



Master of Public Health Program in Environmental and Occupational Health

Graduate Student Guide

Academic Year 2021-22

**Faculty of Public Health
Health Sciences Center
Kuwait University**

SEPTEMBER, 2021

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Master of Public Health Program in Environmental and Occupational Health

Faculty of Public Health, Kuwait University

1. Introduction

1.1 Background: Health in Kuwait

Protection of the health of Kuwait's population is enshrined in the public health mandate of its Constitution: "The State shall care for public health through measures of precaution and cure of diseases and epidemics."¹

Over the past two generations, Kuwait has experienced a rapid improvement in the health of its population, with an increase in life expectancy by about 30 years, with attendant transitions in economic development and in the major causes of death from infectious diseases to a predominance of non-communicable diseases (NCD's) and injuries. The globalization of health-related issues and unhealthy behaviors constitutes another transition that has affected all countries through the same time period.

Despite the many important advances in health, Kuwait still faces a range of important public health challenges such as providing safer and more health-promoting environments at the workplace, reduction of environmental hazards, improving the effectiveness of health policies in all government sectors, more efficient management of its healthcare institutions, prevention of non-communicable diseases, promoting healthy lifestyles and behaviors, increasing well-being, empowerment of communities, assessment of genetic diseases, control of globally-emerging infectious diseases such as the Zika virus, and addressing the health of vulnerable populations.

1.2 Environmental and Occupational Health in Kuwait

Much of the economic development and health improvements in Kuwait have occurred without adequate development and enforcement of the environmental and occupational laws and regulations. Indeed, the UNDP's 2012 report on Kuwait described a significant level of "environmental degradation" in Kuwait: defined as reduction of the capacity of the environment to meet social and ecological objectives, and needs. The types of human-induced degradation include land misuse, soil erosion and loss, desertification, oil fires, loss of biodiversity, land, water and air pollution, climate change, sea level rise and ozone depletion. Such environmental degradation has had substantial impact on human health with a resulting increase of non-communicable diseases and injuries. The situation with occupational health and safety is also of concern. Kuwait needs to significantly strengthen the workforce trained (at the graduate level) in addressing these complex issues in Environmental and Occupational Health and Safety

2. Vision, Mission, and Core Values

2.1 Vision

The vision of this professional, interdisciplinary MPH program in Environmental and Occupational Health is to be a leading program in the Gulf region, recognized for its effect on safeguarding and improving Kuwait's environment, occupational health, worker safety and well-being of Kuwait's population; achieving this by providing a professional degree, the graduates from which will possess the environmental health and occupational health knowledge, attitudes and skills that can effectively address the environmental and occupational health and safety challenges facing Kuwait.

¹ https://www.constituteproject.org/constitution/Kuwait_1992.pdf?lang=en Accessed on February 29, 2016

2.2 Mission

The mission is to produce academically qualified environmental health and occupational health professionals: preparing them with the knowledge and skills base needed to perceive, understand, and assess, and address the environmental and occupational health and safety needs in Kuwait's natural and built environments and its homes, workplaces, and recreational facilities; equipping them with the ability to form effective policies and interventions to address those needs; providing an environment of interdisciplinary teaching, research, and community service; and inculcating professional public environmental health values, concepts of social responsibility, and ethical practice; and the perspective of Health in All Policies (HiAP) as it relates to environmental and occupational health and safety issues. The program will prepare graduates to pursue careers in the Ministry of Health, private healthcare organizations, the oil sector, other industries, insurance companies, KISR, KFAS, the GCC Health Council, environmental and occupational regulatory agencies, and local and international non-governmental organizations such as UN agencies (WHO, UNDP, UNICEF, ILO).

2.3 Core Values

The underlying core value of the MPH program is "Health as a Human Right," as set forth in Article 15 of the Constitution of Kuwait² which states, "Right to Healthcare: The State shall care for public health through measures of precaution and cure of diseases and epidemics," and the United Nations' Universal Declaration of Human Rights.³ There will be specific commitments to the values of community partnership and empowerment, cultural sensitivity, social responsibility, truthful and clear dissemination of information, collaboration and teamwork, ethics and integrity in research and practice, excellence in education and training, professionalism, and evidence-based approaches to public health problems.

3. Overall Program Competencies

Postgraduate students who have completed the MPH program in Environmental and Occupational Health will be able to:

1. Develop and lead inter-disciplinary teams that will assess environmental and occupational hazards, assess their impact on health-related outcomes, propose effective solutions for hazard abatement, and manage and assess effectiveness of such programs.
2. Assess the environmental and occupational causes of human diseases, applying the genetic, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental and occupational hazards.
3. Conduct research in areas of environmental and occupational health, applying the results to inform public health policies related to environmental & occupational health.
4. Assess levels of pollution and /or contamination that affect air quality, water quality, food quality and soil quality, which have negative effects on human health.
5. Design and implement the functions and duties of environmental and occupational personnel during a declared disaster under the incident command system.
6. Establish workplace wellbeing programs, with an emphasis on empowerment of workers for improvement of their health and wellbeing, and the economic evaluation of occupational safety and health (OSH) prevention efforts that preserve the health of the populations living in the proximity of the major industries in Kuwait; including oil, petrochemicals, cement, shipbuilding and repair, water desalination, food equipment industry, and building materials.

² https://www.constituteproject.org/constitution/Kuwait_1992.pdf?lang=en Accessed on February 29, 2016

³ <http://www.un.org/en/universal-declaration-human-rights/> Accessed on February 29, 2016.

4. Target Student Population

Public health is an interdisciplinary field which has applications in all sectors of society, government, and business, not just in the healthcare sector. Most MSc programs provide a direct track from the BSc program into a related MSc program (e.g., Chemistry, Biology, or Physics). In contrast, the MPH degree is considered a professional degree program, such that the usual target student population includes individuals who are already working in a specific field, and who want to bring a Public Health perspective to that field. Preference for admission to the MPH program is therefore given to individuals with some workplace experience which they can use to integrate what they learn in the MPH program.

It is true that MPH programs often attract students from various health-related backgrounds, including medicine, dentistry, and nursing. However, individuals with a background in law, environmental science, engineering, economics, business, and policy with experience or enthusiasm concerning public health are also targeted as potential MPH students. For example, environmental scientists who may want to broaden their focus to improvement of the environment for the health of Kuwait's population would benefit from an **MPH in Environmental and Occupational Health**, as would an Occupational Health nurse or Safety Officer in Kuwait Oil Company. Public health tasks require multidisciplinary health teams that are trained in a wide range of areas.

5. Curriculum and Major Sheets

5.1 Minimum Graduation Requirements

Students will have two options for graduation. A Thesis option or a Capstone Project option, both of which require students to complete 45 semester CH. Both programs will initially be offered as full-time four-semester degrees. However, in the future, a part-time configuration for professionals may be offered.

MPH program (Capstone Project Option):

- 18 CH core coursework
 - (For non-health professions: 20 CH)
- 9 CH in the EOH concentration area
- 5 CH Compulsory Applied Courses
- 10 CH electives
 - (For non-health professions: 8 CH)
- 3 CH Capstone Project
- **Total: 45 Credit Hours**

MPH program (Thesis Option):

- 18 CH core coursework
 - (For non-health professions: 20 CH)
- 9 CH in the EOH concentration area
- 5 CH Compulsory Applied Courses
- 4 CH electives
 - (For non-health professions: 2 CH)
- 9 CH Thesis
- **Total: 45 Credit Hours**

Note regarding non-health professionals: MPH students who do not have a background in a health profession will be required to substitute 2 CH of elective courses for a course in "Public Health Biology."

As previously noted, the minimum CH's required for accreditation by the Council on Education in Public Health (CEPH) is 42 CH's.

5.2 Program Numbering and Names

Within Kuwait University, the Faculty of Public Health is assigned the Faculty ID number “19.” Since the MPH program is a faculty-wide program (i.e., not assigned to a specific department), the Department ID is assigned as “00.” The official program number and name for registration at COGS is proposed to be:

Program ID Number	Program Name in English	Program Name in Arabic
19005	Master in Public Health / Environmental and Occupational Health	ماجستير في الصحة العامة / الصحة البيئية والمهنية

5.3 Course Numbering Conventions

The numbering system for courses is built around the following conventions:

1. The first four numbers correspond to the Faculty (“19”) and the Department, according to the following assignments:
 - 1900 – Faculty-wide courses
 - 1910 – Department of Public Health Practice
 - 1920 – Department of Health Policy and Management
 - 1930 – Department of Epidemiology and Biostatistics
 - 1940 – Department of Social and Behavioral Sciences
 - 1950 – Department of Environmental and Occupational Health
2. The last three numbers are assigned as follows:
 - Graduate level - Master: 501 – 599
 - Graduate level - Doctoral: 601 – 699
3. Special cases for the second digit of the last three numbers
 - x3x: Start numbering for elective courses within the department
 - x8x: For Masters or Doctoral Practica
 - x9x: For Thesis or Capstone

5.4 Major Sheets for MPH Curricula – Environmental and Occupational Health Concentration

5.4.1 Major Sheets, Capstone Option (45 CH)

5.4.1.1 Capstone Option, according to Semester

YEAR 1 (21 CH in Year 1)

