

**INFORMATION HANDBOOK  
FOR  
GRADUATE MEDICAL  
AND PUBLIC HEALTH PROGRAMS**

**THE DEPARTMENT OF  
PREVENTIVE MEDICINE AND BIOMETRICS**



**UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES  
F. Edward Hébert School of Medicine  
2008-2009**

Revised July 2008

**IMPORTANT NOTICE:** This Handbook is subject to change. The curricula for all of graduate degree programs described in this edition of the Handbook (and on the web site) are continually updated and may be revised. Since academic requirements may vary from that which are currently listed, all quarterly course registrations must be reviewed and approved by the student's Academic Advisor. Please consult the web site for periodic updates during the academic year:  
<http://www.usuhs.mil/pmb/pmb.html>

## PMB Graduate Program 2008/2009 Calendar

### Pre-Fall Session

Monday, 7 Jul 2008 – Orientation, Incoming PMB Graduate Students  
Tuesday, 8 Jul 2008 – Pre-Fall Session Classes Begin  
Friday, 18 Jul 2008 – PMB Orientation for Fall Quarter  
Monday-Friday, 21-25 Jul 2008 – Registration for Fall Quarter Classes  
Wednesday, 13 Aug 2008 – Pre-Fall Session Classes End  
Thursday-Friday, 14-15 Aug 2008 – End of Session Recess

### Fall Quarter

Monday, 18 Aug 2008 – Fall Quarter Classes Begin  
Friday, 22 Aug 2008 – Pre-Fall Grades Due  
Friday, 29 Aug 2008 – Last Day to Drop/Add Fall Courses  
Monday, 1 Sep 2008 – Labor Day (Holiday)  
Monday, 13 Oct 2008 – Columbus Day (Holiday)  
Monday-Friday, 13-17 Oct 2008 – Registration for Winter Quarter Classes  
Wednesday, 5 Nov 2008 – Fall Quarter Classes End  
Thursday-Friday, 6-7 Nov 2008 – End of Quarter Recess

### Winter Quarter

Monday, 10 Nov 2008 – Winter Quarter Classes Begin  
Tuesday, 11 Nov 2008 – Veterans Day (Holiday)  
Thursday-Sunday, 27-30 Nov 2008 – Thanksgiving Recess  
Monday, 24 Nov 2008 – Last Day to Drop/Add Winter Courses / Fall Quarter Grades Due  
Saturday, 20 Dec 2008 - Sunday, 4 Jan 2009 – Winter Recess  
Monday, 19 Jan 2009 – Martin Luther King, Jr.'s Birthday (Holiday)  
Tuesday, 20 Jan 2009 – Inauguration Day (Holiday)  
Wednesday-Friday, 21-23 Jan 2009 – Registration for Spring Quarter Classes  
Thursday, 12 Feb 2009 – Winter Quarter Ends  
Friday-Monday, 13-16 Feb 2009 – End of Quarter Recess (Presidents Day 16 Feb 2009)

### Spring Quarter

Tuesday, 17 Feb 2009 – Spring Quarter Classes Begin / Winter Quarter Grades Due  
Monday, 2 Mar 2009 – Last Day to Drop/Add Spring Courses  
Saturday-Sunday, 21-29 Mar 2009 – Spring Recess  
Monday-Friday, 20-24 Apr 2009 – Registration for Summer Quarter Classes  
Tuesday, 12 May 2009 – Graduate Student Colloquium  
Wednesday, 13 May 2009 – Spring Quarter Ends  
Thursday-Friday, 14-15 May 2009 – End of Quarter Break  
Saturday, 16 May 2009 – USU Graduation

### Summer Session

Monday, 18 May 2009 – Summer Session Begins  
Monday, 25 May 2009 – Memorial Day (Holiday)  
Friday, 29 May 2009 – Last Day to Drop/Add Summer Courses / Spring Quarter Grades Due  
Friday, 12 Jun 2009 – PMB Graduation Ceremony  
Friday, 12 Jun 2009 – Summer Session Ends

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# UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

The Uniformed Services University of the Health Sciences (USUHS) (<http://www.usuhs.mil>) was established by Congress in 1972 and was authorized to develop advanced degree programs in the various health sciences with a priority on preparing qualified individuals for careers as Medical Officers in the Uniformed Services. As the Nation's only Federal institution for higher learning in the health sciences, it is committed to excellence in military medicine and public health during peacetime and during war, fulfilling a unique mission among U.S. Schools of Medicine.

The University's F. Edward Hébert School of Medicine and the Graduate School of Nursing are resources for the Surgeons General of the Army, Navy, Air Force, and the U.S. Public Health Service. The University faculty serves as educators, researchers, and consultants for military medical readiness, disaster relief and emergency preparedness, and force health protection issues. Located on the grounds of the National Naval Medical Center (NNMC) in Bethesda, Maryland, it has close proximity to resources at the National Institutes of Health, the Walter Reed Army Medical Center (WRAMC), the Armed Forces Institute of Pathology (AFIP), the Armed Forces Radiobiology Research Institute (AFRRI), the National Library of Medicine, as well as the National Naval Medical Center. By 2011, USUHS will become administratively part of the new Walter Reed National Military Medical Center (WRNMMC), which will combine the assets of WRAMC and NNMC on the present NNMC campus.

## GRADUATE MEDICAL AND PUBLIC HEALTH PROGRAMS IN THE DEPARTMENT OF PREVENTIVE MEDICINE AND BIOMETRICS

The graduate education programs within the F. Edward Hébert School of Medicine fall under the auspices of the Graduate Education Office (<http://www.usuhs.mil/graded>), and are administered by the Associate Dean for Graduate Education. The Department of Preventive Medicine and Biometrics (PMB) (<http://www.usuhs.mil/pmb/index.html>) plays a key role in the education and training of physicians dedicated to careers in public service with expertise in military medicine, preventive medicine, tropical medicine, and disaster medicine. While this Handbook describes the particular PMB graduate programs, the USU SOM Graduate Program Handbook (<http://www.usuhs.mil/graded/graduatehandbook.doc>) gives a description of the policies and practices of the USU graduate programs overall. The Graduate Programs in PMB are located on the campus of the Uniformed Services University and the adjacent AFRRI building. Well-equipped modern laboratories support the tropical medicine and environmental health programs. Up-to-date computer equipment is available at the University's Learning Resource Center and within the Department. The affiliated teaching hospitals in the Washington area are the Walter Reed Army Medical Center, the National Naval Medical Center, and the Malcolm Grow Air Force Medical Center. The affiliated overseas laboratories include the U.S. Army and Navy biomedical research laboratories in Bangkok, Thailand; Nairobi, Kenya; Cairo, Egypt; Jakarta, Indonesia; and Lima, Peru. These and other standing agreements, for example, with the US Army Center for Health Promotion and Preventive Medicine (USCHPPM) and the Federal Bureau of Investigation (FBI), provide abundant opportunities for our students.

The Graduate Programs at USUHS are fully accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools. In addition, the Graduate Programs in the Department of Preventive Medicine and Biometrics are accredited by the Council on Education for Public Health, the national accrediting organization for programs and Schools of Public Health. In 2006, our MPH program received full accreditation for the maximum seven-year term through 2013, and in 2003, was ranked among the top 6 programs in the country by US News and World Reports. In addition, the Master of Science in Public Health (MSPH) program in the area of Environmental Health Science is certified under the Accreditation Board for Engineering and technology (ABET) through academic year 2009-2010.

**PMB GRADUATE PROGRAM MISSION:** *The mission of the PMB Graduate Programs in Public Health is to enhance and protect the health of members of the Uniformed Services by producing knowledgeable and highly skilled public health professionals and by promoting evidence-based policy making, research, and service initiatives that support the global mission of the Uniformed Services.*

The Department of Preventive Medicine and Biometrics offers programs of study leading to the degrees of Master of Public Health (MPH), Master of Tropical Medicine and Hygiene (MTM&H), Master of Science in Public Health (MSPH), Doctor of Public Health (DrPH), and Doctor of Philosophy (PhD) in either Environmental Health Science or Medical Zoology. Students may enroll in only

one PMB degree program at a time. The total maximum number of students that will be accepted into the MPH, MTM&H, and MSPH programs during any given academic year is approximately 50.

**MASTER OF PUBLIC HEALTH (MPH),  
MASTER OF TROPICAL MEDICINE AND HYGIENE (MTM&H), AND  
MASTER OF SCIENCE IN PUBLIC HEALTH (MSPH)**

The MPH degree program provides a broad didactic experience in public health and preventive medicine. It is a rigorous curriculum with a quantitative focus, is sequenced to be completed within 12 months, and is primarily designed for individuals planning careers in Preventive Medicine and Public Health within the Uniformed Services. An MPH degree or its academic equivalent is a specific requirement for physicians seeking residency training and board certification in Aerospace Medicine, General Preventive Medicine and Public Health, Occupational and Environmental Medicine, and several other public health specialties. Matriculants may include physicians and other academically qualified health professionals, such as veterinarians, dentists, sanitary engineers, microbiologists, entomologists, environmental scientists, nurses, and pharmacists, who wish to apply the core disciplines of public health to their career field. Uniformed personnel with education or experience in a health-related discipline are given priority as candidates for admission.

The goal of the MPH program is to provide each student with the necessary academic background to practice as a competent public health or preventive medicine officer in one of the Uniformed Services. Graduates are expected to use their acquired quantitative and analytical skills in biostatistics and epidemiology to identify and measure community health needs and to investigate the impact of biological, environmental, and/or behavioral factors to solve public health problems. Each graduate will understand the components, operations, and financing of health delivery services, particularly those in the public sector, and have the administrative skills to plan, analyze, manage, and improve public health programs for the Uniformed Services. In addition, many graduates will complete a “area of concentration” of required and elective course work in a specific area of public health and demonstrate the ability to apply appropriate specialized knowledge and skills to their chosen field.

The goal of the MTM&H program is to provide each student with the necessary academic background to practice as a competent public health officer and tropical disease expert in one of the Uniformed Services. The program is designed for medical officers desiring specific preparation for assignment to tropical medicine clinical, research and teaching positions. Graduates of the MTM&H program will acquire the same quantitative and analytical skills in biostatistics and epidemiology as MPH graduates. They will also be able to assess the health needs of communities and to investigate the impact of biological, environmental, and behavioral factors on community health. Graduates will acquire an in-depth knowledge of the agents of tropical diseases, medical parasitology, and vector biology. During the required overseas rotation they will have the opportunity for hands-on experience with the epidemiology, pathology, diagnosis, management, treatment, prevention, surveillance, and control of selected tropical diseases. The MTM&H degree also represents suitable academic preparation for residency training and board certification in General Preventive Medicine/Public Health.

The MPH and MTM&H degree programs each consist of a minimum of 60 quarter credit hours. The MPH degree requires 36 credit hours in core courses in the Department of Preventive Medicine and Biometrics, including epidemiology, biostatistics, environmental health, health services administration, and social and behavioral sciences. The minimum credit load per quarter required for a full-time student is 12, the maximum allowed is 22, and the average load is 16-18. The satisfactory completion of an independent project and a practicum is required, and the courses related to these requirements are part of the core curriculum. The independent project is the capstone of the MPH/MTM&H programs and should represent the synthesis, integration, and application of core public health concepts and principles to advance our understanding of a public health problem. The requirements for the MPH independent project and practicum experience are described in detail in the “Practicum and Independent Project Handbook.”

In addition to completing the MPH core course work, the MTM&H student must complete required courses in tropical medicine and tropical public health. One clinical rotation of four to six weeks is spent at an affiliated overseas facility and involves diagnosis and treatment of patients, as well as field study of diseases endemic to tropical regions and the principles and methods of disease surveillance in the region. This overseas rotation satisfies the requirement for a practicum experience. The student must still satisfy the separate requirements for the project. This is typically accomplished during the academic year, but can also be satisfied during the overseas rotation if requirements for both project and practicum are satisfied and written approval is obtained from the academic advisor, residency director, and the Director of Graduate Research and Practicum Programs. If the project will be done during the rotation, the requirement for an oral presentation of the project must still be satisfied. This may be done through presentation of the detailed plan for the project before the overseas rotation takes place. Associated travel and per diem expenses are the responsibility of

the applicant or applicant's sponsoring institution or Service. Some funds may be available from the University for members of the Uniformed Services through a grant from the DoD Global Emerging Infections Systems. This curriculum offers less opportunity for elective courses than the MPH degree program and typically adds six weeks to the timeline for degree completion.

