health) (D1-12)

D2. MPH Foundational Competencies

- Apply epidemiological methods to the breadth of settings and situations in public health practice. (D2-1)
- Interpret results of data analysis for public health research, policy or practice (D2-4)
- Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings (D2-5)
- Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels (D2-6)
- Assess population needs, assets and capacities that affect communities' health (D2-7)
- Apply awareness of cultural values and practices to the design or implementation of public health policies or programs (D2-8)
- Design a population: based policy, program, project or intervention (D2-9)
- ✓ Discuss multiple dimensions of policy: making process, including the roles of ethics and evidence (D2-12)
- Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes (D2-13)
- Advocate for political, social or economic policies and programs that will improve health in diverse populations. (D2-14)
- Evaluate policies for their impact on public health and health equity (D2-15)

CEPH Touchstones (cont.)

- Previewed
- Reviewed
- ✓ Emphasized

D2. MPH Foundational Competencies (cont.)

- Apply epidemiological methods to the breadth of settings and situations in public health practice. (D2-1)
- ✓ Select quantitative and qualitative data collection methods appropriate for a given public health context. (D2-2)
- ✓ Analyze quantitative and qualitative data using biostatistics, informatics, computer: based programming and software, as appropriate (D2-3)
- ✓ Interpret results of data analysis for public health research, policy or practice (D2-4)
- Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels (D2-6)
- Assess population needs, assets and capacities that affect communities' health (D2-7)
- Design a population: based policy, program, project or intervention (D2-9)
- Select methods to evaluate public health programs (D2-11)
- Evaluate policies for their impact on public health and health equity (D2-15)
- Communicate audience: appropriate public health content, both in writing and through oral presentation. (D2-19)
- ✓ Perform effectively on interprofessional teams (D2-21)
- Apply systems thinking tools to a public health issue (D2-22)

PHI 513 - Determinants of Health (4 credits)

Year One: Winter Quarter

Lecture: 2.5 hrs /week

Active learning through small, interdisciplinary, group work: 1.5 hr/week small group discussion

Description

To expose students to the full range of factors that affect population health at the individual, community, regional, national, and global levels. This course will focus on describing leading determinants of health, strategies to judge the strength of evidence for health determinants, and how to design and implement interventions to prevent and mitigate determinants of poor health and promote determinants of optimum health. Students will be able to describe the evidence for how broad and specific social determinants influence population health among and across populations. They will also apply this knowledge in evidence-based interventions at all levels to improve population health and reduce health disparities.

Proposed Course Outcomes

- Discuss the importance of factors that contribute to individual and population vulnerability, such as biological susceptibility, existing health or social disparities, and cumulative burden of health impacts
- Describe and discuss potential impacts of demographic change, economic development, energy demand, human-modified environments, global-scale pollution, and global environmental change on human health, food security, water security, and equity
- Describe the evidence for how broad and specific social and ecological determinants influence population health among and across populations
- Apply knowledge of how social and ecological determinants influence population health in evidence-based interventions at all levels to improve population health and reduce health disparities
- Design and implement different data collection methods, such as paper forms, CASI, ACASI, electronic data capture, medical records
- Design an interview schedule and self-administered questionnaire including codes for all fields

CROSS-CUTTING THEMES	Ethics & Equity
	Global & Local
	Communication
	Systems Thinking
	Leadership & Collaboration
Evidence to Action & Back (Cycles & Synergies)	

Proposed Course Outcomes (cont.):

- Describe and discuss foundational concepts and strategies of environmental and occupational health sciences, including nutrition, and draw generalizable conclusions about how they apply in different situations and at various scales
- Apply foundational concepts and strategies to public health problems from a systems perspective; characterize broader environmental and social contexts and complex system dynamics; and assess cumulative influences on health including nutrition, wellbeing, and equity
- Identify and discuss how socioeconomic, political, cultural, behavioral and perceptual factors might interact with environmental factors and influence health risks
- Examine relationships between system structure and dynamics, environmental hazards, social contexts, and vulnerability on health, wellbeing, and equity; discern how complex system dynamics complicate management of associated risks

Concepts covered

Unit 1: Risk and Frameworks for Investigating Determinants of Health

Suggested weight for 'Risk and Frameworks...' is 0.5-credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Definitions and assessments of health determinants and outcomes
- Risk paradigm
- Exposure
 - Measurement
- Sources of health data and other relevant data (weather, climate, animals, transportation, schools)
- Judging the strength of evidence and using evidence to inform practice
 - Study design
 - Data collection