Semester 1 (12 CH)

Course #	Course name	CH	Prerequisites
1920-501	Principles of Health Policy and Management	3	None
1950-501	Introduction to Environmental and Occupational Health	3	None
1930-501	Epidemiology and Biostatistics I	3	None
1940-501	Social and Behavioral Foundations of Public Health	3	None
1900-501	Public Health Biology (<i>for non-health professionals</i>)	2	None

Semester 2 (9 CH)

1930-502	Epidemiology and Biostatistics II	3	None
1910-501	Introduction to Public Health Practice and Ethics	3	None
1900-591	Research Project Design	1	1930-501
	Electives	2	None

YEAR 2 (24 CH in Year 2)

Semester 3 (12 CH)

1950-502	Environmental & Occupational Health Risk Assessment	3	1950-501
1910-581	Public Health Practicum	4	All Core Courses
	Elective	5	None

Semester 4 (12 CH)

1950-503	Environmental Health Management	3	1950-501
1950-504	Worker Health and Safety	3	1950-501
1950-593	Capstone Project for EOH	3	All Core Courses
	Electives	3	

Core courses are highlighted in purple

Concentration courses are highlighted in green

5.4.1.2 Capstone Option, According to Course Type

Core Courses (18 CH)

Course #	Course name	CH	Prerequisites
1920-501	Principles of Health Policy and Management	3	None
1950-501	Introduction to Environmental and Occupational Health	3	None
1930-501	Epidemiology and Biostat I	3	None
1930-502	Epidemiology and Biostat II	3	None
1940-501	Social and Behavioral Foundations of Public Health	3	None
1910-501	Introduction to Public Health Practice and Ethics	3	None
1900-501	Public Health Biology (<i>For non-health professionals</i>)*	2	None

Concentration Courses: Environmental and Occupational Health (9 CH)

1950-502	Environmental & Occupational Health Risk Assessment	3	1950-501
1950-503	Environmental Health Management	3	1950-501
1950-504	Worker Health and Safety	3	1950-501

Compulsory Applied Courses (5 CH)

1900-591	Research Project Design	1	1930-501
1910-581	Public Health Practicum	4	1910-581

Electives (10 CH for health professionals / 8 CH for non-health professionals*)

Semester 1	Elective (<i>for health professionals</i>)	2	None
Semester 3	Electives	5	
Semester 4	Electives	3	

*Note: For non-health professionals, 2 of the 10 elective CH's must be used for course 1900-501

Capstone Project (3 CH)

1950-593	Capstone Project	3	All Core Courses
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5.4.2 Major Sheets, Thesis Option (45 CH)

5.4.2.1 Thesis Option, according to Semester

YEAR 1 (21 CH in Year 1)

Semester 1 (12 CH)

Course #	Course name	CH	Prerequisites
1920-501	Principles of Health Policy and Management	3	None
1950-501	Introduction to Environmental and Occupational Health	3	None
1930-501	Epidemiology and Biostatistics 1	3	None
1940-501	Social and Behavioral Foundations of Public Health	3	None
1900-501	Public Health Biology (<i>for non-health professionals</i>)	2	None

Semester 2 (9 CH)

1930-	Epidemiology and Biostatistics II	3	None
1910-501	Introduction to Public Health Practice and Ethics	3	None
1900-591	Research Project Design	1	1930-501
	Elective s	2	None

YEAR 2 (24 CH in Year 2)

Semester 3 (7 CH)

1950-502	Environmental & Occupational Health Risk Assessment	3	1950-501
1910-581	Public Health Practicum	4	All Core Courses
1950-597	Thesis Project	0	All Core Courses

Semester 4 (17 CH)

1950-503	Environmental Health Management	3	1950-501
1950-504	Worker Health and Safety	3	1950-501
1950-598	Thesis Project	0	All Core Courses
	Electives	2	

2000-599	Thesis (Credit given upon completion)	9	
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Core courses are highlighted in purple

Concentration courses are highlighted in green

5.4.2.2 Thesis Option, according to Course Type

Core Courses (18 CH for health professionals / 20 CH for non-health professionals)

Course #	Course name	CH	Prerequisites
1920-501	Principles of Health Policy and Management	3	None
1950-501	Introduction to Environmental and Occupational Health	3	None
1930-501	Epidemiology and Biostatistics I	3	None
1930-502	Epidemiology and Biostatistics II	3	None
1940-501	Social and Behavioral Foundations of Public Health	3	None
1910-501	Introduction to Public Health Practice and Ethics	3	None
1900-501	Public Health Biology (<i>For non-health professionals</i>)*	2	None

Concentration Courses: Environmental and Occupational Health (9 CH)

1950-502	Environmental & Occupational Health Risk Assessment	3	1950-501
1950-503	Environmental Health Management	3	1950-501
1950-504	Worker Health and Safety	3	1950-501

Compulsory Applied Courses (5 CH)

1900-591	Research Project Design	1	1930-501
1910-581	Public Health Practicum	4	1910-581

Electives (4 CH for health professionals / 2 CH for non-health professionals*)

Semester 1	Elective (<i>for health professionals</i>)	2	None
Semester 4	Electives	2	

*Note: For non-health professionals, 2 of the 4 elective CH's must be used for course 1900-501

Thesis (9 CH)

1920-597	Thesis Project (Semester 3)	0	1910-581
1920-598	Thesis Project (Semester 4)	0	All Core Courses
2000-599	Thesis (Credit given upon completion)	9	

5.5 Course Descriptions

Course catalog descriptions for all courses are provided in **Appendix A**.

5.6 The MPH Practicum

The MPH Practicum is offered in Semester 1, Year 2 (4 credits). This course is a preceptor-guided experience in a public health organization, providing an opportunity for MPH students to bridge the gap between theory and practice. The main purpose of this practical experience is to allow the student to apply knowledge and theory to a particular area of public health practice and demonstrate capabilities to enter the profession. The Practicum consists of a minimum of 180 hours of experience in an approved public health setting, under the guidance of a qualified preceptor. The student, Program Director, and preceptor will sign an agreement that will guide the practicum experience. The student will prepare a comprehensive portfolio to describe all activities. This portfolio will include a listing of the competencies that have been demonstrated and a paragraph describing how the practicum work supports this. Detailed policies and procedures for conduct of the Practicum are presented in **Appendix B**.

5.7 Electives and Potential KU Graduate Course Cross-Listings

The Table below presents electives planned by FOPH faculty members (contingent on availability of faculty members). Catalog course descriptions for each of these electives are provided in **Appendix A**.

Table 1. List of Proposed Electives for the EOH concentration students

Course No	Descriptions	CH's	Prerequisites
Environmental and Occupational Health			
1950-530	Health Impacts of Land Soil Water & Air Pollution	3	1950-501
1950-531	Injury Epidemiology and Prevention	3	1950-501 & 0565-540
1950-532	Exposure Assessment for Env & Occ Epidemiology	3	1950-501 & 0565-540
1950-533	Public Health Aspects of Foodborne Diseases	3	1950-501 & 0565-540
1950-534	Environmental & Health Impact Assessment	3	1950-501 & 1950-530
Health Policy and Management			
1920-502	Health Economics and Financing	3	1920-501
1920-503	Human Resource Management in Healthcare	3	1920-501
1920-504	Health Planning and Evaluation	3	1920-501
1920-530	Advanced Health Economic Evaluation	2	1920-501 & 1920-502
1920-531	Casemix System for Quality and Efficiency	3	1920-501 & 1920-502
1920-532	Managing Quality Assurance in Health Care	2	1920-501
1920-533	Seminar in Health Policy and Management	2	1920-501
Epidemiology and Biostatistics			
1930-530	Qualitative Research	2	0565-540
1930-531	Data Management and Informatics	3	0565-550
Public Health Practice			
1910-530	Issues in Global Health	3	1910-501
1910-531	Case Studies in Public Health Communication	3	1910-501
Social and Behavioral Sciences			
1940-530	Mental Health Promotion	2	1940-501
1940-531	Understanding Stress and Health	2	1940-501

The FOPH encourages students to take electives from other KU faculties, in order to broaden their educational experience. The upper-level concentration courses in the CMBS MPH program in Epidemiology and Biostatistics can serve as electives for the FOPH MPH students, and *vice-versa*. Additionally, the FOPH will coordinate with other faculties, including but not limited to the other HSC faculties and the faculties of Business, Social Sciences, Arts, Life Sciences, and Law; to provide the needed electives. Courses at the 500 (Master's graduate) level in other KU faculties that potentially could be cross-listed for the MPH students are included in **Appendix C**.

6. Teaching and Learning Strategies

An Active Learning approach will be utilised to engage the students and prepare them for effective life-long learning. There will be a combination of teacher and student-centred methods using the latest developments in teaching technologies such as digital learning. The methods used will include:

- Problem-based learning
- Digital learning including Moodle
- Projects
- Reflexive learning
- Group work projects
- Research projects
- Lectures
- Tutorials
- Self-directed learning

These teaching and learning strategies and methods will be tailored to specific material to maximise the student's ability to comprehend, apply and enjoy the course materials.