The American Society of Tropical Medicine and Hygiene (ASTMH) has certified a 12-week course, "Training in Clinical Tropical Medicine and Travelers' Health," directed by the Division of Tropical Public Health. This training is offered in the Spring Quarter and fulfills the eligibility requirements for physicians and other licensed healthcare professionals to take the ASTMH Certificate of Knowledge Examination. This comprehensive lecture, seminar, laboratory, and case-based curriculum incorporate courses that are a part of the MPH/MTM&H program. See the ASTMH website for additional information: <http://www.astmh.org>.

The goal of the two-year thesis-based MSPH program is to provide students with the necessary academic background to function as public health specialists within the Uniformed Services. It is primarily designed for the public health practitioner planning a career in environmental health sciences, such as industrial hygiene or health physics, or medical zoology. Graduates of this program will acquire basic knowledge and skills in the five core disciplines of public health, plus in-depth knowledge in their selected area of concentration. The graduate will gain competence in the recognition, evaluation, and control of a variety of environmental and occupational health problems and will have the ability to develop policy initiatives in response to these issues. The MSPH degree provides suitable academic preparation for board certification in selected disciplines of public health. Prior education or experience in the biological or physical sciences or in a health-related field is required to be considered for admission to this program.

## **THE CORE DISCIPLINES OF PUBLIC HEALTH**

### **Summary of Program Learning Objectives**

**Biostatistics:** Upon completion of the core courses in this discipline, students will be able to collect, analyze, and interpret data of public health importance using appropriate descriptive and inferential statistical techniques, including both bivariate and multivariate methods. In addition, students will become familiar with the use of a statistical software program for the PC, such as SPSS.

**Environmental and Occupational Health:** Upon completion of the core course in this discipline, students will be able to identify, measure, and analyze environmental and occupational factors affecting health. Students will have the ability to (1) describe the factors that may impact health in the community, home, and workplace, (2) effectively communicate risk, and (3) explain the standards and controls necessary to mitigate these factors.

**Epidemiology:** Upon completion of the core course in this discipline, the student will be able to (1) discuss the basic concepts pertaining to the natural history of disease in populations, (2) identify and list the strengths and weaknesses of various sources of data, (3) define measures of disease in populations, and (4) critically assess the validity and relevance of descriptive and analytical studies. Students will develop an understanding of the basic concepts of epidemiology and be able to apply them to the analysis and interpretation of epidemiologic data.

**Health Services Administration:** Upon completion of the core course in HSA, the student will acquire the necessary skills to critically analyze the organization, structure, function, and effectiveness of health care systems and be able to (1) describe and compare the variety of health services in developed countries, (2) discuss, in depth, the current policy issues that impact the health care systems of the United States, and (3) explain the behavioral and economic foundations for health promotion and disease prevention strategies in the United States. Students completing the HSA track will be equipped to become leaders and managers able to create, develop, and continuously improve high quality health systems.

**Social and Behavioral Sciences:** Upon completion of the core course in this discipline, the student will be able to (1) list and explain behaviors and social factors associated with morbidity and mortality, and (2) describe behavior-related theories and prevention strategies for modification and reduction of injuries and illnesses. Students will develop the ability to identify and utilize the relationship of human behavior and social factors in public health practice.

## **THE MPH DEGREE PROGRAM**

Graduates of this program will become proficient in a broad set of public health skills necessary to function effectively as a Preventive Medicine or Public Health Officer in the Uniformed Services. In addition to completing the core courses in the five public health

disciplines described above, MPH students may select an area of concentration from among the following: aerospace physiology, environmental and occupational health, health services administration, international health, or tropical public health. These areas of concentration are intended to help guide students who wish to focus their training and coursework in a particular area of public health. The following elective courses are recommended by the faculty in each discipline.

**AEROSPACE PHYSIOLOGY:** This concentration will provide students with the fundamental concepts and principles of the physiological aspects associated with aviation including a foundation in human factors, exercise physiology, flight/mission enhancement technologies, and mishap investigation. Upon completion of the core courses in this discipline, students will be able to identify, measure, and analyze aeromedical factors affecting pilot/aircrew performance and health. This concentration will also help prepare the student for eligibility to take the Aerospace Physiology Certification exam administered by the Aerospace Physiology Society of the Aerospace Medical Association.

Recommended courses include PMO841-Aerospace Operational Physiology I, PMO842-Aerospace Operational Physiology II, PMO845-Human Factors in Aviation, PMO846-Aerospace Exercise Physiology, and PMO848-Special Topics in Aerospace Medicine, and one of the following: PMO548-Joint Medical Operations and Humanitarian Assistance, PMO549-Principles of Toxicology, PMO554-Health Effects of Ionizing/Non-Ionizing Radiation, PMO599-Introduction to Risk Communication, PMO606-Non-Ionizing Radiation, PMO847-Aerospace Performance and Health, or PMO849-Aerospace Medicine in the Modern Age. Other courses outside the PMB Department may also be considered, for example, Neurophysiology, Pulmonary Physiology, Advanced Cardiovascular Physiology, among others.

**ENVIRONMENTAL AND OCCUPATIONAL HEALTH:** This concentration provides students with the fundamental concepts and principles of environmental and occupational health, toxicology, industrial hygiene, health physics, and a survey of occupational/environmental diseases.

Occupational medicine residents must take the required core MPH courses since this training provides residents with the fundamental concepts and principles of preventive medicine, environmental and occupational health. Residents must also take Epidemiology II and III PMO 512 and PMO 513, Biostatistics II, PMO 504, Principles of Toxicology PMO 549, Occupational Ergonomics PMO 652, Clinical Occupational and Environmental Medicine PMO 542, Industrial Hygiene I & Laboratory PMO550, Industrial Hygiene Field Studies PMO 553 Selected Topics in Occupational Health-PMO642, Fundamentals of Clinical Occupational, Environmental, and Preventive Medicine-PMO558, Current Injury Prevention Issues and Initiatives PMO655, Joint Operations & Humanitarian Assistance, PMO548, Safety Engineering PMO654, Risk Communication, PMO599, Public Health Issues in Disasters, PMO613 and the GPM/OEM Journal Club-PMO973.

In addition to the MPH core requirements, non-physician MPH students in this concentration should take PMO549-Principles of Toxicology, PMO550-Industrial Hygiene I and Laboratory, as well as additional courses recommended by their academic advisor chosen from among the courses offered by the PMB Division of Occupational and Environmental Health Sciences or courses from another division closely related to this field.

**HEALTH SERVICES ADMINISTRATION:** Students completing this concentration will be able to apply the necessary skills to design and develop, implement and evaluate, and continuously improve programs and systems related to promotion and health education and health care delivery in the Uniformed Services. Students will also understand and be able to apply concepts of financial management, decision making, and quality assessment to health systems and be able to develop broad policy statements concerning health care programs in the public sector as a Health Services Officer in the Uniformed Services.

Recommended courses beyond the core MPH curriculum include PMO523-Fundamentals of US Healthcare Policy, PMO527-Principles of Health Care Management, PMO529-Health Care Financial Management, PMO 559-Decision Support in Health Care Performance Improvement, and PMO535-The Law of Health Care. The PMB Division of Health Services Administration offers other courses as electives.

**INTERNATIONAL HEALTH:** The USU International Health (IH) program's mission is to prepare globally focused military professionals for positions in support of complex humanitarian emergencies and medical crises around the world, in wartime and peacetime. This area of concentration provides a strategic perspective of global and international health issues. These fields are

defined and their scope explored. Military coordination and communication with civil society organizations are emphasized. The roles of health organizations, both public and private are addressed. Political, economic and sociocultural factors of population health are considered especially within the context of developing countries. Healthcare delivery systems are examined looking at resources, access, policies, current challenges, potential solutions and opportunities for reform. In addition to the MPH program goals, the IH student upon completion of concentration-specific curriculum recommendations will have a basic knowledge of major international health issues, ethical and cultural considerations and their influence in the global context; understand the role that the US military and other organizations and agencies play in addressing global health issues; and be able to apply public health principles in the assessment of international health needs and in planning, conducting, and evaluating international health-related activities and projects.

Recommended courses for this area of concentration include: PMO528-International Health I; PMO539-International Health II; PMO534-Medical Anthropology; PMO548-Joint Medical Operations and Humanitarian Assistance; PMO613-Public Health Issues of Disasters in Developing Countries; PMO512-Epidemiologic Methods; PMO991-Ethics in Public Health; and PMO531-Program Planning and Development. Additional relevant courses include: PMO599-Introduction to Health Risk Communication; PMO559-Decision Support in Health Care Performance Improvement; PMO560-Principles and Practice of Tropical Medicine; PMO569-Malaria Epidemiology and Control; and PMO990-Travel Medicine.

**TROPICAL PUBLIC HEALTH:** This concentration will enable students to function effectively worldwide as Preventive Medicine, Public Health, and Medical Officers in the Uniformed Services. Graduates will be able to apply the basic concepts and principles of tropical medicine, malaria control, and vector biology to the epidemiology, diagnosis, treatment, prevention, and control of tropical diseases.

Students interested in this area of concentration should take PMO565-Vector Biology, PMO512-Epidemiology II, PMO560-Principles and Practices of Tropical Medicine, PMO569-Malaria Epidemiology and Control, and PMO613 Public Health Issues of Disasters in Developing Countries. Other recommended courses include PMO548 Joint Medical Operations and Humanitarian Assistance, PMO561 Medical Parasitology, and PMO564 Epidemiology and Control of Arboviruses, as well as other courses offered by the PMB Division of Tropical Public Health.

# DEPARTMENT OF PMB

## MPH/MTM&H CURRICULUM\*

### PRE-FALL REQUIRED CORE COURSES

PMO505 Microcomputer Applications in Public Health (1)  
PMO530 Behavioral & Soc Sciences Applied to PH (4)  
PMO540 Environmental Health (4)  
PMO680 Intro to Public Health (1)

### PRE-FALL ELECTIVE COURSES \*

PMO642 Selected Topics in Occupational Health (4)  
PMO558 Fund Clinical Occ, Environ/Preventive Medicine (1)

### FALL REQUIRED CORE COURSES

PMO503 Biostatistics I (4)  
PMO511 Introduction to Epidemiology I (4)  
PMO526 Health Systems (4)  
PMO671 Intro to the MPH Project and Practicum (1)

### ADDITIONAL REQUIRED COURSES FOR OEM

PMO549 Principles of Toxicology (4)  
PMO652 Occupational Ergonomics (3)  
PMO548 Joint Operations & Humanitarian Assistance (3)  
PMO973 GPM and OEM Residency Journal Club (1)

### ADDITIONAL REQUIRED COURSES FOR MTM&H

PMO565 Vector Biology (2)

### FALL ELECTIVE COURSES \*

PMO528 International Health I (3)  
PMO541 Advanced Environmental Health (2)  
PMO548 Joint Med Ops & Humanitarian Assistance (3)  
PMO549 Principles of Toxicology (4)  
PMO565 Vector Biology (2)  
PMO567 Chg Patterns of Arthropod-borne Dis (4)  
PMO577 Introduction to GIS Methods in PH (2)  
PMO584 Introduction to Health Physics (3)  
PMO587 Nuclear Reactors Criticality & Shielding (3)  
PMO600 Fundamentals of Human Physiology (2)  
PMO603 Deployment Environmental Exposures (5)  
PMO606 Non-ionizing Radiation (3)  
PMO652 Occupational Ergonomics (3)  
PMO683 Critical Reading Seminar (2)  
PMO684 Clinical Research Seminar (1)  
PMO688 Info Gathering in Clin Med (2-12)  
PMO701 Advanced Biometrics Tutorial (1-12)  
PMO841 Aerospace Operational Physiology I (3)  
PMO849 Aerospace Medicine in the Modern Age (3)