Unit 2: Individual Determinants of Health

Suggested weight for 'Individual Determinants' is 0.5-credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Genetic determinants
- Behavioral determinants
- Interactions between genetic and behavioral determinants

Unit 3: Ecological Determinants of Health

Suggested weight for 'Ecological Determinants' is 1.5-credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Environmental determinants (e.g., air, water, soil, food sources)
- Neighborhood determinants

Unit 4: Population-level Determinants of Health

Suggested weight for 'Population-level Determinants' is 1.5-credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Cultural determinants
- Economic determinants
- Social determinants of health
- Political determinants
- Global disparities
- Access to health care

CEPH Touchstones

- Previewed
- Reviewed
- ✓ Emphasized

D1. MPH & DrPH Foundational Public Health Knowledge

- ✓ List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program (D1-4)
- ✓ Explain the critical importance of evidence in advancing public health knowledge (D1-6)
- ✓ Explain effects of environmental factors on a population's health (D1-7)
- ✓ Explain biological and genetic factors that affect a population's health (D1-8)
- ✓ Explain behavioral and psychological factors that affect a population's health (D1-9)
- ✓ Explain the social, political and economic determinants of health and how they contribute to population health and health inequities (D1-10)
- ✓ Explain how globalization affects global burdens of disease (D1-11)
- ✓ Explain an ecological perspective on the connections among human health, animal health and ecosystem health (eg, One Health) (D1-12)

D2. MPH Foundational Competencies

- ✓ Apply epidemiological methods to the breadth of settings and situations in public health practice (D2-1)
- Select quantitative and qualitative data collection methods appropriate for a given public health context (D2-2)
- Analyze quantitative and qualitative data using biostatistics, informatics, computer: based programming and software, as appropriate (D2-3)
- ✓ Interpret results of data analysis for public health research, policy or practice (D2-4)
- ✓ Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels (D2-6)
- ✓ Assess population needs, assets and capacities that affect communities' health (D2-7)
- Design a population: based policy, program, project or intervention (D2-9)
- ✓ Perform effectively on interprofessional teams (D2-21)

PHI 514 - From Evidence to Action and Back: Implementing Public Health Interventions (4 credits)

Year One: Spring Quarter

Lecture: 2 hrs /week

Active learning strategies that include small, interdisciplinary, group work: 2 hr/week small group discussion

Description

This course introduces students to the frameworks for public health/global health interventions to promote health, mitigate risk, and reduce health disparities. Interventions introduced will range from the individual to population level. Focus will be on intervening through policy, systems, health infrastructure, sociobehavioral, and environmental approaches.

Proposed Course Outcomes:

- Develop evidence-based and sustainable strategies to improve health, wellbeing and equity related to a public health problem
- Communicate information in plain language to a target audience about environmental health risks, influential factors, and prevention strategies
- Identify stakeholders; characterize assets, power and inequities, and anticipate needs, concerns, and risk perceptions
- Identify opportunities for and barriers to sustainable changes that promote health, wellbeing, and equity
- Formulate evidence-based, context-appropriate, and sustainable alternatives to address the problem and enhance health, well-being, and equity

CROSS-CUTTING THEMES	Ethics & Equity
	Global & Local
	Communication
	Systems Thinking
	Leadership & Collaboration
	Evidence to Action & Back (Cycles & Synergies)

Concepts covered

Unit 1: Interventions

Suggested weight for 'Interventions' is 2 credits. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Theories of behavior change (linked to community in 515)
- Types of Interventions
 - Regulatory/Policy (e.g. Safe Drinking Water Act, Clean Air Act, Affordable Care Act)
 - Individual to Population (e.g. smoking cessation, vaccine campaigns, taxes – smoking, sugary beverages)
 - Structural (e.g. urban design, jersey barriers for highway safety, workplace interventions, taxes – smoking, sugary beverages)
- Risk paradigm: *Applied knowledge, presented earlier in PHI 513: Unit 1 Risk Frameworks...*
- Reducing health disparities
- Using systems thinking: *Acknowledging that different components of the system are interconnected and leveraging the interconnectedness of the components rather than ignoring it.*