7. Program Competencies

The competencies for the FOPH MPH programs are based on the lists formulated by the Association of Schools of Public Health MPH Core Competency Development Project (version 2.3, August, 2006).⁴ These competencies are categorized according to the various disciplines within the five core domains of Public Health and seven cross-cutting competency domains. Of note, this is the same competency framework used by the MPH program approved in the Department of CMBS in 2013.

The MPH Core Competency Development Project used the Delphi process involving 332 members of the Public Health academic and practice communities to first identify the core domains of Public Health that need to be included in an MPH curriculum, and a list of specific competencies within each domain. Through an iterative process, the working groups identified the five core domains of Public Health, and seven cross-cutting domains, as illustrated in Figure 1. It could be noted here that the FOPH departments were designed around this framework.



Figure 1. The Five Core Competency Domains and Seven Cross-Cutting Domains

For the purposes of this MPH program with a concentration in EOH, the core competencies for the Environmental and Occupational health (Section 8.1.4) have been enriched, as compared to the Core Competency Development Project listing.

⁴ American Schools of Public Health (ASPH) Education Committee. Master's Degree in Public Health Core Competency Development Project (Version 2.3). Downloaded from http://www.aspph.org/app/uploads/2014/04/Version2.31_FINAL.pdf on June 25, 2011 (for original MPH proposal), and again on October 11, 2016 (for the current proposal).

The competencies for the FOPH MPH programs are organized according to these domains, and will serve as the framework for curriculum development. As each lecture or other delivery type is developed for the program, we will map the competencies in the following list to the relevant deliveries. It should also be noted here that the structure of the FOPH itself is organized according to this domain map:

- 1) Department of Epidemiology and Biostatistics
- 2) Department of Environmental and Occupational Health
- 3) Department of Health Policy and Management
- 4) Department of Social and Behavioral Sciences
- 5) Department of Public Health Practice

7.1 Discipline-Specific Competencies

7.1.1 *Epidemiology Competencies*

- 1) Identify key sources of data for epidemiologic purposes.
- 2) Identify the principles and limitations of public health screening programs.
- 3) Describe public health problems in terms of their magnitude, spectrum of disease, determinants, and person, time and place.
- 4) Apply the basic terminology and definitions of epidemiology in the context of existing public health problems.
- 5) Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use, and dissemination of epidemiologic data
- 6) Calculate and interpret epidemiology measures of disease frequency and association.
- 7) Communicate epidemiologic information to the general public and to professional audiences.
- 8) Draw appropriate inferences from epidemiologic data.
- 9) Evaluate the strengths and limitations of epidemiologic reports and studies, and identify sources of systematic and random error in epidemiologic studies.
- 10) Choose and design an appropriate epidemiologic study or health situation analysis to address specific public health problems.
- 11) Describe the concept and criteria for causation and its assessment
- 12) Describe the concepts of disease prevention, control, and health promotion, and apply these to specific public health problems in the community.
- 13) Explain the importance of epidemiology for informing scientific, ethical, social, economic and political discussion of health issues.

7.1.2 *Biostatistics Competencies*

- 1) Describe the roles biostatistics serves in the discipline of public health
- 2) Describe basic concepts of probability, random variation and commonly used statistical probability distributions.
- 3) Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met.
- 4) Distinguish among the different measurement scales and the implications for selection of statistical methods to be used based on these distinctions.
- 5) Apply descriptive techniques commonly used to summarize public health data.
- 6) Apply common statistical methods for inference.
- 7) Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.
- 8) Use vital statistics and public health records in the description of public health characteristics and in public health research and evaluation.
- 9) Interpret results of statistical analyses found in public health studies.
- 10) Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.
- 11) Use appropriate multivariate regression techniques to adjust for confounding.
- 12) Calculate the sample size needed to achieve sufficient statistical power in a variety of epidemiologic studies.

7.1.3 Social and Behavioral Sciences Competencies

- 1) Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice.
- 2) Identify the causes of social and behavioral factors that affect the health of individuals and populations.
- 3) Identify individual, organizational and community concerns, assets, resources and deficits for social and behavioral interventions.
- 4) Identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and interventions.
- 5) Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions.
- 6) Describe the role of demographic, social, behavioral, and community factors in both the onset and solution of public health problems
- 7) Describe the merits of social and behavioral interventions and policies, including social marketing.
- 8) Apply evidence-based approaches in the development and evaluation of social and behavioral interventions.
- 9) Specify multiple targets and levels of intervention for social and behavioral programs and/or policies.
- 10) Explain how the contexts of gender, race, poverty, history, migration, and culture are important in the design of interventions within public health systems.
- 11) Differentiate availability, acceptability, and accessibility of health care in diverse populations.

7.1.4 Environmental and Occupational Health Competencies

- 1) Identify exposure and transmission routes of common, regulated, and emerging environmental hazards.
- 2) Identify the sources of pollution that include road transport, stationary combustion sources and non-combustion sources and other sources, such as agricultural fires.
- 3) Describe the direct and indirect human, ecological and safety effects of major occupational and environmental agents, and the health effects associated with various hazardous exposures.
- 4) Describe physiologic and psychosocial factors that can affect susceptibility to adverse health outcomes following exposure to environmental hazards.
- 5) Describe the concepts of genetic and epigenetic susceptibility in risk assessment.
- 6) Apply statistical and quantitative approaches (RfD, LOAEL, NOAEL, slope, hazard quotient, etc.) to risk analysis.
- 7) Describe international, regional and local regulatory programs, guidelines and authorities that control environmental health issues; and the role of legal authority, inspection law, government agency administrative actions and environmental regulations, with local application to Kuwait.
- 8) Specify current environmental risk assessment methods.
- 9) Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety.
- 10) Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures and apply proper laboratory techniques to the assessment of such exposures.
- 11) Describe various risk management and risk communication approaches in relation to issues of environmental justice and equity.
- 12) Describe pre-disaster planning and post-disaster management.
- 13) Describe the public health impact of war and civil conflicts; their prevention and mitigation; the roles of international, national, and other organizations; rehabilitation; and repatriation of refugees.
- 14) Analyze the issues of human resources, health protection and promotion programs in the workplace, and the future outlook of occupational safety and health (OSH) in Kuwait.
- 15) Describe the current ILO instruments, technical guidelines, and management systems for OHS

- 16) Apply OSH monitoring, surveillance methods, and performance indicators in workplace settings; and occupational risk assessment methods.
- 17) Discuss the value of workplace wellbeing programs, empowerment of workers for improvement of their health and wellbeing, and the economic evaluation of OSH prevention efforts.

7.1.5 Health Policy and Management Competencies

- 1) Identify the main components and issues of the organization, financing and delivery of health services and public health systems in Kuwait.
- 2) Describe the legal bases for public health and health services.
- 3) Explain methods of ensuring community health safety and preparedness.
- 4) Describe the policy formulation and implementation for improving the health status of populations.
- 5) Apply the principles of program planning, development, economic evaluation of alternatives, comparative financing, budgeting, management and evaluation in organizational and community initiatives.
- 6) Apply principles of strategic planning and social marketing to public health problems.
- 7) Apply quality and performance improvement concepts to address organizational performance issues.
- 8) Describe "systems thinking" for resolving organizational problems, explaining how systems (e.g. individuals, social networks, organizations, and communities) may be viewed as systems within systems in the analysis of public health problems.
- 9) Communicate health policy and management issues using appropriate channels and technologies.
- 10) Identify unintended consequences produced by changes made to a public health system.
- 11) Illustrate how changes in public health systems (including input, processes, and output) can be measured.
- 12) Analyze the impact of global trends and interdependencies on public health related problems and systems.

7.1.6 Public Health and Health Promotion

- 1) Discuss sentinel events in the history and development of the public health profession and their relevance for public health practice in terms of health protection, health promotion, and prevention in both communicable and non-communicable diseases.
- 2) Apply Health Promotion actions to all governmental sectors, in the context of "Health Public Policy", and describe the importance of involvement of all government sectors in public health.
- 3) Describe and analyze the determinants of health and disease using an ecological framework.
- 4) Describe the principles and components of health promotion, and the best practices in planning, implementation, and evaluation of health promotion programs.
- 5) Describe the concepts and principles of behavior change, identifying issues and techniques related to behavior change in specific population subgroups.
- 6) Utilize the healthcare planning cycle in the context of decision-making at all levels of healthcare planning.
- 7) Describe the components of a health situation analysis, including needs assessment.
- 8) Describe and apply the principles of social marketing to health promotion programs in the community.
- 9) Identify key stakeholders in the community and describe their role in the formulation of health promotion programs.
- 10) Describe the important role of health education in the context of health promotion.