PMO971 Doctoral Student Journal Club (1)  
PMO973 GPM and OEM Residency Journal Club (1)

### WINTER REQUIRED CORE COURSES

PMO504 Biostatistics II (4)  
PMO672 MPH Project/Practicum Design & Dev (1)

### ADDITIONAL REQUIRED COURSES FOR OEM

PMO512 Epidemiology II (4)  
PMO550 Industrial Hygiene I & Lab (4)  
PMO651 Human Factors Engineering (3)  
PMO973 GPM and OEM Residency Journal Club (1)  
PMO655 Current Injury Prevention Issues and Initiatives (1)

### ADDITIONAL REQUIRED COURSES FOR MTM&H

PMO512 Epidemiology II (4)  
PMO990 Travel Medicine (2-3) (also offered in Spring)

### WINTER ELECTIVE COURSES \*

PMO502 Intro to SAS (1)  
PMO512 Epidemiology II (4)  
PMO514 Epi and Control of Infectious Diseases (2)  
PMO523 Fundamentals of U.S. Healthcare Policy (2)  
PMO527 Principles of Healthcare Management (2)  
PMO531 Program Planning & Development (3)  
PMO534 Medical Anthropology (2)  
PMO535 The Law of Health Care (2)  
PMO539 International Health II (3)  
PMO550 Industrial Hygiene I & Lab (4)  
PMO566 Phys Params of Vector Competence (4)  
PMO571 Biosystematics in Med Zool (2)  
PMO578 Remote Sensing Methods in PH (3)  
PMO581 Radiation Dosimetry (3)  
PMO585 Environmental Health Physics (3)  
PMO588 Instrumentation of Ionizing Radiation (3)  
PMO594 Introduction to Medical Informatics (3)  
PMO598 Health Care Economics  
PMO602 Solid & Hazardous Wastes (3)  
PMO605 Analytical Instr Meth in Envtl Health (3)  
PMO611 Classic Studies in Epi (2)  
PMO615 Sand Flies and Disease (3)  
PMO631 EOH Journal Club (1)  
PMO651 Human Factors Engineering (3)  
PMO655 Current Injury Prevention Issues and Initiatives (1)  
PMO661 Medical Zoology Seminar (1)  
PMO683 Critical Reading Seminar (2)  
PMO684 Clinical Research Seminar (1)

PMO701 Advanced Biometrics Tutorial (1-12)  
PMO842 Aerospace Operational Physiology II (3)  
PMO848 Special Topics in Aerospace Medicine (3)  
PMO971 PMB Doctoral Student Journal Club (1)  
PMO972 Seminar in Critical Thinking (4)  
PMO973 GPM and OEM Residency Journal Club (1)

### **SPRING REQUIRED CORE COURSES**

PMO673 MPH Proj/Practicum Implementation & Eval (1)

### **ADDITIONAL REQUIRED COURSES FOR OEM**

PMO513 Epidemiology III (4)  
PMO519 Occupational & Environmental Epidemiology (2)  
PMO542 Clin Occ & Environ Medicine (4)  
PMO599 Intro to Health Risk Communication (2)  
PMO973 GPM and OEM Residency Journal Club (1)

### **ADDITIONAL REQUIRED COURSES FOR MTM&H**

PMO560 Principles and Practices of Tropical Medicine (6)  
PMO561 Medical Parasitology (3)  
PMO569 Malaria Epidemiology and Control (3)  
PMO614 Tropical Medicine Rounds (2)  
PMO990 Travel Medicine (2-3) (also offered in Winter)

### **SPRING ELECTIVE COURSES \***

PMO508 Biostatistics III (5)  
PMO513 Advanced Epidemiologic Methods (4)  
PMO515 Chronic Disease Epidemiology (2)  
PMO519 Occupational & Environmental Epidemiology (2)  
PMO520 Molecular Epidemiology (2)  
PMO521 Concepts in Molecular Biology & Immunology (2)  
PMO522 Meta Analysis (1)  
PMO524 Health Care Performance Improvement (2)  
PMO529 Health Care Financial Management (2)  
PMO537 Clinical Decision Making (1)  
PMO542 Clin Occ & Environ Medicine (4)  
PMO549 Principles of Toxicology (4)  
PMO552 Industrial Hygiene II (CBRNE Detection) (4)  
PMO555 Industrial Ventilation (4)  
PMO559 Decision Support in Health Care Performance Improvement (4)  
PMO560 Principles & Practice of Tropical Medicine (6)  
PMO561 Medical Parasitology (3)  
PMO564 Epidemiology and Control of Arboviruses (Lec-2)  
PMO569 Malaria Epidemiology and Control (3)  
PMO582 Radiation Biology (3)  
PMO589 Introduction to Medical Physics (3)

PMO591 Marketing and Strategic Issues (2)  
PMO595 Introduction to Complex Sample Survey Analysis (2)  
PMO599 Intro to Health Risk Communication (2)  
PMO604 Hydrology, Water & Wastewater Treatment Plant Design (5)  
PMO607 Environmental Chemistry (4)  
PMO613 Public Health Issues in Disasters (4)  
PMO614 Tropical Medicine Rounds (2)  
PMO630 Environmental Health Policy (3)  
PMO635 Military Radiological Operations in Peacetime (1)  
PMO636 Military Radiological Operations in Conflict (1)  
PMO637 Military Radiological Operations in Homeland Defense (1)  
PMO653 Work Analysis Methods (3)  
PMO654 Safety Engineering (3)  
PMO682 History of Preventive Medicine (2-4)  
PMO683 Critical Reading Seminar (2)  
PMO684 Clinical Research Seminar (1)  
PMO845 Human Factors in Aviation (3)  
PMO846 Aerospace Exercise Physiology (3)  
PMO847 Aerospace Health and Performance (3)  
PMO990 Travel Medicine (3)  
PMO971 PMB Doctoral Student Journal Club (1)  
PMO973 GPM and OEM Residency Journal Club (1)  
PMO991 Ethics in Public Health (3)  
PMO996 Clinical Trial Design and Analysis

### **SUMMER REQUIRED CORE COURSES**

PMO670 Public Health Practicum (3)  
PMO674 MPH Independent Project (3)

### **ADDITIONAL REQUIRED COURSES FOR OEM**

PMO553 Industrial Hygiene Field Studies (1)

### **ADDITIONAL REQUIRED COURSES FOR MTM&H**

PMO563 Clinical Tropical Medicine (1-12); overseas rotation (in lieu of PMO670)

### **SUMMER ELECTIVE COURSES \***

PMO553 Ind Hygiene Field Studies (1)  
PMO564 Epi & Control of Arboviruses (Lab-4)  
PMO568 Medical Acarology (4)  
PMO570 Mod Tech & Vector-borne Dis (4)  
PMO572 Intro to Medical Malacology (3) )  
PMO573 Epi & Prevention of Vaccine-Preventable Diseases (1)  
PMO582 Radiation Biology (2)  
PMO592 Healthcare Technology Assessment (2)  
PMO601 Environmental Health Risk Assessment (2)  
PMO630 Environmental Health Policy (3)

\*Additional electives may be found under the “Course descriptions” section of this Handbook. Courses offered by other basic science departments in the School of Medicine are listed in the University Graduate Education Bulletin and are also available as electives (with permission of the Course Director or Department Chair)

## **MASTER OF SCIENCE IN PUBLIC HEALTH (MSPH)**

The MSPH degree program is designed for uniformed services members, and is a two-year program requiring a minimum of 120 credit-hours, depending on the area of concentration being pursued. At least 60 credit hours of coursework (non-research hours) are required and will include a practicum experience and 2 credit hours of journal club. The coursework hours may also include electives and independent studies. The courses in the MSPH curriculum (listed below) are required for each respective area of concentration. Waivers may be granted on a case-by-case basis with approval by the Course Director and the Research Advisor (Academic Advisor may be substituted if a Research Advisor has not yet been selected). A written, orally-defended thesis is also required for the MSPH degree. Credit hours may be graded or pass-fail, as determined by the respective Course Director, provided the percentage of pass-fail course credits does not exceed 25% of the total number of credits for coursework taken.

Practicum Experience. The MSPH degree program requires a specific field or practicum experience. This requirement is identical to that required for the MPH degree, which is briefly described in this PMB Handbook and the Department's "Practicum and Independent Project Handbook". Students pursuing the MSPH in Medical Zoology take PMO670-Public Health Practicum for MPH students, while MSPH in Environmental Health Science students enroll in PMO942-Environmental/Occupational Health Directed Rotations. The student may enroll during any quarter with the approval of their Research Advisor (Academic Advisor may be substituted if a Research Advisor has not yet been selected).

Thesis. Students must complete and defend a written thesis based on their original research within the two-year program. The thesis is submitted to the student's Research Advisor for approval and subsequently presented and defended before a Thesis Examination Committee followed by a public defense. The student's Research Advisor must have an academic appointment in the PMB Department. Credit for research is received by enrolling in either PMO941-Environmental Occupational Health Directed Research or PMO964-Research in Medical Zoology, with the approval of the student's Academic Advisor. Students will be assigned a grade by the Research Advisor for each quarter corresponding to the credit hours taken in that quarter.

Thesis Defense. The Thesis Examination Committee will be composed of at least three members: the Research Advisor, who serves as the Committee Chair, and two other members. At least two of the three members must be full-time faculty with primary appointments in the PMB Department, and one member must be within the sponsoring PMB Division in which the student is enrolled. In order for MSPH students to participate in the USU graduation exercise held annually in May, the Thesis Examination Committee must approve the thesis defense in writing by April 10 of the year of graduation.

## **MSPH SPECIALTY TRACKS**

There are two specialty tracks within the MSPH degree program: Environmental Health Sciences (EHS) and Medical Zoology (MZ). Within the Environmental Health Science track, there are 2 areas of concentration: Environmental and Occupational Health (EOH) and Health Physics (HP). Students in one area of concentration usually take elective courses from other area. Upon completion of the MSPH program, students will be able to demonstrate in-depth knowledge and understanding of the science and practice of public health pertaining to their specialty track.

**ENVIRONMENTAL HEALTH SCIENCES:** The EHS specialty track will cover environmental health, industrial hygiene, environmental chemistry, health physics, environmental health risk assessment, analytical instrumentation, environmental surveillance, and toxicology. This specialty track is administered by the faculty of the PMB Division of Occupational and Environmental Health.

Environmental and Occupational Health area of concentration: The EOH area of concentration is guided by a Joint Steering Committee whose membership includes related specialty leaders from Air Force, Army and Navy Service branches. Upon completion of this curriculum, the student will be eligible to take the National Environmental Health Association (NEHA) Registered Sanitarian/Registered Environmental Health Specialist (RS/REHS) examination.

Health Physics area of concentration: The HP area of concentration is an interdepartmental effort with the Department of Radiology and Radiological Sciences, NNMC, and the Armed Forces Radiobiology and Research Institute. Students will gain the knowledge and skills necessary to function as a Health Physicist. Studies include ionizing and non-ionizing radiation, radiation dosimetry, biological effects of radiation, radiation instrumentation, industrial hygiene, ventilation, toxicology, environmental or occupational regulatory issues, laboratory analytical methodologies, and principles of medical physics. Upon completion of this curriculum, the student will be eligible to take Part I of the American Board of Health Physics examination.

**MEDICAL ZOOLOGY:** Students in the MZ specialty track will gain knowledge and understanding of vector biology and how arthropods affect human health; how to conduct vector-borne disease risk assessments; and how to plan, coordinate, and implement vector control operations. This specialty track is administered by the faculty of the PMB Division of Tropical Public Health.