Unit 2: Contexts for Health Interventions

Suggested weight for 'Contexts for Health Intervention' is 2 credits. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Medical care and public health services
- Organization and financing of US and other health services
- Global and US public health as a health system
- Comparative health systems
- Public health infrastructure
- Workforce development and retention
- Universal coverage
 - Affordable Care Act
- Long-term care/Aging
- Mental health care

CEPH Touchstones

- Previewed
- Reviewed
- ✓ Emphasized

D1. MPH & DrPH Foundational Public Health Knowledge

- Identify the core functions of public health and the 10 Essential Services (D1-2)
- Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health (D1-3)
- List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program (D1-4)
- ✓ Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc. (D1-5)
- Explain the critical importance of evidence in advancing public health knowledge (D1-6)
- Explain effects of environmental factors on a population's health (D1-7)
- Explain biological and genetic factors that affect a population's health (D1-8)
- Explain behavioral and psychological factors that affect a population's health (D1-9)
- Explain the social, political and economic determinants of health and how they contribute to population health and health inequities (D1-10)
- Explain how globalization affects global burdens of disease (D1-11)
- Explain an ecological perspective on the connections among human health, animal health and ecosystem health (eg, One Health) (D1-12)

D2. MPH Foundational Competencies

- Apply epidemiological methods to the breadth of settings and situations in public health practice. (D2-1)
- Select quantitative and qualitative data collection methods appropriate for a given public health context. (D2-2)
- Analyze quantitative and qualitative data using biostatistics, informatics, computer: based programming and software, as appropriate (D2-3)
- ✓ Interpret results of data analysis for public health research, policy or practice (D2-4)
- ✓ Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings (D2-5)
- ✓ Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels (D2-6)
- ✓ Assess population needs, assets and capacities that affect communities' health (D2-7)
- ✓ Apply awareness of cultural values and practices to the design or implementation of public health policies or programs (D2-8)
- ✓ Design a population: based policy, program, project or intervention (D2-9)
- ✓ Select methods to evaluate public health programs (D2-11)

CEPH Touchstones (cont.)

- Previewed
- Reviewed
- ✓ Emphasized

D2. MPH Foundational Competencies (cont.)

- ✓ Discuss multiple dimensions of policy: making process, including the roles of ethics and evidence (D2-12)
- Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes (D2-13)
- Advocate for political, social or economic policies and programs that will improve health in diverse populations. (D2-14)
- ✓ Evaluate policies for their impact on public health and health equity (D2-15)
- Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making (D2-16)
- ✓ Perform effectively on interprofessional teams (D2-21)
- ✓ Apply systems thinking tools to a public health issue (D2-22)

PHI 515 - Public Health Practice (3 credits*)

Year One: Spring Quarter

Lecture: 2 hrs /week*

Active learning strategies focused on small, interdisciplinary, group work: 1 hr/week small group discussion

Description

Public Health Practice is the culmination of the common MPH program experience, designed to bring together analytic skills, knowledge of health determinants, and an appreciation for evidence-based approaches to practical interventions. The in-class portions of the course will develop system thinking tools to understand the interrelationship of public health infrastructure, generation and evaluation of public health evidence, public health policy, and community engagement; while communications skills will equip learners to lead change.

*A one-credit online module offers leadership and negotiation skills necessary for working with other professionals, both in the applied practice experience and as general career preparation.

Students completing this course will be able to:

- Apply systems thinking tools to describe how public health systems function, and how changing systems processes can change system outcomes.
- Operationalize systemic change through identifying strategies for public health surveillance, community health assessment, public health program and policy development
- Identify and apply methods of public health program and policy evaluation
- Engage and communicate effectively with various public health system stakeholders (e.g. community-based organizations, health care organizations, legislative bodies, members of the general public)
- Identify and describe a community; its culture, formal and informal organizations, interactions, leadership, relevant stakeholders, physical attributes, and how the community views itself
- Perform effectively on a team; promote collegiality, inclusion, trust, and ethical principles in learning experiences

CROSS-CUTTING THEMES	Ethics & Equity
	Global & Local
	Communication
	Systems Thinking
	Leadership & Collaboration
	Evidence to Action & Back (Cycles & Synergies)

Concepts covered

Unit 1: Public Health Systems

Suggested weight for 'Public Health Systems' is 0.5 credit.