7.2 Cross-Discipline Competencies

7.2.1 Communication and Informatics Competencies

- 1) Describe how the public health information infrastructure is used to collect, process, maintain, and disseminate data.
- 2) Describe how societal, organizational, and individual factors influence and are influenced by public health communications
- 3) Apply theory and strategy-based communication principles across different settings and audiences.
- 4) Apply legal and ethical principles to the use of information technology and resources in public health settings.
- 5) Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities.
- 6) Use information technology to access, evaluate, and interpret public health data.
- 7) Use media and communication methods to promote community public health programs and policies.
- 8) Effectively present accurate demographic, statistical, programmatic, and scientific information for professional and lay audiences.
- 9) Demonstrate the ability to listen to others in an unbiased manner, respect the points of view of others, and promote the expression of diverse opinions and perspectives.
- 10) Demonstrate the ability to use various technologies in professional communications (e.g. PowerPoint, GIS, etc.)
- 11) Design, conduct, analyze, and write up a community-based thesis project which addresses a problem of public health significance in Kuwait.

7.2.2 Culture, Diversity, and Ethics Competencies

- 1) Describe the roles of, history, power, privilege and structural inequality in producing health disparities.
- 2) Explain how professional ethics and practices relate to equity and accountability in diverse community settings.
- 3) Discuss the importance and characteristics of a sustainable diverse public health workforce.
- 4) Use the basic concepts and skills involved in culturally appropriate community engagement and empowerment with diverse communities.
- 5) Apply the principles of community-based participatory research to improve health in diverse populations.
- 6) Cite examples of situations where consideration of culture-specific needs resulted in a more effective modification or adaptation of a health intervention.
- 7) Develop public health programs and strategies responsive to the diverse cultural values and traditions of the communities being served.
- 8) Apply ethical principles to public health program planning, implementation and evaluation.
- 9) Describe the ethical bases for public health and health services.
- 10) Distinguish between population and individual ethical considerations in relation to the benefits, costs, and burdens of public health programs.

7.2.3 Leadership and Professionalism Competencies

- 1) Describe the attributes of leadership in public health.
- 2) Develop strategies to motivate others for collaborative problem solving, decision-making, and evaluation.
- 3) Articulate an achievable mission set of core values, and vision.
- 4) Engage in dialogue and learning from others to advance public health goals.
- 5) Describe team building, negotiation, and conflict management skills.
- 6) Demonstrate transparency, integrity, and honesty in all actions.
- 7) Use collaborative methods for achieving organizational and community health goals.

- 8) Develop strategies to motivate others for collaborative problem solving, decision-making, and evaluation.
- 9) Apply basic principles of ethical analysis (e.g. the Public Health Code of Ethics, human rights framework, other moral theories) to issues of public health practice and policy.
- 10) Promote high standards of personal and organizational integrity, compassion, honesty and respect for all people.
- 11) Analyze the potential impacts of legal and regulatory environments on the conduct of ethical public health research and practice.

7.2.4 Public Health Biology Competencies

- 1) Specify the role of the immune system in population health.
- 2) Describe how behavior alters human biology.
- 3) Identify the ethical, social and legal issues implied by public health biology.
- 4) Explain the biological and molecular basis of public health.
- 5) Explain the role of biology in the ecological model of population-based health.
- 6) Explain how genetics and genomics affect disease processes and public health policy and practice.
- 7) Articulate how biological, chemical and physical agents affect human health.
- 8) Apply biological principles to development and implementation of disease prevention, control, or management programs.
- 9) Apply evidence-based biological and molecular concepts to inform public health laws, policies, and regulations.
- 10) Integrate general biological and molecular concepts into public health.

7.2.5 Professionalism Competencies

- 1) Discuss sentinel events in the history and development of the public health profession and their relevance for practice in the field.
- 2) Apply basic principles of ethical analysis (e.g. the Public Health Code of Ethics, human rights framework, other moral theories) to issues of public health practice and policy.
- 3) Apply evidence-based principles and the scientific knowledge base to critical evaluation and decision-making in public health.
- 4) Apply the core functions of assessment, policy development, and assurance in the analysis of public health problems and their solutions.
- 5) Promote high standards of personal and organizational integrity, compassion, honesty and respect for all people.
- 6) Analyze determinants of health and disease using an ecological framework.
- 7) Analyze the potential impacts of legal and regulatory environments on the conduct of ethical public health research and practice.
- 8) Distinguish between population and individual ethical considerations in relation to the benefits, costs, and burdens of public health programs.
- 9) Embrace a definition of public health that captures the unique characteristics of the field (e.g., population-focused, community-oriented, prevention-motivated and rooted in social justice) and how these contribute to professional practice.
- 10) Appreciate the importance of working collaboratively with diverse communities and constituencies (e.g. researchers, practitioners, agencies and organizations).
- 11) Value commitment to lifelong learning and professional service including active participation in professional organizations.

7.2.6 Program Planning Competencies

- 1) Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions.
- 2) Explain how the findings of a program evaluation can be used.
- 3) Differentiate among goals, measurable objectives, related activities, and expected outcomes for a public health program or policy.
- 4) Differentiate the purposes of formative, process, and outcome evaluation.
- 5) Develop skills to collaborate with others to prioritize individual, organizational, and community concerns and resources for public health programs and policies.
- 6) Identify the importance of incorporating critical stakeholders in the planning, implementation and evaluation of public health programs, policies and interventions.
- 7) Describe the main elements of a program budget and justification.
- 8) Develop skills to identify, interpret, and implement public health laws, regulations, and policies related to specific programs.
- 9) Describe how social, behavioral, environmental, and biological factors contribute to specific individual and community health outcomes.
- 10) Explain the contribution of logic models in program development, implementation, and evaluation.
- 11) Differentiate between qualitative and quantitative evaluation methods in relation to their strengths, limitations, and appropriate uses, and emphases on reliability and validity.
- 12) Prepare a program budget with justification.
- 13) Assess evaluation reports in relation to their quality, utility, and impact on public health.

7.2.7 Systems Thinking

- 1) Identify characteristics of a system.
- 2) Identify unintended consequences produced by changes made to a public health system.
- 3) Provide examples of feedback loops and “stocks and flows” within a public health system.
- 4) Explain how systems (e.g. individuals, social networks, organizations, and communities) may be viewed as systems within systems in the analysis of public health problems.
- 5) Explain how systems models can be tested and validated.
- 6) Explain how the contexts of gender, race, poverty, history, migration, and culture are important in the design of interventions within public health systems.
- 7) Illustrate how changes in public health systems (including input, processes, and output) can be measured.
- 8) Analyze inter-relationships among systems that influence the quality of life of people in their communities.
- 9) Analyze the effects of political, social and economic policies on public health systems at the local, state, national and international levels.
- 10) Analyze the impact of global trends and interdependencies on public health related problems and systems.
- 11) Assess strengths and weaknesses of applying the systems approach to public health problems.

7.2.8 Analytical Assessment / Critical Thinking Competencies

- 1) Demonstrate ability to use statistical software programs (e.g. SPSS, Stata, etc.) for data management and data analysis.
- 2) Develop skills to make relevant inferences from quantitative and qualitative data.
- 3) Retrieve and synthesize data from divergent sources to critically assess and characterize public health issues.
- 4) Critically assess and critique published research in terms of study design, limitations, and public health significance.
- 5) Determine appropriate uses and limitations of both quantitative and qualitative data.

- 6) Apply ethical principles to the collection, maintenance, use, and dissemination of data and information.
- 7) Differentiate between qualitative and quantitative evaluation methods in relation to their strengths, limitations, and appropriate uses.

8. Capacity

Based on current faculty strength, the FOPH estimates that it will initially be able to accommodate up to 7 FOPH MPH students in the Environmental and Occupational Health program per academic year. As the MPH is very labor intensive, a minimum of 5 qualified students should be admitted to each program for them to run for any given academic year. This applies only to the new admissions and those already enrolled will not be affected by the withdrawal or dropping out of students.

9. Administrative Policies

9.1 College of Graduate Studies Policies

The MPH program in Environmental and Occupational Health initiated in the FOPH will follow the College of Graduate Studies By-Laws. All policies adopted will conform to the COGS policies and procedures.

9.2 Admission Policy and Requirements

9.2.1 Applicants should have a B.Sc. degree or its equivalent conferred by Kuwait University or by other institutions approved by Kuwait University. Students entering the MPH program will be graduates from a health-related Bachelor program such as Medicine, Dentistry, Pharmacy, Nursing, Allied Health, Veterinary Medicine, or related health sciences. In addition, graduates with B.Sc. degrees with relevance to Public Health practice from other fields such as law, business administration, engineering, life sciences (e.g., nutrition, environmental sciences), social sciences (e.g., sociology, demography) will also be considered. Priority will be given to those with experience in the area of Public Health or with high education qualifications in a related area

9.2.2 Applicants should have a minimum overall GPA of 2.67 points and a minimum specialization GPA of 3.00 points on a scale of 4.00. Applicants with a Bachelor degree in Medicine and Surgery, or in Dentistry or an equivalent degree awarded by Kuwaiti University may be exempted from the foregoing GPA requirements.

9.2.3 Applicants should have a minimum TOEFL score of 500.

9.3 Admission Types Allowed

9.3.1 Full-time students (two-year program)

9.3.2 Part time students (three-year program)

It should be noted that initially, a part-time program will not be implemented, but once the program has been stabilized, a part-time option will be explored by the faculty.

9.3.3 Non-degree students:

Non-degree students are those who register for graduate courses in accordance with the conditions stipulated in Article 11 of the Graduate College's by-laws.