# MSPH CURRICULUM

## YEAR ONE

### PRE-FALL CORE/REQUIRED

PMO505 Microcomputer Applications in Public Health (1)  
PMO530 Behavioral & Soc Sciences Applied to PH (4)  
PMO540 Environmental Health (4)  
PMO680 Intro to Public Health (1)

### FALL CORE/REQUIRED

PMO503 Biostatistics I (4)  
PMO511 Introduction to Epidemiology I (4)  
PMO590 Introduction to the U.S. Health Care Industry (2)  
PMO671 Intro to MPH Project and Practicum (1)

#### **Add for EHS Specialty Track**

PMO584 Introduction to Health Physics (3)  
PMO600 Fundamentals of Human Physiology (2)

#### **Add for MZ Specialty Track**

PMO567 Changing Patterns of Arthropod-Borne Diseases (4)  
PMO577 Introduction to GIS Methods in PH (2)

### WINTER CORE/REQUIRED

PMO504 Biostatistics II (4)

#### **Add for EHS Specialty Track**

PMO550 Industrial Hygiene I & Lab (4)  
PMO631 EOH Journal Club (1)

#### **Add for EHS track with HP Area of Concentration**

PMO581 Radiation Dosimetry (3)  
PMO588 Instrumentation of Ionizing Radiation (3)  
PMO941 EOH Directed Research (1-15)

#### **Add for MZ Specialty Track**

PMO672 MPH Project/Practicum Design & Dev (1)  
PMO512 Epidemiological Methods  
PMO571 Biosystematics in Medical Zoology (2)  
PMO566 Physiological Parameters of Vector Competence (4)  
PMO578 Remote Sensing Methods in Public Health (3)

### SPRING CORE/REQUIRED

None

#### **Add for EHS Specialty Track**

PMO549 Principles of Toxicology (4)  
PMO971 Doctoral Student Journal Club (1)

#### **Add for EHS track with HP Area of Concentration**

PMO582 Radiation Biology (3)  
PMO589 Intro to Medical Physics (3)

#### **Add for MZ Specialty Track**

PMO673 MPH Project/Practicum Implementation & Eval (1)  
PMO564 Epidemiology and Control of Arboviruses Lec (2)  
PMO569 Malaria Epidemiology and Control (3)  
PMO661 Medical Zoology Seminar (1)

### SUMMER CORE/REQUIRED

None

#### **Add for EHS Specialty Track**

PMO941 EOH Directed Research (1-15)  
PMO942 EOH Directed Rotation (3)

#### **Add for MZ Specialty Track**

PMO964 Research in Medical Zoology (1-15)  
PMO670-Public Health Practicum (3)

**YEAR TWO**

**PRE-FALL**

None

**Add for EHS Specialty Track**

PMO941 EOH Directed Research (1-15)

**Add for MZ Specialty Track**

PMO964 Research in Medical Zoology (1-15)

**SPRING CORE/REQUIRED**

None

**Add for EHS Specialty Track**

PMO941 EOH Directed Research (1-15)

**Add for MZ Specialty Track**

PMO964 Research in Medical Zoology (4)

**FALL CORE/REQUIRED**

None

**Add for EHS Specialty Track**

PMO941 EOH Directed Research (1-15)

**Add for EHS Track with HP Area of Concentration**

PMO587 Nuclear Reactors, Criticality and Shielding (3)

PMO606 Non-ionizing Radiation (3)

**Add for MZ Specialty Track**

PMO964 Research in Medical Zoology (1-15)

**SUMMER CORE/REQUIRED**

None

**Add for EHS Specialty Track**

PMO941 EOH Directed Research (1-15)

**Add for MZ Specialty Track**

PMO964 Research in Medical Zoology (1-15)

**WINTER CORE/REQUIRED**

None

**Add for EHS Specialty Track**

PMO941 EOH Directed Research (1-15)

**Add for EHS Track with HP Area of Concentration**

PMO585 Environmental Health Physics (3)

**Add for MZ Specialty Track**

PMO964 Research in Medical Zoology (1-15)

## INDEPENDENT PROJECT GUIDELINES

The satisfactory completion of an independent project is an academic requirement for the MPH or MTM&H degree. The independent project represents a "culminating experience" and should demonstrate a student's ability to synthesize, integrate, and apply the knowledge and skills acquired through course work in the core disciplines of public health. For example, a student will identify a public health problem or issue; formulate a focused research question; conduct a systematic review of the scientific literature; develop a research protocol using the appropriate study design; obtain the necessary institutional assurances and approvals; collect data; select and apply appropriate analytic techniques; and interpret and communicate study findings, including public health significance or policy implications. Students are encouraged to expand their horizons and stretch their capabilities at every opportunity. The submission of a manuscript for publication is encouraged as the goal of the project.

At the beginning of the academic year, each student is assigned an **Academic Advisor** who is responsible for overall guidance on matters pertaining to curriculum planning and meeting all of the master's degree program requirements. Students should meet with their Academic Advisor as soon as possible upon arrival at USU and at least once per academic quarter to discuss their proposed curriculum. In the process of selecting an independent project, students should start by discussing their areas of interest and ideas with their Academic Advisor. Ideally, students should decide on a project and select a **Project Mentor** by the end of the Fall Quarter. Past MPH students are unanimous in their recommendation for an early start to the independent project. The primary Project Mentor should be a public health professional (USUHS) faculty member or individual with outside affiliation) with the necessary subject-matter expertise to supervise the student's work on his/her independent project. An Academic Advisor may serve as a Project Mentor for any student. If the primary Project Mentor is not a USUHS faculty member, the student is encouraged to recruit a Co-Project Mentor from among the USUHS faculty.

Once an independent project topic has been selected, a brief description of the proposed project (the pre-proposal) should be submitted to the Director of Graduate Research and Practicum Programs. This usually occurs around the middle of the Winter Quarter. All pre-proposals will be reviewed for appropriateness and the necessary forms to submit for institutional assurances and/or approvals (e.g., research involving human participants or animal care and use), and students will be given timely feedback. Students and their Project Mentors should meet regularly to develop the protocol, discuss human participants in research issues, and/or seek advice or assistance from other faculty, as appropriate. Students are encouraged to combine their practicum activity with their independent project, if at all possible. This will prove to be a time-efficient way of meeting the two separate requirements.

Federal and USUHS regulations for research involving human participants are applicable to all PMB student projects, including masters and doctoral level research protocols. It is the student's responsibility to submit the appropriate University forms along with the study proposal to the USUHS Office of Research (REA) for a determination of whether or not the research activity falls under an exempt category or is covered by federal regulations prior to beginning work on the study. Some studies may receive an expedited review. The University is held accountable for reviewing all human-use protocols prior to the conduct of the study, as well as on at least a yearly basis thereafter, if the study continues for more than one year.

Once all necessary assurances and/or approvals have been obtained, the Academic Advisor and/or the Project Mentor may suggest additional course work and provide guidance on timelines for project deliverables: final proposal, oral presentation, and draft and final written report, among others. Students are also encouraged to draw upon the expertise of additional PMB faculty members as issues related to the project arise (e.g., statistical consultation). When the practicum experience is combined with the independent project, the student will work with both the Project Mentor and a **Practicum Site Preceptor** to develop learning objectives for the practicum component.

Students receive guidance on the design, development, and implementation of their MPH independent project throughout the year in three consecutive seminar courses, PMO671-Introduction to the MPH Project and Practicum, PMO672-MPH Project/Practicum Design and Development, and PMO673-MPH Project/Practicum Implementation and Evaluation, collectively known as the "PIP" series. Each course is one credit (pass/fail) for a total of three credits, and all three courses are required for all MPH/MTM&H students.

Students are also required to register for PMO674, MPH Independent Project, in the Summer Session just prior to graduation. This course provides a standard means for students to receive a letter grade and three credit hours for the final products of the required independent project. The primary Project Mentor reviews draft reports, provides feedback to the student, and assigns a grade for both the project proposal and the final written report. A secondary reviewer from among the PMB faculty will also assign a grade to the project. A panel of PMB faculty members will grade the oral presentations. The following will constitute the final grade for PMO674: the proposal (15%), the oral presentation (35%), and the final written report (50%).

Students whose efforts on their independent projects exceed the standard three credit hours for PMO674, plus the cumulative three credits for the PIP series, may enroll in either a tutorial, independent study, or directed reading/research course(s) for a variable number of credits during any academic quarter. The Project Mentor determines the number of credits using the general guideline that an average of three hours a week for 12 weeks equals one credit hour. The courses listed below may be used for this purpose with the permission of the designated Course Director (usually the Project Mentor):

PMO701	Advance Biometrics Tutorial
PMO760	Tropical Medicine Research Tutorial
PMO811	Independent Study in Epidemiology
PMO830	Independent Study in Social and Behavioral Science
PMO881	Military Preventive Medicine Study Topics
PMO911	Research in Epidemiology
PMO926	Health Services Administration Directed Research
PMO940	Environmental/Occupational Health Directed Studies
PMO941	Environmental/Occupational Health Directed Research
PMO960	Directed Laboratory Research
PMO962	Directed Clinical Research
PMO963	Directed Field Research
PMO964	Research in Medical Zoology
PMO970	Directed Studies in Preventive Medicine

Timeline for project deliverables:

1. The pre-proposal for the independent project consists of a brief description of the study or project, its public health significance, a draft research question, and an estimated timeline for project completion. Students should also have completed a preliminary literature search. This document is submitted to the Director of Graduate Research and Practicum Programs during the Fall or Winter Quarter.
2. Each student should identify a team of faculty consultants (e.g., epidemiologist, biostatistician, among others) depending on your area of research interest. Students should seek advice or consultation from these faculty members, as needed, beginning with the earliest phases of the project. Students need to stay on a timeline to complete all preparatory activities (e.g., literature search, institutional assurances and/or approvals) so that work on the project itself can begin ideally no later than the beginning of the Spring Quarter. This will be very important for those students doing primary data collection for a study involving human participants.
3. A proposal for the independent project is submitted to the Project Mentor for signature and subsequently to the Director of Graduate Research and Practicum Programs. The proposal is a four to five-page description of the project including study design, sampling methods and sample size calculations (if relevant), data sources and/or survey instruments, and should include references. Notice of project approval from the Office of Research must be received by the student before definitive work begins on the project.
4. Oral presentations of the independent projects (10 minutes with five minute for questions) will be scheduled during the summer session towards the end of the academic year. All students are expected to attend all of the presentations, and PMB Department faculty, preceptors from outside organizations, as well as other guests, will be invited to attend.

5. A final written report must be submitted to the Project Mentor and the Director of Graduate Research and Practicum Programs for distribution to a secondary faculty reviewer approximately three weeks prior to graduation.

## **PRACTICUM EXPERIENCE GUIDELINES**

The practicum experience is a requirement for the MPH degree, separate from the independent project. The Council on Education for Public Health (CEPH), one of the national accrediting bodies for our Graduate Programs, provides the following guidelines:

*"The [graduate] program must provide opportunities for professional degree students to apply the knowledge and skills being acquired through their courses of study. Practical knowledge and skills are essential. A planned, supervised, and evaluated practice experience is considered a very important component of a public health professional degree program. These opportunities should be arranged in cooperation with as wide a range of community agencies as possible, including especially local and state public health agencies in the program's geographic area. Individual waivers should be based on well-defined criteria; the possession of a prior professional degree in another field or prior work experience that is not closely related to the academic objectives of the student's degree program would not be sufficient reason for waiving the practice requirement."*

A public health practicum is considered to be an essential component of the USUHS MPH program. It represents an opportunity for students to enhance their classroom learning by participating in a variety of public health activities at local, regional, and national organizations, military and civilian, within the National Capitol area and, possibly, more distant sites. The opportunities are many and varied, and the potential for personal and professional reward is great. Because this is an educational activity, the practicum is expected to meet explicit learning objectives.

To fulfill the MPH practicum requirement, a student must complete a minimum of 108 hours of a planned public health activity under the direct supervision of an experienced public health professional (the Practicum Site Preceptor). The practicum experience may involve research, clinical practice, program/service delivery, or policy-making settings. Examples of appropriate types of experiences include, but are not limited to, the following: observation of day-to-day operations within a public health agency to determine how important public health issues are identified and prioritized; participation in the development of public health educational materials, reports, or survey instruments at a government or private agency; primary data collection, database development for a health surveillance system, or an outbreak investigation; management system or program evaluation; or public health policy development. A proposal for the practicum experience, jointly prepared by the student and the Practicum Site Preceptor, includes a minimum of three learning objectives and should generally be submitted by the end of winter Quarter. At the conclusion of the practicum experience, the student and the Site Preceptor will complete and submit separate evaluation forms.