- Explain the evolving nature of public health and the current role and function of public health agencies in community health locally and globally.
- Apply systems science methods to public health problems

Unit 2: Public Health Communication

Suggested weight for 'Public Health Communication' is 1 credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Building trust with communities
- Community engagement (e.g. Collective impact theory)
- Advocacy
- Communications strategies
 - Identifying and understanding stakeholders
 - Honing the message
 - Right message to the right audience at the right time through the right medium
 - Working with media (print, radio, TV, social)

Unit 3: Planning, Implementing, and Evaluating Public Health Programs

Suggested weight for 'Planning, Implementing, and Evaluating...' is 0.5 credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Conducting public health surveillance and needs assessments
- Working with policy-makers
- Developing and implementing public health programs/policies
- Program monitoring and evaluation

Unit 4: Professional Preparation (Offered asynchronously using online learning)

Suggested weight for 'Professional Preparation' is 1 credit. Topics below should be presented in sufficient depth that students will be able to apply these concepts.

- Leadership: styles, techniques and skills
- Management
- Budgeting
- Professional preparation: *Expectations for public health professionals; career building skills, CV writing, interview preparation*

CEPH Touchstones

- Previewed
- Reviewed
- ✓ Emphasized

D1. MPH & DrPH Foundational Public Health Knowledge

- Identify the core functions of public health and the 10 Essential Services (D1-2)
- Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health (D1-3)
- List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program (D1-4)
- ✓ Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc. (D1-5)
- Explain the critical importance of evidence in advancing public health knowledge (D1-6)
- Explain effects of environmental factors on a population's health (D1-7)
- Explain biological and genetic factors that affect a population's health (D1-8)
- Explain behavioral and psychological factors that affect a population's health (D1-9)
- ✓ Explain the social, political and economic determinants of health and how they contribute to population health and health inequities (D1-10)
- ✓ Explain how globalization affects global burdens of disease (D1-11)
- ✓ Explain an ecological perspective on the connections among human health, animal health and ecosystem health (e.g. One Health) (D1-12)

D2. MPH Foundational Competencies

- ✓ Assess population needs, assets and capacities that affect communities' health (D2-7)
- ✓ Apply awareness of cultural values and practices to the design or implementation of public health policies or programs (D2-8)
- ✓ Design a population: based policy, program, project or intervention (D2-9)
- ✓ Explain basic principles and tools of budget and resource management (D2-10)
- ✓ Select methods to evaluate public health programs (D2-11)
- ✓ Discuss multiple dimensions of policy: making process, including the roles of ethics and evidence (D2-12)
- ✓ Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes (D2-13)
- ✓ Select communication strategies for different audiences and sectors (D2-18)
- ✓ Communicate audience: appropriate public health content, both in writing and through oral presentation. (D2-19)
- ✓ Describe the importance of cultural competence in communicating public health content (D2-20)

Additional Related Considerations

Applied Practice Experience

We did not incorporate the Applied Practice Experience (APE) into our curriculum planning, other than to anticipate that it would occur following all the Core Curriculum (i.e., the summer between the first and second year at the earliest). A prior SPH working group developed an updated set of guidelines for the APE in 2016. Those guidelines most likely will need to be reviewed and possibly revised to ensure appropriate dovetailing with the proposed new Core Curriculum. In particular, the update specified that some 2016 CEPH competencies would need to be demonstrated in each APE because there were no core courses in which they were part of the learning objectives.

Interprofessional Education

We did not incorporate the new CEPH competency in Interprofessional Education (IPE) because it is unknown how the current academic year's strategy for meeting this competency will fare, and thus whether it or some other approach, including one that integrates it into some of the applied core courses, should be used.

Culminating Activity

All MPH degree programs must include some type of culminating activity. We did not make any recommendations regarding this activity, as the specifics should incorporate input from the individual programs (concentrations), and may vary by concentration.

Next Step/Recommendations

Through the re-envisioning process, feedback has been received from SPH leadership and program directors who were emailed project updates, and from faculty that may have gained insight from steering committee members through formal and informal departmental discussions. However, many faculty, as well as staff, students and the larger practice community, have not had opportunity to provide feedback.

It is therefore recommended that this document be made available to UW SPH faculty, staff, students, practice partners and alumni to gain different perspectives.