9.3.4 Exchange students:

Exchange students would be allowed to follow some graduate courses offered by the MPH program after approval of the MPH Committee.

9.4 Examination and Grading Policies and Procedures

All examination and grading policies and procedures will be implemented according to the College of Graduate Studies By-Laws.

9.5 Minimum Graduation Requirements for the MPH Program with or without Thesis

The students should fulfill all the requirements as per the College of Graduate Studies by-laws. Students will be required to complete 45 semester credit hours (CH) over 4 semesters, for both the Capstone Project and Thesis options, as follows:

MPH program (Capstone Project Option):

- 18 CH core coursework
 - (For non-health professions: 20 CH)
- 9 CH in the HPM concentration area
- 5 CH Compulsory Applied Courses
- 10 CH electives
 - (For non-health professions: 8 CH)
- 3 CH Capstone Project (0 Thesis)
- **Total: 45 Credit Hours**

MPH program (Thesis Option):

- 18 CH core coursework
 - (For non-health professions: 20 CH)
- 9 CH in the HPM concentration area
- 5 CH Compulsory Applied Courses
- 4 CH electives
 - (For non-health professions: 2 CH)
- 9 CH Thesis
- **Total: 45 Credit Hours**

Note regarding non-health professionals: MPH students who do not have a background in a health profession will be required to substitute 2 CH of elective courses for a course in “Public Health Biology.”

Appendices

Appendix A: Course Catalog Descriptions

Core, Practicum, and Capstone/Thesis Project Courses

Introduction to Public Health Practice and Ethics

Course Number: 1910-501

Credit Hours: 3

Year: 1 **Semester:** 1

Prerequisite: None

Course Description:

This module introduces the Master students to the field of public health practice. It provides the core concepts required of a Public Health practitioner to be able to identify issues of importance to Public Health, assess the population needs for health, plan interventions, execute the interventions, and assess the impact of the programmes. The course will focus on aspects of communication as it relates to public health practice. Issues relating to ethics in public health practice, global health, and the landmark historical achievements in public health practice will also be covered. The course will provide the conceptual framework for the incorporation and integration of the skills and knowledge presented in later modules.

Epidemiology I (Course from Community Medicine Department)

Course Number: 0565-540 (CMBS Course)

Credits: 3

Year: 1 **Semester:** 1

Prerequisites: None

Catalogue Description:

Introduction to the principles and basic methods of Epidemiology for public health and clinical practice, including study designs (ecologic, cross-sectional, case-control, cohort, and randomized controlled trials), measures of disease frequency and association, sources of error (bias, confounding, and random error), diagnostic test validation, causation, disease prevention, and outbreak investigation.

Biostatistics I (Course from Community Medicine Department)

Course Number: 0565-550 (CMBS Course)

Credits: 3

Year: 1 **Semester:** 1

Prerequisites: None

Catalogue Description:

This course aims to provide students with an introduction to statistical concepts and their use and relevance in public health. It covers descriptive analyses to summarize and display data; concepts underlying statistical inference; basic statistical methods for the analysis of continuous and binary data; and statistical aspects of study design. Students will be required to perform analyses using statistical SPSS software and other simpler internet based sample size calculators.

Public Health Biology

Course Number: 1900-501

Credit Hours: 2

Year: 1 **Semester:** 1

Prerequisite: None

Course Description: This course, designed for MPH students without a background in a health profession, will examine the concept of 'health' and how it is defined and operationalized in the public health context, and will provide students with the necessary foundations to understand the biological basis of disease. The key issues to be examined are: What is a 'disease'? What is health and is it more than 'absence of disease'? Using a biological systems approach, the course will integrate biological concepts as they relate to public health. There is an emphasis on protecting physical and mental function and health, especially at the interface with the environment, as well as understanding the vulnerabilities and susceptibilities that can disrupt it.

Social and Behavioral Foundations of Public Health

Course Number: 1940-501

Credit Hours: 3

Year: 1 **Semester:** 2

Prerequisite: None

Course Description:

This module introduces MPH students to the social and behavioral factors related to human health and disease (social determinants of health) across the life course. The course covers community and individual aspects of health promotion, the principles of social epidemiology, demography and ethical issues related to the social and behavioral aspects of the human experience. It provides an introduction to the theories of behavioral and social sciences, health and illness behaviors, models of behavior change, and the social reactions to and implications of "disease." It covers health disparities, psychosocial stress, and public health issues related to different age groups. The course will enable the students to participate in health promotion planning, especially at the community level. Finally, this course focuses on mental health, prevention of non-intentional injuries, and how to deal with violence from a public health perspective.

Principles of Health Policy and Management

Course Number: 1920-501

Credit Hours: 3

Year: 1 **Semester:** 2

Prerequisite: None

Course Description:

This course introduces the basic managerial concepts as they apply to healthcare organizations, with a focus on health care structures, policy development, the roles of the healthcare manager within a health system and the main function of management. The course will provide the insight to patients on concepts of healthcare systems the healthcare workforce, quality assurance, cost considerations, human resource management, health care administration systems, and related ethical issues. The course will also cover the basic concept of health policy, the process of policy formulation and determining forces behind policy decisions, as well as health policy as a form of Health Promotion. The roles of state, political system and other public and private sector key players development of health policy will be covered in this course.

Introduction to Environmental and Occupational Health

FOPH Course Number: 1950-501

Credit Hours: 3

Year: 1 **Semester:** 2

Prerequisite: None

Course Description:

This course introduces students to the fundamental concepts of Environment and Occupational Health. It differs from the study of how humans affect the environment, because this course focuses on people's health. Human health depends on the surrounding environment. The course integrates basic public health concepts as they relate to disease causation and prevention including environmental and occupational health effects, water supply, water pollution control, solid waste management (hazardous wastes), air pollution control, general environmental regulations, and related ethical issues. Hazards that lead to carcinogenesis are stressed. Population and occupational health, emerging diseases and the implications of population growth are discussed. Available techniques of preventive practices, such as controlling the quality of air, water, and consumer products, are described for both the workplace and the general environment. The impact of the workplace environment on the health and well-being of workers will be discussed.

Research Project Design

Course Number: 1900-591

Credits: 1

Year: 1 **Semester:** 2

Prerequisites: 1930-501: Epidemiology I; and 1930-502: Biostatistics I

Course Description

In this Research Project Design course the student begins the process of identifying a public health question and development of all aspects of a research project protocol, under the supervision of faculty. By the end of this course, the student will produce a research proposal to be approved by the MPH Program Committee, the FOPH Ethics Committee, and the MOH Ethics Committee (as appropriate). The initial draft of the data collection instrument will be included in an Appendix of the research proposal. Regardless of the format, all students are required to take the online course in Protection of Human Subjects in Research, designed by US National Institutes of Health Office of Extramural Research and required of all NIH grant recipients.

Capstone Project

Course Numbers: 1950-593

Credit Hours: 3

Year: 2 **Semester:** 2

Prerequisites: All Core Courses

Course Description:

The Capstone Project (non-Thesis option) serves as the culminating experience and the final assessment of the public health competencies required of MPH graduates. The comprehensive paper is a synthesis of the student's practicum or work experience and knowledge and skills gained through coursework. The Capstone project can take on many different formats, including, but not limited to 1) A standard public health research project in a human population, 2) Health situation analysis of a specific public health problem, 3) A health policy analysis of a public health problem, implications and recommendations, 4) A systematic review and meta-analysis of a public health problem or intervention. The report will include a description of the public health problem they are working on, a literature review including current peer reviewed research, and a description of the products or data that have resulted from their work, and an analysis of the public health significance and recommendations based on the findings. The capstone project should provide evidence that the MPH graduate can prepare a substantial and rigorous contribution to a field of public health.

Thesis Project

Course Numbers: 1950-597/1950-598

Credit Hours: 0 [Upon completion, 9 CH of Thesis credit will be ascribed to 2000-599]

Year: 2 **Semesters:** 1 and 2

Prerequisites: All Core Courses

Course Description:

The Thesis Project serves as the culminating research experience and the final assessment of the research competencies required of MPH graduates who choose the Thesis option. The main output is a scientific report including a rigorous literature search, background, detailed methodology, analysis, results, and discussion. All work will be performed under the guidance of a supervising faculty member.

Practicum in Public Health

Course Numbers: 1910-581

Credit Hours: 4

Year: 2 **Semester:** 1

Prerequisites: All core MPH courses

Course Description:

This course is a preceptor-guided experience in a public health organization, providing an opportunity for MPH students to bridge the gap between theory and practice. The main purpose of this practical experience is to allow the student to apply knowledge and theory to a particular area of public health practice and demonstrate capabilities to enter the profession. The Practicum consists of a minimum of 180 hours of experience in an approved public health setting, under the guidance of a qualified preceptor. The student, Program Director, and preceptor will sign an agreement that will guide the practicum experience. The student will prepare a comprehensive portfolio to describe all activities. This portfolio will include a listing of the competencies that have been demonstrated and a paragraph describing how the practicum work supports this.