To receive academic credit for the practicum, students register for PMO670, Public Health Practicum, generally in the Summer Session, although the hours devoted to the practicum may be spread over several academic quarters (students must maintain a log of activities). Students receive a total of three credits (pass/fail) for their practicum activity after the final report plus two evaluation forms have been submitted to the Director of Graduate Research and Practicum Programs.

Students are referred to the Handbook on Independent Projects and Practicum Experience (under separate cover) for more complete information, guidelines, and sample forms, or contact the Director of Graduate Research and Practicum Programs (Office: A1040G, Phone: 301-295-1975; Fax: 301-295-6282; E-mail: thooper@usuhs.mil).

## DOCTOR OF PUBLIC HEALTH

The Doctor of Public Health (DrPH) advanced degree program is designed to provide rigorous, advanced training for graduate students who plan to assume leadership roles in research, teaching, or the policy arena. DrPH students build on a firm foundation of core public health concepts and principles with additional coursework in research methodology, critical thinking skills, and teaching methods. Our students then apply this knowledge to the design, development, and execution of an original research project culminating in a doctoral dissertation. USUHS students have unique opportunities to work with a variety of public health agencies due to its centralized geography of Washington DC. Students receive broad exposure to the major public health issues confronting the U.S., as well as more global issues, and they learn to systematically and critically evaluate the scientific literature, identifying the inherent strengths and weaknesses of various sources of data. The PMB Doctoral Programs Subcommittee (DPS) is responsible for all matters concerning the DrPH program, including admission of students, program curriculum, and progression of students through advancement to candidacy and ultimately the thesis defense.

The objective of the DrPH program is to produce scholarly health professionals who are knowledgeable in the diverse competencies relevant to public health and who have expertise in at least one of these fields, for example, epidemiologic research, health policy development, environmental risk assessment and management, disaster and emergency preparedness, or tropical public health.

Active duty military medical, dental, and veterinary officers in the Uniformed Services or other Uniformed Services officers with doctoral degrees in a health-related field receive preference for admission to this program. Non-uniformed applicants will be considered for admission on a space-available basis, with preference given to health professionals sponsored by U.S. government agencies. A Master of Public Health degree, or its equivalent, should be considered a prerequisite for admission to the DrPH program. Besides the MPH degree, the minimum requirements include an outstanding academic record, some health-related work or volunteer experience, and a demonstrated interest in pursuing a public health career. Exceptions to the post-baccalaureate degree requirement will be considered on a case-by-case basis. Typically, students without a prior MPH degree will first be required to enroll in the USUHS MPH program, and, upon completion of the MPH degree, apply for admission into the DrPH program.

Course of Study: The DrPH program normally requires a minimum of three years of full-time study. Students must earn a grade of "B" or better in every required course. Students are expected to complete at least 144 credit hours, 48 of which must be formal, from graded courses.

The DrPH program of study is structured of the following components:

- Basic academic foundation consisting of the MPH curriculum
- Additional required advanced core courses and electives
- Attending seminars and journal clubs
- Minimum of one teaching assistant assignment per year
- Oral and written qualifying examination
- Dissertation

Students must meaningfully participate in all aspects of original research: proposal submission, data collection, data analysis and interpretation, and dissertation preparation and submission.

Students transferring into the DrPH program from other institutions may apply up to 24 academic credits of comparable graduate level courses to meet the MPH and DrPH requirements. The individuals responsible for this approval include the PMB Doctoral Programs Subcommittee (DPS) members, the Director of Graduate Programs, and the Associate Dean for Graduate Education. The grades from transferred courses will not contribute to the overall grade point average for coursework completed at this University. Students who have previously completed the MPH program at this University may apply up to 24 credits from elective courses toward the required 48 credits of formal coursework.

Academic Advisor: The Director, Graduate Programs, will appoint an Academic Advisor for each incoming DrPH student. The student working closely with his/her academic adviser will determine which courses will be taken during each academic quarter.

**All DrPH students/candidates are required to complete the following courses:**

**DrPH Curriculum (144 minimum quarter hour credits)**

PMO503	Biostatistics I
PMO504	Biostatistics II
PMO508	Biostatistics III
PMO505	Microcomputer Applications in Public Health
PMO511	Intro to Epidemiology
PMO512	Epidemiologic Methods
PMO513	Advanced Epidemiologic Methods
PMO526	Health Systems
PMO527	Principles of Healthcare Management
PMO530	Behavioral & Social Sciences Applied to Public Health
PMO540	Environmental Health
PMO680	Introduction to Public Health
PMO971	Doctoral Journal Club

Directed Research in the student's area of interest via one of more of the following courses:

PMO701	Advanced Biometrics Tutorial
PMO760	Tropical Medicine Research Tutorial
PMO811	Independent Study in Epidemiology
PMO830	Independent Study in Social and Behavioral Science
PMO881	Military Preventive Medicine Study Topics
PMO911	Research in Epidemiology
PMO926	Health Services Administration Directed Research
PMO940	Environmental/Occupational Health Directed Studies
PMO941	Environmental/Occupational Health Directed Research
PMO960	Directed Laboratory Research
PMO962	Directed Clinical Research
PMO963	Directed Field Research
PMO964	Research in Medical Zoology
PMO970	Directed Studies in Preventive Medicine

Additional courses as required by the student's Thesis Advisory Committee

Required University courses currently include:

- IDO704 Ethics and the Responsible Conduct of Research
- IDO511 Educational Methods

Teaching Assistant Assignments: DrPH students are required to serve as teaching assistants (TA) annually (minimum 2 times) after completing their first year of the program. One of their TA assignments should be in a 4 credit MPH core course (i.e. PMO503, PMO511, PMO526, or PMO530). The role of the TA will vary by course content but regardless the TAs are expected to make significant and measurable contributions to the courses in which they participate, sharing responsibility with the Course Director.

**The following are examples of the ways in which Teaching Assistances may contribute to teaching and learning:**

Maintain class blackboard site for student and lecture postings.

Preview lectures, lecture notes, tests, and laboratory sessions  
Prepare and present lectures; lead labs or small group discussions  
Prepare and grade quizzes, examinations, and papers  
Assist students who need extra instruction  
Provide feedback to the Course Director to improve the course

Each TA assignment should provide an excellent learning experience, allowing TAs to polish their knowledge and skills. After demonstrating competence in the subject as students, the assistant experience allows doctoral students/candidates to develop and demonstrate mastery of the subject material, including theoretical background and application, and to acquire and practice various teaching skills and techniques. Course Directors are responsible for developing specific learning objectives for the TA and for articulating the responsibilities of the TA.

The DrPH Qualifying Examination is composed of a written and an oral examination. The DrPH Qualifying Examination Subcommittee of the DPS is responsible for the creation, conduct and grading of the DrPH written qualifying examination. This comprehensive Written Qualifying Examination encompasses the five core areas (biostatistics, epidemiology, social and behavioral science, health service administration, and environmental health) of public health. Students may take the exam only after completing all core DrPH course requirements. Students must pass all areas of the written examination before proceeding to the oral examination. Students may be allowed one retake of the written qualifying examination if they fail any part of the examination. This retake may consist of just the areas in which they received a failing grade, or the entire examination, at the Subcommittee's discretion.

After successfully passing the written qualifying examination, a Thesis Advisor appointed by the Director of Graduate Programs will be appointed with the advice and consent of the DPS. The student with the assistance of the Thesis Advisor, should prepare a proposal describing the intended DrPH thesis and a suggested Thesis Advisory Committee and forward both to the Director of Graduate Programs and Department Chair. They will then review the proposal, considering its appropriateness as a DrPH thesis topic and whether or not the student is prepared to undertake the project. Additionally, they will review the proposed make-up of the Thesis Advisory Committee.

The Oral Qualifying Examination takes place within one year of the written qualifying examination. Traditionally, the Thesis Advisory Committee is appointed to serve as the oral examination committee; however, additional faculty may be appointed at the discretion of the Director of Graduate Programs. The oral qualifying examination consists of an oral defense of the thesis proposal and, if deemed necessary by the Thesis Advisory Committee, may also consist of an oral examination of public health's core disciplines.

#### Thesis Advisory Committee

The Thesis Advisory Committee will consist of no fewer than four members. Three of these committee members must have a doctoral degree, an academic rank of Assistant Professor or above, and a faculty appointment in the PMB Department. The thesis advisor is also a member of the committee and can serve as one of the required PMB members, if appropriate. The most senior PMB faculty member (excluding the thesis advisor) will serve as Chair of the thesis advisory committee.

Additional members may hold a faculty appointment at USU or have an equivalent appointment outside of USU. Members from outside of USU need the consent of the thesis advisor to serve on the thesis committee. At least one member of the committee must be a USU faculty member, but not have a primary or secondary appointment of any kind in the PMB Department. Students are strongly encouraged to have five faculty members on their thesis committee.

The majority of the members of the student's committee must have a full-time appointment at USU and must be members of the PMB Department. An exception to this requirement may be granted at the discretion of the Associate Dean for Graduate Education upon submission of a written justification.

Advancing to candidacy: Students will advance to candidate status within the DrPH program once they successfully pass both the written and oral components of the DrPH Qualifying Examination.

### Ongoing Progress

Prior to their quarterly meetings, the DPS Chair will contact faculty advisors for updates on each student's progress. This will allow for timely discussion of any students who appear to be at risk. If a majority of the members of the DPS feels that the student still is not making sufficient progress, the student is formally placed on probation.

All major changes to the thesis proposal must be submitted to the Thesis Advisory Committee for approval. The candidate will begin research activities only after obtaining the appropriate institutional approvals and assurances. Prior approval for research by another institution does not automatically constitute approval for this research to be done as a thesis project at USUHS.

It should be expected that DrPH students complete the entire program in five years. The additional two years allowed by USUHS should only be permitted in unusual circumstances beyond the control of the student, such as prolonged illness of the student or thesis advisor or interruptions caused by military duty obligations. Any proposed extension should be first reviewed by the DPS, which then forwards its recommendations to the PMB Chair through the Director of Graduate Programs.

### Thesis Requirement:

The final completed thesis must be presented and defended before the candidate's Examination Committee, which is appointed by the Associate Dean for Graduate Education. Traditionally, the student's thesis advisory committee is appointed to serve as the Examination Committee; however, additional faculty may be appointed at the discretion of the Associate Dean for Graduate Education. After the private defense of the completed thesis is held before the Examination Committee, a public defense is held before the USUHS community. The DrPH thesis must be based on original research, be worthy of publication, and be acceptable to University Graduate Education Office and the University Board of Regents.

An alternative to the traditional thesis pathway is a manuscript-based thesis, which in many ways differs little from the more traditional framework. The standard of quality, the content, and much of the format remains the same. In particular, both require an extensive, unifying introduction, background, and discussion sections, in which the student places his or her work in context. The dissimilarity applies to the materials and methods section and the results section, which in the manuscript-based framework consists of completed manuscripts suitable for peer-reviewed publication. These manuscripts would take the place of the traditional chapters approved for the thesis. The elements of the thesis must still result in a unified product representing the original, independent work of the student. Since the manuscript-based thesis is considered to be an acceptable alternative to the more traditional thesis format, the student and his/her Thesis Advisory Committee can select either format.

## **DOCTOR OF PHILOSOPHY IN ENVIRONMENTAL HEALTH SCIENCES**

The PhD degree program in Environmental Health Sciences (EHS) offers extensive classroom and research experience in the field of environmental health sciences and in selected subspecialties concerned with the health effects of biological, chemical, physical, and radiological hazards encountered in air, soil, and water. Completion of this doctoral degree program requires both independent scholarship and original research. An individualized program of study will be designed to meet the specific needs of each graduate student. Graduates will have the training and experience necessary to enter research and/or operational careers in the environmental health sciences and have the expertise to support military operations worldwide.