Environmental and Occupational Health Concentration Courses

Environmental & Occupational Health Risk Assessment

Course Number: 1950-502

Credits: 3 **Year:** 2 **Semester:** 1

Prerequisites: 1950-501: Introduction to Environmental & Occupational Health

Course Description:

The main goal of this advanced course is to explore the risk(s) to the population of exposures to harmful environmental and occupational agents and conditions; and to present the tools for assessment and management of these risks. This course involves the integration of environmental and occupational health, epidemiology, toxicology, and the chemical and biological disciplines to understand the health risks for a given level of exposure to hazardous agents. The course will present the techniques and models for estimating the risks of physical, biological, and chemical agents that can have an impact on human health and well-being, as well as lifestyle and other factors which can modify these effects. Application of these concepts to government, industry and the population will also be covered. The course also covers critical risk calculation and assessment by exploration of underlying assumptions, use of exposure assessment models, and ascertainment of uncertainties. The relationship between risk assessment, characterization and management; and implications on public health policy are also discussed.

Environmental Health Management

Course Number: 1950-503

Credit Hours: 3

Year: 2 Semester: 2

Prerequisites: 1950-501: Introduction to Environmental & Occupational Health

Course Description:

The course explores the impact of human activities on the environment and the strategies that are used by international organizations, national and local governments in response. The course will explore the roles of the World Health Organization, United Nations Environmental Protection Agency, and the International Organization for Standardization and governments in setting regulatory frameworks, and the responsibilities of individual agencies/organizations to comply with regulations. The environmental issues surrounding climate change will be addressed. Strong emphasis is placed on the legal, political, and economic structures and systems that are used by governmental and individual organizations to combat and reduce a wide range of environmental problems. The course covers the management of environmental health aspects including quality of life, physical, chemical, biological, social and psycho-social factors in the environment. Also covered are the assessment, correction, control, and prevention of factors in the environment that can adversely affect health.

Worker's Health & Safety

Course Number: 1950-504

Credit Hours: 3

Year: 2 Semester: 2

Prerequisites: 1950-501: Introduction to Environmental & Occupational Health

Catalogue Description:

This course covers occupational hazards, injuries, and diseases; and the principles of occupational safety and health (OSH). Covered topics include safety regulations and standards; models of injury and occupational disease causation; accident investigation procedures; and strategies for control of occupational injuries and diseases. The course explores the protection of workers against work-related diseases and injury, the conventions of the UN International Labor Organization, and the need to achieve sustained decent working conditions and a strong preventive safety culture in the workplace. The course also covers the principles of safety engineering, industrial hygiene, industrial ergonomics, and some aspects of occupational medicine.

Elective Courses

Health Impacts of Land Soil Water & Air Pollution

Course Number: 1950-530

Credit Hours: 3

Prerequisites: 1950-501: Introduction to Environmental & Occupational Health

Course Description:

The course covers the health impacts of air, water and land/soil pollution which is the addition to the ecosystem of something that has a detrimental effect on it. The course will cover the important causes of air, water, and land pollution, including the high rate of energy usage by modern growing populations, and the impact pollution has on human health and public health. Sources of pollution, including industry, business, road transport, incinerators, waste disposals, agriculture and households, will be covered. The course will also cover main pollutants in the environment, such as particulate matter, PAHs, lead, ground-level ozone, heavy metals, sulphur dioxide, benzene, carbon monoxide and nitrogen dioxides. The course will discuss the range of illnesses caused by pollution (e.g., lung cancer, cardiovascular and respiratory diseases, chronic bronchitis, acute respiratory illness, and impairment of lung function).

Injury Epidemiology & Prevention

Course Number: 1950-531

Credits: 3

Prerequisites:

- 1950-501: Introduction to Occupational & Environmental Health
- 1930-501: Epidemiology I

Catalogue Description:

This course provides instruction on a diverse array of topics specific to injuries (both unintentional and intentional) which are clearly a major threat to the public's health and well-being. The Epidemiology of Injuries will be covered, including international and local trends, along with the Haddon Matrix and various common types of unintentional and intentional injury. The public health importance of injuries in Kuwait will be emphasized, as a leading cause of death, particularly among the young population. The role of regulation and law in the work and living spaces and environment will be covered; in addition to common risk-taking behaviors and the means for change in such behaviors using strategies such as the European Union "Zero-Accident-Vision." The course will cover the important role of health promotion in terms of the individual, the community, society, and regulatory agencies in the prevention of injuries.

Exposure Assessment for Environmental & Occupational Epidemiology

Course Number: 1950-532

Credits: 3

Prerequisites:

- 1930-501: Epidemiology I
- 1930-502: Biostatistics I
- 1950-501: Introduction to Environmental & Occupational Health

Catalogue Description:

The overall goal of this course is to familiarize students with general concepts in assessing human exposures to environmental & occupational contaminants. The course will provide information on different sources and routes of exposures, the various methods applied to assess these exposures and the challenges faced by population-based studies that relate such exposures to health outcomes. A variety of methods of exposure assessment will be discussed, including environmental measurements, personal exposure assessment, questionnaires, and job exposure matrices. Statistical analysis and modeling of exposure assessment data including Job Exposure Matrices (JEM), Geographical Information Systems (GIS), and Source Dispersion and Micro-environment models will be introduced.

Public Health Aspects of Foodborne Diseases

Course Number: 1950-533

Credits: 3

Prerequisites: 1950-501: Introduction to Occupational and Environmental Health;
1930-501: Epidemiology I

Catalogue Description:

The focus of this course is the surveillance of foodborne diseases designed for public health practitioners and other students interested in the safety of food. It describes how information from surveillance is used to improve public health policy and practice in ways that contribute to the safety of food. Emphasis is on the microorganisms and chemical agents responsible for foodborne diseases, analyzing their cause, the pathogenesis, clinical manifestations, reservoirs, modes of transmission, and epidemiology. The course will also address the transport, survival, and fate of pathogens in the environment, the concept of indicator organisms as surrogates for pathogens, and the removal and inactivation of pathogens and indicators by water and wastewater treatment processes that are closely associated with foodborne diseases. It will also examine the public health impact of quality assurance programs, such as Hazard Analysis and Critical Control Points, and regulatory agencies to control foodborne diseases.

Environmental & Health Impact Assessment

Course Number: 1950-534

Credits: 3

Prerequisites: 1950-501: Introduction to Occupational & Environmental Health

1950-532: Exposure Assessment for Environmental & Occupational Epidemiology

1950-530: Health Impacts of Land Soil Water & Air Pollution

Catalogue Description:

This course describes the function of health impact assessment (HIA); its role in identifying activities and policies likely to have major impacts on the health of a population; and its function as a means of evidence based policy making for improvement in health. The course discusses the relevant combination of methods whose aim is to assess the health consequences of policies, projects, or programs in any sector of society or the environment – not just the “health” sector – with an emphasis on “Health in All Policies” (HiAP). Examples of transportation, land use, agriculture, water, energy, and forestry projects will be examined. This course aims at developing skills in reviewing and conducting HIA within the context of fostering an integrated understanding of how public policies and decisions influence the determinants of population health.

Health Economics and Financing (HPM Concentration Course)

Course Number: 1920-502

Credit Hours: 3

Year: 2 **Semester:** 1

Prerequisite: 1920-501: Principles of Health Policy and Management

Course Description: This course is an introduction to health economics and a description of the current financial environment in which healthcare organizations function. Basic economic concepts of demand and supply and their applications in financial assessment of health organizations for critical and sound financial decisions will be covered. The course will provide the skills on economic evaluation methods in assessing new and existing technology covering both cost-effectiveness and cost-benefit analysis. The course will cover the application of financial management principles to health care organizations for effective and efficient health care administration; the health financing aspect of healthcare services; marketing of healthcare services; the role of public, non-profit, and private sector roles in funding; and different methods provider’s payment and allocating health services.

Human Resource Management in Healthcare (HPM Concentration Course)

Course Number: 1920-503

Credit Hours: 3

Year: 2 **Semester:** 2

Prerequisite: 1920-501: Principles of Health Policy and Management

Course Description:

This course will provide the foundations for all aspects of human resource management, planning and development that are crucial for effective and efficient functioning of health organizations. The challenges facing health organizations to manage human resources for delivery of high quality services to users will be explored in this course. It covers theories and practices in defining, evaluating and controlling behavior and atmosphere in a health service organization. Emphasis will be given to leadership aspects, motivation, communication and group dynamics in a health organization. The course will also discuss the relationship of healthcare organization with the employee, which includes job analysis, forecasting of human resource needs, and training and development of the health workforce. The key issues in health human resources will be further studied through reviews of published journal articles, case studies and student presentations.

Health Planning and Evaluation (HPM Concentration Course)

Course Number: 1920-504

Credit Hours: 3

Year: 2 **Semester:** 2

Prerequisite: 1920-501: Principles in Health Policy and Management

Course Description: This course will help to develop knowledge and skills to undertake a systematic approach in the cycle of planning, implementation, monitoring and evaluation of health programmes covering promotive, preventive and curative services in health care. The issues of Public Health Law and the legal frameworks for health policy and management will be considered. Both the conceptual model of programme planning as well as the pragmatic approach in undertaking the planning process will be covered in this course. The roles of the health management information system and different sources of data for health planning and evaluation will be discussed in this course, as will be the use of routinely collected morbidity and mortality data for structural, process and outcome evaluation. Both qualitative and quantitative techniques in program evaluation will be covered in this course.

Advanced Health Economic Evaluation

Course Number: 1920-530

Credit Hours: 2

Prerequisite: Principle in Health Policy and Management & Health Economic and Financing

Course Description:

This course will provide the students with an understanding of the concepts, application and advanced analytical methods in conducting health economic evaluation. Students will develop hands-on skills to conduct economic evaluations with practical experiences in working on real health economic data. The specific areas covered in this course include economic modeling, costing analysis, budget impact analysis, cost-effectiveness analysis and cost-benefit analysis. Methods of conducting simple and complex sensitivity analysis, interpreting and presenting results of economic evaluations will be covered.

Casemix System for Quality and Efficiency

Course Number: 1920-531

Credit Hours: 3

Prerequisite: Principle of Health Policy and Management & Health Economic and Financing

Course Description:

This course is designed to introduce the concept of casemix system and its application in enhancement in quality and efficiency of healthcare services. The course will provide an overview of casemix system, its evolution from the first version introduced in 1980's to the present day where the system has been implemented in more than one hundred countries worldwide. The minimum data set for casemix systems will be discussed in detail including requirements for diagnoses and procedures coding using the ICD classification system. Benefits of using Casemix System as a tool to support quality assurance programme will be discussed, as will the advantages of using it for prospective provider payment mechanisms. Students will perform hands-on exercises using the Grouper software programs available to support implementation of casemix systems world wide. A pragmatic approach to planning for implementation of casemix system at hospitals, organizations and national level programs will be presented in this course.

Managing Quality Assurance in Health Care

Course Number: 1920-532

Credit Hours: 2

Prerequisite: Principle in Health Policy and Management

Course Description:

Improvement in quality of health care services is one of the expected roles of healthcare managers. In this course the technical aspect of designing and implementing effective and efficient strategies for monitoring quality and correcting deficiencies in health delivery systems will be covered. Methods to ensure optimal delivery of quality services through comprehensive use of human and financial resources will be discussed. Students attending this course will have the understanding the overall concept of quality assurance in health care services including various dimensions of quality, quality assurance process and development of indicators to measure and monitor quality of care in healthcare organization. Topics covered include risk management, total quality management and the methods to ensure patient safety. Aspects of planning, implementing and evaluation of quality assurance programme will be covered in detail in this course.

Seminar in Health Policy and Management

Course Number: 1920-533

Credit Hours: 2

Prerequisite: Principle of Health Policy and Management

Course Description:

Health policy and management issues evolve depending on the current challenges and changes in the health system. The main emphasis of this course is to exposure MPH students to the debates regarding the contemporary issues which affect local and international health systems. In this self-learning course, the students are required to prepare a seminar that will be presented at the end of the course. Students will be required to work in a group to select a topic of their interest, search for information from local and international literatures on the proposed topic for the content of the seminar. Following the Seminar, the students are required to submit a written report taking into accounts comments and feedback given by academic staff.

Mental Health Promotion

Course Number: 1940-530

Credit hours: 2

Prerequisite: 1940-501: Social and Behavioral Foundations of Public Health

This course will focus on the principles of mental health, its indicators and social determinants. It will cover the prevalence of common mental health problems across life span, and in different communities. The course will emphasize on the relationships between mental and physical health and illness, and why mental health promotion and prevention is considered as a public health priority. An account about strategies of mental health promotion, the evidence of effective interventions, and the development of sustainable programs in mental health promotion will be covered also. The course will discuss mental health from human rights perspective.

Understanding Stress and Health

Course Number: 1940-531

Credit Hours: 2

Prerequisites: 1940-501: Social and Behavioral Foundations of Public Health

Course Description: This course introduces Master students to stress, including its causes, the body's reactions to excessive stress, and symptoms and signs that develop following stress. The course focuses on the effects of stress on productivity, quality of life, social relationships in different situations (family, occupation, education, etc.), and health. Students will gain a perspective on the consequences of stress on cognitive, emotional and behavioral aspects of life. The course also presents different strategies of stress management and relief and how these interventions improve overall human's efficiency and quality of life.

Qualitative Research

Course Number: 1930-530

Credit Hours: 2

Prerequisite: 1930-501: Epidemiology I

Course Description: This course will examine the basic and advanced concepts and methods of qualitative research methods and their relationship with quantitative research methods. On completion of the course, the student will be able to conduct qualitative research using the methods and forms of analysis which are relevant to public health research. They will be able to plan and undertake collection and analyses of qualitative data. Examples and application of course content to the Kuwaiti context will be emphasized. Practical exercises in qualitative research will be included.

Data Management and Informatics

Course Number: 1930-531

Credit Hours: 3

Prerequisite: 0565-550: Biostatistics I

Course Description: This course covers basic and advanced concepts of data and information management. Students will be introduced to the dynamic field of public health informatics, the expected competencies of a public health informatics specialist, and the practical application of data management and informatics concepts in the field of public health. Students will also be introduced to the field of data mining and its application to a variety of types of healthcare data. Examples and application of course content to the Kuwaiti context will be emphasized. Practical exercises in data management and informatics will be included. Students will be required to use an anonymized dataset extracted from a health institution to identify problems, consistency issues, and data merging issues.

Issues in Global Health

Course Number: 1910-530

Credit Hours: 3

Prerequisite: 1920-501: Introduction to Public Health Practice and Ethics

Course Description:

Global Health has emerged over the last 40 years as a complex configuration of governmental, non-governmental, national, international, industrial, commercial, and philanthropic institutions involved in projects with an estimated value of \$16 billion. This course will introduce the student to the organisational and ethical issues involved in this movement. These include the current structures involved, how they are funded and the ethical issues raised by this development.

Case Studies in Public Health Communication

Course Number: 1910-531

Credit Hours: 3

Prerequisite: 1910-501: Introduction to Public Health Practice and Ethics

Course Description:

This course will extend the skills required to develop important public health communication materials, campaigns, and strategies related to a variety of topics and for diverse target populations. It will use a case-study approach for the students to critically evaluate previous interventions and create alternative visions of how they could be conducted. They will use the principles that they have learned from previous modules.

Appendix B: Policies and Procedures for the MPH Practicum

The MPH Practicum

Public health, as a professional practice, cannot be taught or learned only in the classroom. It is critical that the curriculum includes authentic field experience that is professionally supervised and evaluated. Although some courses include field visits and useful field experience is obtained during the dissertation, this particular educational requirement falls mostly within the role of the practicum; there are two practicum assignments in the second year, one per semester.

1.1. Purpose:

To provide students with the opportunity to integrate classroom learning with practice in an operational public health environment; to develop new insights on the field of public health, its operational realities and challenges, and to develop relevant practical skills.

1.2 Objectives:

An MPH practicum aims to provide students with an opportunity to:

- integrate, synthesize and apply knowledge and skills (i.e. competencies, such as described earlier in this proposal) acquired in MPH courses to a real-world public health situation;
- develop skills needed to function in a professional public health setting including:
- public health problem identification, definition, analysis and solving;
- interpersonal skills, including working in an interdisciplinary public health team;
- oral and written communication; and
- understanding mission, structure and function of a public health organization.
- work on a substantive public health issue of relevance to the hosting organization;
- engage in professional self-assessment and critical reflection; and
- explore areas of concentration that are of special professional interest to them.

1.3. Selection of Practicum Settings

The program will provide an approved list of placements that are capable of hosting an MPH practicum student. There must be alignment between practicum learning objectives and the type of engagement expected with the practicum setting. The placement must provide a practice environment that will allow application of the student's public health knowledge and skills. Settings normally should include: organizations that are part of the governmental public health system; non-governmental agencies; multilateral and bilateral international agencies.

Practice placements should:

- require the student to apply competencies acquired in the MPH program to date;
- address a practical public health problem/ issue;
- advance the student's knowledge and skills;
- have a field-based practicum supervisor with the appropriate interest, education and experience to supervise, support and mentor the student; and
- provide the necessary organizational environment and support.

The existence of an approved list of practicum settings should not preclude students from identifying a potential practicum in another institution or area of interest. In these situations, the student and the proposed field-based practicum supervisor must demonstrate to the program that the experience will meet the program's expectations as defined (see below). Interest in setting up a new practicum may also come from a potential host agency. A practicum not based in a specific public health agency/organization needs to be justified in relation to how the practicum will support the student's development as a public health professional.

Establishing and maintaining a relationship between the MPH program and the organization hosting the practicum is the key to ensuring a quality student experience. The Program Director will carefully assess the planning and stability of all placements.

The practicum should occur in an organization separate from the student's employer. However, if there are no alternatives and the practicum must be conducted in the student's regular work-place, the responsibilities should be distinctly different from those involved in his or her regular job. In addition, the student's learning must be paramount: job responsibilities cannot overtake the learning objectives of the practicum. Program directors should ensure that there are adequate safeguards in place to protect the academic rigor of the placement.