Our curriculum provides students with the necessary knowledge and skills to manage a wide range of environmental health issues. The overall program is rigorous, and the focus is to teach the ability to critically assess and solve complex problems in the field of environmental health sciences, especially as they relate to exposure assessment. The program culminates in the successful completion of a doctoral dissertation that reflects the practice and mastery of both fundamental and advanced concepts in environmental health sciences. The academic foundation includes

required core and selected elective coursework, which prepares doctoral candidates for focused efforts in the use of the scientific method to ask appropriate questions and solve problems related to the field.

Preferential admission will be offered to active duty officers in the Uniformed Services serving in a field related to their desired degree program. Applicants will only be accepted as full-time students with a maximum of three years of study in residence. The requirements for satisfactory academic standing are the same as those for the DrPH program. Each PhD candidate must demonstrate sustained excellence in completing independent research to satisfy the thesis requirement. Graduates are expected to be well-versed in both theory and practice, as well as confident and tested in their abilities to apply knowledge, implement policies, and communicate research findings.

Advisory Committee: An Advisory Committee is selected by the PMB Director of Graduate Programs for each PhD student within his/her first year of study. The Advisory Committee consists of at least four faculty members (including a chairperson, an advisor, and two others). The purpose of the Committee is to oversee and direct the student's program. The members of this committee, in concert with the student, prepare a program of study, which is subsequently submitted for approval, through the Director of Graduate Programs, to the Chair of the PMB Department and the Associate Dean for Graduate Education. Any proposed changes are made in full consultation with the student and his/her Advisory Committee and incorporated into the Advisory Committee Report, which is regarded as the official statement of the student's program.

Course of Study: All students/candidates must complete a minimum of 144 credit hours, of which 48 credit hours must be devoted to formal coursework. The 48 hours of formal coursework is regarded as the minimum number of required classroom hours to acquire the knowledge base necessary to support the research phase. This reflects our philosophy that each doctoral student must work closely with his/her Advisory Committee to plan both the overall course of study and the thesis research. Candidates who are active duty military members have the ability to tailor their research to meet the specific needs of their sponsoring Uniformed Service.

Teaching Assistant Assignments: Teaching experience is considered to be an integral part of graduate education. Thus, all graduate students in the EHS PhD program must serve as a laboratory instructor or teaching assistant in appropriate courses as assigned. As a minimum, each PhD candidate will serve as a teaching assistant in one course per year, starting in the second year of his/her program.

Core Courses: The required courses are presented below:

Biostatistics I and II	8
EOH Journal Club (first year)	1/qtr
Environmental Chemistry	3
Environmental Health	4
Epidemiology I and II	8
PMB Doctoral Journal Club (second and third years)	1
Principles of Toxicology	4
Introduction to Health Physics	3
Occupational and Environmental Epidemiology	2
Introduction to Risk Communication	2
Scientific Ethics and the Responsible Conduct of Research	1
Grant Writing	2
<hr/>	<hr/>
Total credits	39

Elective Courses: In addition to the courses offered by our Department, several other courses offered by other USU Departments, including the interdisciplinary Emerging Infectious Diseases program, may be suitable as electives for students in the EHS program. With permission, students may also take courses offered by the Foundation for Advanced Education in the Sciences (FAES) at the National Institutes of Health. FAES courses are offered in the disciplines of biochemistry, biophysics, biology, genetics, chemistry, physics, general studies, languages, mathematics, computer science, medical subspecialties, medicine, physiology, microbiology, immunology, pharmacology, toxicology, psychiatry, psychology, and statistics.

Qualifying Examination for Advancement to Candidacy: The Qualifying Examination in EHS consists of two parts: a written examination followed by an oral examination. The written and oral portions are comprehensive and test

the student's knowledge in the core areas of environmental health, as well as problem-solving and analytic abilities. We anticipate that the Qualifying Examination will be administered within one year, and no later than 24 months post-admission, to those students entering the program with a Master's degree. The Qualifying Examination Committee for PhD degree students will be composed of at least four faculty members holding doctoral degrees and the rank of Assistant Professor or above. Three members will be from the PMB Department; the fourth member may be a PMB faculty member, faculty from another USUHS Department, or faculty from outside the University. The Qualifying Examination Committee is appointed by the PMB Director of Graduate Programs.

Thesis Requirements: The program is focused on conducting original, innovative, and hypothesis-driven research leading to a doctoral dissertation. Following successful completion of the written and oral portions of the Qualifying Examination, the candidate develops a research hypothesis and a formal research proposal, approved by the student's Advisory Committee. The process is a rigorous one, with the candidate presenting the proposal in a seminar format. Committee members provide constructive feedback to ensure that the proposed research is of acceptable quality and relevance. All major changes to the proposal must be submitted to the Advisory Committee for approval. After obtaining the appropriate institutional approvals and assurances, the candidate will begin research activities at the earliest opportunity to maximize the likelihood of developing capabilities for independent research culminating in the dissertation.

Both the Advisory Committee and the Dissertation Committee support the student's independent research through mentoring, guidance, and feedback, especially during the early phases. The Dissertation Committee is composed of at least four faculty members with doctoral degrees, three of whom must have a primary appointment in the PMB Department at the rank of Assistant Professor or above. The fourth member of this Committee must be from another USUHS Department, without a secondary appointment in the PMB Department. The PMB Director of Graduate Programs recommends outside committee member(s) with the approval of the PMB Department Chair. Completion of the dissertation is the sole responsibility of the student. The thesis must be defended before the Dissertation Committee in a closed meeting. The members of the Committee critically examine the student's efforts to design and develop, implement, and complete his/her original research. The Committee makes one of three recommendations following the thesis defense: 1) dissertation acceptable, requiring no more than minor changes; 2) dissertation potentially acceptable, but major revisions required; and 3) dissertation unacceptable. After satisfactory completion and submission of required revisions, the Dissertation Committee recommends acceptance of the dissertation. Successful private defense is followed by presentation of the dissertation in a public forum.

## **DOCTOR OF PHILOSOPHY IN MEDICAL ZOOLOGY**

This PhD degree program provides a broad didactic and research experience in Medical Zoology and its principal subspecialties and is primarily designed for individuals interested in Medical Parasitology or Medical Entomology. Specific goals for this PhD degree program are to develop independent scholarship, originality, and competence in research, teaching, and professional service. This program is designed for outstanding students with a strong commitment to careers in Medical Zoology. Within the PhD program, an individualized course of study is designed for each graduate student to meet his or her specific needs. The PhD program provides the training and experience necessary for research careers in Medical Parasitology or Medical Entomology. Matriculants should have a Master's degree in an appropriate field of biology. Only under the most exceptional circumstances will individuals with only a Baccalaureate degree be considered for admission to the program.

Advisory Committee: For each PhD student, the Director of Graduate Programs will appoint an Advisory Committee within his/her first year of study. The Committee will consist of at least four members of the faculty (a chairperson, an academic advisor, and two others) to oversee and direct the student's program. When formed, the Advisory Committee, in concert with the student, will prepare an individually tailored program of study (including all degree requirements) and submit it for approval to the PMB Department Chair, through the Director of Graduate Programs, and forward it to the Associate Dean for Graduate Education. Any changes made by the Associate Dean or PMB Chair will be in consultation with the student and his/her Advisory Committee. This Advisory Committee Report, as amended, will be regarded as the statement of program requirements.

Course of Study: Two tracks will be offered to students, one in Medical Entomology and the other in Medical Parasitology. All students will be expected to complete a minimum of 144 credit hours, of which 48 credit hours

must be devoted to formal coursework. Applicants will be accepted as full-time students, and a minimum of three years of study in residence is required.

A series of core courses will be required of all students in the Medical Zoology PhD program. In addition, students in the medical parasitology track will take courses in experimental parasitology, helminthology and protozoology, while students in the medical entomology track are required to take courses in arbovirology and biosystematics. Students are also encouraged to take a series of courses in molecular biology. Extensive course offerings in molecular biology are available from other USUHS Departments and from the National Institutes of Health. A list of core and elective courses is presented below:

Core Courses:

Biostatistics I, II, and III	13
Changing Patterns of Arthropod-Borne Diseases	4
Environmental Health	4
Epidemiology I	4
Malaria Epidemiology and Control	3
Medical Parasitology	3
Principles and Practice of Tropical Medicine	6
Ethics and the Responsible Conduct of Research	1
Scientific Writing	1
Total credits	41

A partial list of elective courses within PMB and other departments that may be used to fulfill program requirements follows:

- Department of Preventive Medicine and Biometrics
  - Biosystematics in Medical Zoology
  - Epidemiology and Control of Arboviruses
  - Epidemiology and Control of Infectious Diseases
  - Principles of Toxicology
  - History of Preventive Medicine
  - Immunoparasitology Tutorial
  - International Health I and II
  - Joint Medical Operations and Humanitarian Assistance
  - Malaria Epidemiology and Control
  - Medical Acarology
  - Men, Molluscs and Medicine: An Introduction to Medical Malacology
  - Microcomputer Applications
  - Modern Technology and Vector-Borne Diseases
  - Physiological Parameters of Vector Competence
  - Introduction to GIS in Public Health
  - Remote Sensing Methods in Public Health
  - Research in Medical Zoology
  - Topics in Medical Zoology
  - Tropical Medicine Research Tutorial
  - Tutorial in Medical Zoology
  - Tutorial in Aquatic Biology
  - Vector Biology
- Department of Anatomy
  - Practical Histologic Techniques
- Department of Microbiology
  - Animal Virology
  - Cellular and Molecular Immunology
  - Elementary Immunology
  - Laboratory Microcomputer Programming
  - Microbial Physiology and Genetics
- Department of Pathology

Practical Methods in Cell Mediated Immunology  
Recombinant DNA Technology and Applications  
Interdepartmental Courses  
Electron Microscope Techniques  
Principles and Techniques for the use of Animals in Teaching and Research  
Tutorial in Transmission Electron Microscopy  
Tutorial in Scanning Electron Microscopy  
Tutorial in Freeze-Etching Techniques

Students may also be eligible to take, as electives, courses at The Foundation for Advanced Education in the Sciences (FAES) Graduate School at the National Institutes of Health. FAES courses are offered in the disciplines of biochemistry, biophysics, biology, genetics, chemistry, physics, general studies, languages, mathematics, computer science, medical subspecialties, medicine, physiology, microbiology, immunology, pharmacology, toxicology, psychiatry, psychology and statistics.

Teaching experience is considered to be an integral part of graduate education, and all graduate students in the program will participate in the Diagnostic Parasitology course offered to second-year medical students and/or in other PMB Department courses.

Qualifying Examination: The Qualifying Examination in Medical Zoology will consist of two parts: a written examination followed by an oral examination. The written examination is comprehensive and designed to test the student's knowledge of selected topics in medical zoology, as well as the student's problem-solving abilities. For those who matriculate with a master's degree, the Qualifying Examination will normally be scheduled one year post-admission and no later than 24 months post-admission. The Qualifying Examination Committee for PhD degree candidates will be composed of at least four faculty members at the rank of Assistant Professor or above, three from the PMB Department, and appointments are made by the PMB Director of Graduate Programs. The fourth member may hold either a faculty position in this Department, in another USUHS Department, or have an appointment outside of USUHS. Additional members, if desired, may be USUHS faculty or affiliated with an outside institution. The majority of the Committee will be full-time faculty members of the PMB Department.

Thesis Requirement: A written dissertation based on the student's original research must be prepared by the student, submitted for approval to the Advisory Committee, and presented and defended before a Dissertation Committee.

Defense of Thesis: The Dissertation Examination Committee will be composed of at least four persons with doctoral degrees. At least three of these must be USUHS faculty members at the rank of Assistant Professor or above with a primary appointment in the Department of Preventive Medicine and Biometrics. A fourth member of this Committee will be from another Department at USUHS. Additional members may either hold a faculty position at USUHS or have an appointment outside of USUHS. Outside appointments will be recommended by the Director of Graduate Programs and approved by the PMB Department Chairperson. The majority of the Committee must be full-time faculty of the PMB Department.

## APPLICATION PROCEDURES

### **COMPLETE APPLICATION PACKAGES ARE DUE AT THE OFFICE OF GRADUATE EDUCATION BY JANUARY 15th EACH YEAR FOR ALL GRADUATE PROGRAMS IN THE DEPARTMENT OF PREVENTIVE MEDICINE AND BIOMETRICS (PMB)**

Application forms for all graduate degree programs offered by the University may be obtained by contacting the Office of Graduate Education:

Associate Dean for Graduate Education  
Uniformed Services University of the Health Sciences  
4301 Jones Bridge Road, Bethesda, MD 20814-4799  
Telephone (301) 295-3913; DSN 295-3913

Forms may also be downloaded from the USUHS web site: <http://www.usuhs.mil/graded/application.html>

In addition to the USUHS Application for Admission to Graduate Study, the University requires the following documents: Official academic transcripts for all post-secondary education; results of the Graduate Record Examination (GRE); three letters of recommendation from individuals familiar with the applicant's academic, professional, and/or military service background; and a personal statement describing how the applicant became interested in public health and how they envision incorporating the training they would receive in their future careers. The number used to identify USUHS for the results of the Test of English as a Foreign Language (TOEFL) and the Graduate Record Examination (GRE) is 5824. The GRE requirement may be waived for recent (within last five years) graduates of accredited schools of medicine, dentistry and veterinary medicine, or for applicants who have recently completed a doctoral degree in a health science discipline at an accredited college or university. Applicants wishing to have the GRE requirement waived must submit a formal, written request for a waiver to the Associate Dean for Graduate Education. The completed application form and supporting documents must be submitted to the Associate Dean for Graduate Education by January 15th each year. Careful consideration is given to all eligible applicants, and students are selected for admission to the PMB Graduate Programs on a competitive basis without regard to race, color, sex, creed, or national origin. However, preferential admission is granted to active duty Uniformed Services personnel with Service sponsorship. Civilian applicants are admitted on a space-available basis.

The appropriate subcommittee within the PMB Department reviews all completed application packages. Active-duty Uniformed Services personnel must obtain the sponsorship of their parent organization and may incur an obligation for additional service in accordance with the applicable regulations governing sponsored graduate education. The names of applicants recommended for admission are forwarded to the Director of Graduate Programs, who in turn submits a recommendation to the Associate Dean for Graduate Education through the PMB Department Chair. The Office of the Associate Dean for Graduate Education provides official notification of acceptance.

Early, complete application packages from uniformed applicants will be reviewed and the applicant notified as to acceptance or non-acceptance usually within 6-8 weeks; early civilian applicants will also be notified of provisional acceptance or non-acceptance. Confirmation of provisional acceptance will be made later in the spring, depending on space availability. Late applications are considered on a case-by-case basis, especially as they concern the needs of the Uniformed Services.

For additional information, please go to the USUHS website. If you have specific questions, please contact the Program Administrator for PMB Graduate Programs at (301) 295-1977 or address written correspondence as follows:

Director of Graduate Programs  
Department of Preventive Medicine and Biometrics  
Uniformed Services University of the Health Sciences  
4301 Jones Bridge Road, Bethesda, MD 20814-4799

### **MPH Program**

Preference for admission goes to medical, dental and veterinary officers on active duty in the Uniformed Services, as well as to other Uniformed Services officers possessing doctoral degrees in health-related fields. Applicants without a doctoral degree in a health-related field may also be considered for admission. However, these applicants must have, as a minimum, a Baccalaureate degree with an outstanding academic record (college transcript(s) and GRE scores), some health-related experience, and demonstrated interest in pursuing a public health career. Civilian applicants will be considered for admission on a space-available basis, with preference given to physicians and other health professionals sponsored by other U.S. government agencies. Although civilians accepted as MPH students not charged tuition, they are not eligible for a stipend since there are no USUHS sources of financial aid for Master's degree students.

### **MTM&H Program**

The MTM&H program is restricted to physicians with a medical degree from an accredited institution and at least one year of post-doctoral clinical training. The sponsoring Service or agency will be responsible for funding the travel and per diem for the required overseas experience and for verifying the applicant's professional credentials and unrestricted privilege to practice medicine. Some funds may be available from the University for members of the uniformed services through a grant from the DoD Global Emerging Infectious System. Civilians accepted as MTM&H students are not eligible for stipends and are personally responsible for travel and living expenses for the overseas experience.

### **MSPH Program**

The MSPH program is restricted to military personnel on active duty in one of the preventive medicine/public health disciplines. Applicants should possess, as a minimum, a Baccalaureate degree in one of the biological or health science disciplines or in engineering, an outstanding academic record, some health-related experience, and demonstrated interest in pursuing a career in public health. With the permission of the PMB Director of Graduate Programs, outstanding civilian applicants may be considered on a space-available basis, with preference given to health professionals sponsored by other U.S. government agencies. Civilians accepted as MSPH students are not eligible for a stipend, and there are no USUHS sources of financial aid for Master's degree students.

### **DrPH Program**

Admission to this program will be preferentially offered to medical, dental and veterinary officers on active duty in the Uniformed Services and to other Uniformed Services officers with doctoral degrees in health-related fields. Civilians and uniformed officers with less than a doctoral degree in a health-related field may also be considered for admission. To be competitive, these applicants would be expected to have at least a Master's degree with an outstanding academic record, some public health experience, and demonstrated interest in pursuing a career in public health. Civilian DrPH students may be eligible for USUHS graduate student stipends if they meet the University eligibility criteria.

### **PhD Program**

The PhD program in Environmental Health Science is limited to active duty uniformed officers serving in a field related to environmental health. In the PhD program on Medical Zoology, preferential admission will be offered to active duty officers in the Uniformed Services serving in a field related to medical zoology, but civilian applicants will be considered on a space-available basis, with preference given to health professionals sponsored by other U.S. government agencies. At a minimum, applicants for both programs must have a Master's degree with an outstanding academic record (undergraduate transcript, GRE scores) and documented successful completion of rigorous coursework related to their desired area of graduate study. A limited number of pre-doctoral teaching/research assistantship stipends are available for civilian graduate students in PhD programs through the Graduate Education Office.

Academic Advisor: Each graduate student in the PMB Department will be assigned an academic advisor, who is a member of the Departmental faculty. The advisor is responsible for guiding the student in the selection of an appropriate curriculum based on his or her career objectives, for monitoring student performance, and for counseling, as appropriate.

Transfer Credits and Waivers: Students wishing to waive a program requirement for a core course on the basis of previous coursework and/or relevant work experience may request exemption for up to eight credit hours of required

formal coursework. The procedure involves direct negotiation with the appropriate Course Director in the PMB Department and will include, but is not limited to, documentation of previous academic credit with course description and objectives; evidence of relevant experience demonstrating mastery of subject matter; and/or “testing out” of the course requirement. The course requirement may be satisfied by modifying the process, for example, by taking the final examination or by serving as a teaching assistant in the course. Alternatively, an individual may be given permission to substitute an individually tailored “special topics” course. Doctoral students may still receive teaching credit for serving as a Teaching Assistant in an exempted course.

### **FOREIGN APPLICANTS**

Foreign applicants must submit recent scores from both the Graduate Record Examination and the Test of English as a Foreign Language (TOEFL) in addition to all other required documents. Foreign civilian applicants sponsored by any organization with a specific bilateral agreement with USUHS for research and training may apply directly to the University for entry into a graduate education program. Foreign military applicants or civilians employed by their country’s Ministry of Defense should also have their military organization contact the American Embassy for information pertaining to funding through the Foreign Military Sales Act of 1949 or the International Military Education and Training grant program. Other foreign civilian applicants need to contact the American Embassy in their home country for information on entering the U.S. for educational purposes.

### **OFFICER STUDENT STATUS**

USUHS graduate students who are members of the Armed Forces are detailed/attached to the University for purposes of graduate study only. Army graduate students are assigned to the Student Detachment located at Fort Sam Houston, Texas; Navy graduate students are assigned to the Naval School of Health Sciences; and Air Force graduate students are assigned to the Air Force Institute of Technology located at Wright-Patterson Air Force Base in Ohio. Overall records management is the responsibility of each student and their respective military organization. In this regard, Armed Forces graduate students are in a different status than medical students assigned to USUHS.

While a graduate student at USUHS, members of the Uniformed Services will conform to all University uniform and dress code standards applicable to medical students, staff, and faculty, as promulgated and enforced by the Commandant, School of Medicine. Moreover, uniformed graduate students are expected to set a good example for the rest of the student body by displaying proper military courtesy and discipline at all times, and, when appropriate, assisting the Commandant in enforcing standards of conduct among military members.

A limited number of Uniformed Service members may be admitted into the Master of Public Health (MPH) degree program with their billet remaining at their parent agency. These students will have two years to complete all course requirements. In order to be enrolled as a two-year student, the officer must furnish a letter from their immediate supervisor, or other appropriate individuals in his/her chain of authority, approving the officer's participation in the graduate degree program and agreeing to support his/her commitment to graduate study at USUHS. The non-billeted program is open only to uniformed officers and U.S. government civilian employees, at the discretion of the Director of Graduate Programs.

### **AUDITING / SHADOWING CLASSES**

With the permission of the Graduate Programs Director and the concurrence of the course director, an individual who is not officially enrolled in a PMB graduate program may be permitted to audit (attend classes but usually do not take examinations) or shadow (fully participate in all class activities, including examinations) a particular PMB graduate course.

### **STUDENT EVALUATION**

Grading: Student performance in all formal courses taken for credit, whether at USUHS or at an affiliated institution, will be evaluated and ordinarily reported as a letter grade. Some courses are graded for credit as pass/fail. Graduate students must have a cumulative grade point average (GPA) of "B" (3.0) or better at the end of the academic year to be eligible for the degree. On a quarterly basis, the Departmental Graduate Affairs Committee

reviews the performance of each graduate student and makes recommendations for counseling, remediation, and/or academic probation for those in academic difficulty. Students who fail to achieve a GPA of 3.0 after two quarters of study, or who receive any grade below a "C," will be referred to the University Graduate Education Committee for academic performance review. (See University policy on "Graduate Student Grading, Promotion, and Dismissal Procedures")

**Academic Ethics:** Satisfactory academic standing is determined both by performance in formal courses and by personal attributes related to professionalism and ethical standards. The USUHS faculty considers other aspects of academic performance, such as attitudes and perceptions, honesty and integrity, reliability, fairness, judgment, insight, interpersonal skills, and institutional loyalty, as important attributes for success as a biomedical scientist. These comprise the elements of academic ethics. Students whose behavior or performance is judged to be unethical are subject to dismissal even though they are otherwise in good academic standing.

**Awarding of Degrees:** Upon successful completion of all requirements for the MPH, MTM&H, MSPH, DrPH or PhD degree, the Director of Graduate Programs, through the PMB Department Chair, will certify student eligibility for the graduate degree to the Associate Dean for Graduate Education. Following review and approval, the Associate Dean for Graduate Education will recommend to the Board of Regents that the appropriate degrees be awarded.

## **ACADEMIC HONESTY**

The USUHS policy on academic "cheating" is articulated in USUHS Instruction 1306, "Academic Standing of Graduate Students", revised, effective January 1, 1996.

It states, in part:

- E. 2. Students/fellows whose performance is academically unethical are subject to dismissal even though they are otherwise in good academic standing.
  - a. Students/fellows shall not:
    - (1) Use, attempt to use, or copy an unauthorized material during any examination or graded exercise;
    - (2) Knowingly present the work of someone else as their own work without attribution;
    - (3) Forge or alter for advantage any academic document;
    - (4) Knowingly disregard instruction for the proper performance of any examination or graded exercise;
    - (5) Intentionally impede or interfere with the ability of fellow students/fellows to use academic materials or to complete academic work; or
    - (6) Knowingly assist a fellow student/fellow in any of the above activities.
  - b. In addition to those actions listed [above], GEC [Graduate Education Committee] may determine that other actions demonstrate unethical academic behavior.

This subject is extremely important and is treated as such by the USUHS community. If you have any questions or wish to discuss or review this policy, please see the Director, Graduate Programs, Department of Preventive Medicine and Biometrics, or the Associate Dean for Graduate Education.