1.4. Student Responsibilities

The student needs to actively engage in finding and negotiating an appropriate practicum to meet his/her learning and career development needs. The student is expected to:

- work with his/her university-based practicum supervisor, as necessary, to clarify personal and professional learning needs;
- choose/develop a practicum of interest and make contact with the field supervisor;
- work with the field supervisor to establish a learning contract prior to the start of practicum;
- seek ethics approval, if required, for any of the practicum-related projects;
- once agreed to by the field supervisor, submit the learning contract to the university-based practicum supervisor for review and approval;
- conduct activities to meet learning objectives, service expectations and other deliverables of the learning contract. Identify, if applicable, where practicum is not meeting learning needs;
- meet professional standards of conduct, including
- having respect for the confidentiality of health or other information related to individuals that they may encounter as part of their practicum experience;
- having respect for the confidentiality of agency information; and
- behaving responsibly regarding attendance and interest in agency activities.
- participate in mid-placement and final evaluation interviews with field supervisor; and
- prepare an evaluation of the placement and provide it to the academic supervisor.

1.5. Practicum Processes and Forms

1.5.1. Identifying Learning Objectives

The learning objectives are the foundation of the practicum and the core element of the learning contract. They should build on the knowledge and skills acquired during coursework and reflect the goals of the practicum placement (listed above). The objectives should also be informed by the student's overall training needs, interests and career goals. The academic supervisor and field supervisor are key resources to advise the student in developing the objectives. It is critically important that the expectations of the student and field based practicum supervisor are realistic, explicit and agreed upon prior to the onset of the practicum.

The learning objectives should be:

- linked to the goals of the practicum placement;
- clear and specific statements about the learners' expected competencies (e.g. knowledge, skill, attitude changes as a result of the learning experiences);
- statements that help guide the student's assessment of the experience, in addition to helping the academic supervisor and field supervisor improve practice-based teaching;
- linked to behaviorally based, measurable statements of the learner's desired outcomes (i.e. to provide a way for the practicum mentor and agency field-based practicum supervisor to know whether a student understands or knows the subject matter);
- statements that begin with action verbs (e.g. list, explain, apply, predict, analyze, compare, contrast); and
- statements that convey the service or benefit to the agency and/or community.

1.5.2. Learning Contract

The learning contract is a tool for communicating, monitoring and evaluating the practicum. Misunderstandings related to practica can be avoided by making explicit the expectations of the various parties involved. The student has the lead responsibility for developing the contract in collaboration with the field-based practicum supervisor prior to the onset of the practicum.

The Association of Schools of Public Health (ASPH) advocates the following checklist (adapted):

- provide complete name, title, address and phone number of the field-based practicum supervisor from the host organization and the university-based practicum supervisor; and briefly describe host organization and area in which the student will be most affiliated.
- describe the specific work the student will be performing, as well as the student's responsibilities and expected outcomes, designating student responsibilities if possible; and identify the issues and problems the student will be addressing.
- describe any data to be gathered or used in completing the project and affirm that the field-based practicum supervisor will make these data available to the student as needed. Note: this should stipulate whether ethical review may be required.
- list the skills and knowledge that the student will use for the project, and describe the new knowledge and skills that the student should expect to gain and apply.
- describe technical needs of the project, including copying and computer time, and define how these needs will be met.
- other issues: (e.g. remuneration, time flexibility).

Notes: Signatures should be obtained on all learning contracts from student, field supervisor, academic supervisor, and program director. Sample contracts are available from ASPH.

1.5.3. Evaluation

There are two components to the evaluation of a practicum: the student and the experience.

1.5.3.1. Evaluation of the student

Evaluation of the student is based on the expectations set out in the learning contract. The mid-practicum interim evaluation assesses the progress achieved to date, assesses whether there is any need to adjust overall deliverables, and addresses any major performance concerns. The final evaluation needs to be more detailed than the interim evaluation and should explicitly refer to the learning objectives for the practicum and the fulfillment of the deliverables. Any gaps in the student's preparation for the practicum should be noted, since this provides important feedback on the adequacy of the coursework component.

Typically, a recommendation for credit/no credit is provided by the field-based practicum supervisor. The university-based practicum supervisor assigns credit based on the assessment by the field-based practicum supervisor and the review of any practicum products.

Both interim and final evaluations are signed off by the student acknowledging receipt of the evaluation. They are approval steps taken by the academic supervisor and program director in recognizing the student's completion of the practicum and the recommendation for credit.

Programs have a choice of options for practicum deliverables (i.e. what to expect from the practicum) that may include, but not be limited to, the following:

- presentation to the staff of the practicum host organization;
- presentation to other students and faculty at the Program Department;
- preparation of a poster summarizing the major project conducted;
- preparation of a written report for the practicum host organization; and
- interview/defence of a completed project before a faculty panel.

Programs should choose the combination of options that complements the overall evaluation scheme for the program and considers the needs of the host organization.

1.5.3.2. Evaluation of the Practicum Experience

Evaluation of the practicum experience by the student is critically important as it provides feedback to the program director regarding the suitability of the practicum at that site.

Appendix C: Cross-Listing of 500-Level Courses

Examples of a 500 Level Courses Available At Kuwait University to Be Considered For the MPH Elective Courses

0565-541	Epidemiology II
0565-551	Biostatistics II
0565-552	Sampling Survey Methods
0565-543	Epidemiology of Chronic Disease
0565-542	Clinical Epidemiology
0565-545	Global Health
0565-546	Epidemiology of Infectious Disease
0565-547	Genetic and Epigenetic Epidemiology
0565-548	Nutritional Epidemiology
0565-566	Reproductive Health and Child Survival
0565-567	Race, Ethnicity, and Health: Examining Health Inequalities
0565-568	National and International Health Regulations
0565-569	Ethics, History, and Controversies in Public Health
0565-595	Research Interviewing, Focus Groups, and Analysis of Qualitative Data
2040-500	Foundations of Environmental Sciences
2040-502	The Legal System of the Environment
2040-503	Environment and Sustained Developments
2040-504	Environmental Impact Assessment (EIA)
2040-505	Environmental Research Methods and Statistical Analysis
2040-510	International Environmental Law
2040-511	Judiciary Protection of the Environment
2040-512	Administrative Responsibility of Public Authorities for Environmental Damages
2040-513	Environmental cases and the Problem of Financial Development
2040-514	Criminal Protection for the Environment
2040-520	Energy Conservation
2040-521	Pollution Prevention
2040-522	Air Pollution Control
2040-523	Environmental Technology
2040-524	Hazardous Materials Management
2040-525	Municipal, industrial Waste and Hazardous Waste Management.
2040-526	Environmental Engineering Processes
2040-527	Environmental Hydraulics
2040-531	Conservation of Biodiversity and Natural Habitats
2040-532	Coastal Zone Management
2040-533	Remote Sensing and GIS Application in Environmental Science
2040-534	The Geology of Pollution
2040-535	Air Pollution and Climate Change
2040-550	Civil Liability for Damage to the Environment
2040-551	The Environmental Protection during Armed Conflicts
2040-552	Corporate Environmental Responsibility
2040-553	International Environmental Problems Resulted from Petroleum Operations
2040-554	International Law Rules for the Protection of the Marine Environment
2040-555	International Efforts Facing Desertification
2040-556	Public Tranquility Protection
2040-557	Comparative Environmental Law
2040-558	Special Topics in Environmental Law

2040-560 Waste Minimization
2040-561 Industrial Water Treatment
2040-562 Environmental Auditing
2040-563 Environmental Standards and Measurements
2040-564 Refinery Waste Water Treatment
2040-565 Environmental Problem Solving with Computers
2040-566 Environmental Quality Modeling
2040-567 Noise Pollution and Control.
2040-568 Environmental Issues in Electrical Power Delivery Systems
2040-569 Special Topics in Environmental Engineering

2040-570 Environmental Biotechnology.
2040-571 Management of Living Resources.
2040-572 Atmosphere and Climate
2040-573 Environmental Optics
2040-574 Radiation and Radioactivity
2040-575 Non-Ionizing Radiation
2040-576 Radiation Biophysics
2040-577 Topics in Radiological Health
2040-578 Radiation Detection and Measurement
2040-579 Introduction to Environmental Analysis
2040-580 The Chemistry of Pollution
2040-581 Environmental Chemistry of Organic and Inorganic Wastes
2040-582 Geo-environments, Natural Resources and Human Impact
2040-583 Introduction to Geographic Information Systems (GIS)
2040-584 Instrumental Methods in Environmental Earth Science
2040-585 Earth System Science and the Environment
2040-586 Environmental Geochemistry
2040-587 Environmental Geo-physics
2040-588 Ground water Geology
2040-589 Environmental Coastal Geology
2040-590 Desertification and Land Degradation
2040-591 Introduction to Atmospheric Science
2040-592 Topics in Environmental Sciences

0250-511 Constitution Law
0250-513 Criminal Law
0250-515 International Law
0250-518 Administrative Law

0250-514 Public Fund
0250-516 Administrative and Political Systems in Islam
0250-517 Environmental Law
0250-519 Tax Legislation

0240-506 Philosophy of Law

0500-503 RESEARH COMMUNICATION I (1)
0500-504 RESEARH COMMUNICATION II (1)