## **UNIVERSITY POLICY ON GRADUATE STUDENT GRADING, PROMOTION, AND DISMISSAL PROCEDURES**

Standards of performance and procedures regarding academic status for graduate students are contained in USUHS Instruction No. 1306 "Academic Standing of Graduate Students" of 10 August 1982. A summary of these standards is as follows:

- Satisfactory academic standing is defined as a cumulative grade point average of B (3.0), with no grade below "C" in any course. Doctoral level students in the Department of Preventive Medicine and Biometrics must earn at least a "B" in each required course.
- Satisfactory academic standing is determined both by performance in formal courses and by the aspects of academic performance, including skills, attitudes and attributes judged by the graduate faculty to be important for success as a basic medical scientist. These include factors such as honesty, integrity, reliability, perception, balanced judgment, personal insight, and the ability to relate to others.

Graduate students will be referred to the Graduate Education Committee for review for any of the following reasons:

1. When a final grade of "D" or "F" is received in any course.
2. When the cumulative grade point average is below 3.0 at the end of the third academic quarter or any time thereafter.
3. For failure to maintain appropriate academic standing or violation of academic integrity.

### **Following review the Graduate Education Committee may recommend:**

1. Dismissal.
2. Appropriate remedial action within a specified period of time. NOTE: A grade of F will not be allowed to stand unremediated on a graduate student's transcript regardless of the student's overall academic performance. If a grade of D is received in a course, the Committee may require remedial work depending upon the student's overall academic performance. Grades for the original course and the remedial work will both remain on the student's transcript. In calculating the cumulative GPA, the original D or F and the grade for the remedial work will be averaged, and the averaged grade will be applied to the number of quarter credit hours for the original course to calculate the final grade point average.
3. Other action appropriate to the specific cause under review.

Any student reviewed by the Graduate Education Committee and found to be academically deficient will either be recommended for dismissal or placed in a probationary status until a satisfactory academic standing is achieved. Specific details of these policies can be obtained from the Office of the Associate Dean for Graduate Education.

### **DEPARTMENT OF PREVENTIVE MEDICINE AND BIOMETRICS ACADEMIC PROMOTION, PROBATION, AND TERMINATION PROCESS FOR THE MPH/MTM&H/MSPH PROGRAMS**

The current policy for satisfactory academic standing is defined in USUHS Instruction 1306 as:

"...a cumulative grade point average of B (3.0), with no grade below "C" in any course.

Satisfactory academic standing is determined both by performance in formal courses and by the aspects of academic performance, including skills, attitudes and attributes judged by the graduate faculty to be important for success as a [public health professional]. These include factors such as honesty, integrity, reliability, perception, balanced judgment, personal insight, and the ability to relate to others."

The Masters level graduate programs (MPH, MTM&H, and the first year of the MSPH) within the Department of Preventive Medicine and Biometrics (PMB) consist of a compressed schedule of core and elective courses over a one year period. Therefore, the academic progress of students in these programs requires more frequent monitoring than that of students in multi-year programs. Accordingly, in addition to the stated policy in USUHS Instruction 1306, the PMB Department's policy on academic probation is as follows:

If a student receives a grade of "C" or less in any core course or a "D" or "F" in any other course or if his/her overall GPA falls below 3.0 at the end of any academic quarter, he/she will be placed on academic probation. The student, his/her Academic Advisor, and the Course Director(s), if appropriate, will develop a corrective plan of action. A memorandum from the Academic Advisor describing the student's status and the agreed upon plan of action will be presented to the student and a copy placed in the student's official file. A copy of the memorandum will also be submitted to the Director of Graduate Programs for review.

The student will remain on academic probation until the corrective plan is completed. All grades of "D" and "F" must have been remediated to a grade of at least a "C."

If the student receives another grade of "C" or less in any core course or a "D" or "F" in any other course or if his/her overall GPA falls below 3.0 or does not maintain satisfactory academic standing for two consecutive quarters, the Graduate Programs Director will then refer him/her to the USUHS Graduate Education Committee for the process of review and possible dismissal from the program.

### **INCLEMENT WEATHER POLICY**

The University is usually open for business in inclement weather unless the Federal Government is closed for the day due to extreme weather conditions (such as heavy snow or ice on the roads). If the Federal Government is closed for the day, then the University is closed and all classes for that day are canceled. Occasionally, the Federal Government will announce a delayed opening or liberal leave policy for "non-essential" personnel when the weather conditions are not severe enough to warrant the closure of the government for the day. However, students, faculty and staff required for teaching support are defined as essential personnel and are expected to report for work on time, within the bounds of safety and common sense.

The opening status of the Federal Government on inclement weather days is broadcast on local television and radio stations, and is available online at the USU website: [www.usuhs.mil](http://www.usuhs.mil) and on a taped telephone USU message system at 301-295-3039. The color codes used to describe the opening status of the Federal Government and USU are in the table below:

**THE INCLEMENT WEATHER MESSAGES AND COLOR CODES ARE AS FOLLOWS:**

<b>COLOR CODE</b>	<b>MESSAGE NO.</b>	<b>MESSAGE</b>
<b>GREEN</b>	<b>MESSAGE 1</b>	"This is the Uniformed Services University of the Health Sciences. The University is open. All employees are expected to report to work on time. Students will report to classes as scheduled. Code "GREEN" is in effect for the University."
<b>YELLOW</b>	<b>MESSAGE 2</b>	"This is the Uniformed Services University of the Health Sciences. OPM has announced an unscheduled leave policy. The University is open. Due to the existing weather conditions, employees may take leave without prior approval. However, employees should inform their supervisors of their intentions. Students, faculty and staff required for teaching support are defined as essential personnel and are expected to report for work on time, within the bounds of safety and common sense. Emergency personnel or those entrusted with patient or animal care, or emergency facilities or research requirements as designated by their Activity Heads or Chairs are expected to report to work on time unless other arrangements have been made. Code "YELLOW" is in effect for the University."
<b>BLUE</b>	<b>MESSAGE 3</b>	"This is the Uniformed Services University of the Health Sciences. OPM has announced an adjusted home departure policy of ____ hour(s). The University is open. Due to the existing weather conditions, employees should adjust their normal home departure time consistent with the OPM announcement. Students, faculty and staff required for teaching support are defined as essential personnel and are expected to report for work on time, within the bounds of safety and common sense. Emergency personnel or those entrusted with patient or animal care, or emergency facilities or research requirements as designated by their Activity Head or Chairs are expected to report to work on time unless other arrangements have been made. Code "BLUE" is in effect for the University."
<b>ORANGE</b>	<b>MESSAGE 4</b>	"This is the Uniformed Services University of the Health Sciences. OPM has announced an adjusted home departure/unscheduled leave policy of ____ hour(s). The University is open. Due to the existing weather conditions, employees should adjust their normal home departure time consistent with the announcement. Employees may take leave without prior approval, but they should inform their supervisors if they plan to take leave. Students, faculty and staff required for teaching support are defined as essential personnel and are expected to report for work on time, within the bounds of safety and common sense. Emergency personnel or those entrusted with patient or animal care, or emergency facilities or research requirements as designated by their Activity Heads or Chairs are expected to report to work on time unless other arrangements have been made. Code "ORANGE" is in effect for the University."
<b>RED</b>	<b>MESSAGE 5</b>	"This is the Uniformed Services University of the Health Sciences. OPM has announced that the Federal Government is closed. Due to the extreme weather conditions, the University is closed. Students, faculty and staff required for teaching support or essential personnel are NOT to report to class. However, all emergency personnel who are entrusted with patient or animal care, or emergency facilities or requirements as designated by their Activity Heads or Chairs are to report to work. Code "RED" is in effect for the University."
<b>WHITE</b>	<b>MESSAGE 6</b>	"This is the Uniformed Services University of the Health Sciences. The status on opening, closing or a possible unscheduled leave or adjusted home departure policy for the University and all Federal Agencies in the Washington METRO area is pending an official announcement from the Office of Personnel Management (OPM). This message will be updated in accordance with the OPM announcement. Code "WHITE" is in effect for the University."

**NOTE: YOU WILL HEAR ONE OF THE ABOVE MESSAGES WHEN YOU CALL 301-295-3039 DURING PERIODS OF INCLEMENT WEATHER.**

## **GRADUATE MEDICAL EDUCATION PROGRAMS (RESIDENCIES)**

### **National Capital Consortium (NCC) / Uniformed Services University (USUHS) Occupational and Environmental Medicine (OEM) Residency**

#### **Mission:**

The mission of the OEM residency is to produce highly competent occupational and environmental medicine specialists who pass the certification examination of the American Board of Preventive Medicine (ABPM) and become leaders in the field of occupational and environmental medicine. OEM residency graduates are capable of serving in a wide variety of military assignments that include direct support of globally stationed and deployed operational forces, fixed based clinical settings, world class biomedical research facilities, and in policy positions at the highest policy-making levels of each service and the DoD. Graduates possess preventive and occupational medicine skills and they are able to practice in a broad range of civilian and international settings.

#### **Background and Overall Residency Structure**

The NCC/USUHS OEM Residency is a 2-year program for Medical Corps officers sponsored by the Air Force and Navy. Commissioned Corps Officers of the US Public Health Service have completed in the residency in the past and are eligible to apply with Public Health Service sponsorship.

The NCC/USUHS OEM Residency is co-located and shares resources with the NCC/USUHS General Preventive Medicine Residency (GPM) Residency that trains residents primarily from the Air Force, and Navy. Thus, between the two companion residencies, all three Services, the Uniformed Public Health Service, and on a space available basis, Canadian forces residents are represented.

U.S. Army residents accepted into the PGY-2 year of training that begins in academic year 2008-2009 will attend USUHS to earn their masters in public health (MPH). (A small number of Army residents may be selected to attend the Johns Hopkins University Bloomberg School of Public Health). The residents then complete a practicum PGY-3 year in General Preventive Medicine at the Walter Reed Army Institute of Research, Silver Spring, MD, followed by a PGY-4 practicum year in occupational and environmental medicine (OEM). Army, Navy and Canadian Forces residents will be eligible to sit for board certification by the American Board of Preventive Medicine in the two specialty area of Occupational and Environmental Medicine.

The NCC/USUHS PM/OEM Sequential Residency is a DoD-sponsored training program leading to ABPM certification accredited by the Accreditation Council for Graduate Medical Education (ACGME) as a three year program. The co-location of the PGY2 Academic, PGY3 and PGY4 Practicum years allows for optimal continuity and coordination throughout both training years.

#### **PGY2 Academic Year**

The USUHS Academic Year is twelve months in duration, beginning the first week in July and ending the last week in June. The primary objective of the academic year is to provide the residents with a solid academic foundation. To successfully complete the academic year, residents must meet the requirements for an MPH degree and earn a minimum of 60 course credits. For the purposes of board certification in Occupational and Environmental Medicine, the ABPM requires a PGY2 Academic Year consisting of courses in epidemiology, biostatistics, health services administration, environmental health, and behavioral health.

In addition to the core requirements, OEM residents must actively participate in the Weekly Resident Meeting. They must enroll in the GPM and OEM Journal Club-PMO 973. Residents must take Epidemiology II and III and Biostatistics II. Further, residents must complete the following courses: Principles of Toxicology PMO 559, Industrial Hygiene I and Laboratory PMO 550, Selected Topics in Occupational Health-PMO 642, Fundamentals of Clinical Occupational, Environmental and Preventive Medicine- PMO 558, Occupational Ergonomics-PMO 652, Occupational and Environmental Epidemiology- PMO 519, Clinical Occupational and Environmental Medicine-PMO 542, Industrial Hygiene Field Studies-PMO 553, Current Injury Prevention Issues and Initiatives PMO 655, Joint Medical Operations and Humanitarian Assistance-PMO548, Risk Communication PMO 599, and Public

Health Issues in Disasters, PMO 613. This academic training culminates with the awarding of a Master of Public Health (MPH) or Master of Tropical Medicine and Hygiene (MTM&H) degree.

In order to obtain an MPH/MTM&H, an individual research project is required in addition to the above course work. Each resident must choose a project mentor from the USUHS or residency faculty. It is expected that residents will complete their independent projects during the academic year in order to satisfy MPH/MTM&H requirements.

Preventive medicine and occupational medicine residents who pursue the MTM&H degree can write up their overseas experience to meet the practicum requirements for the degree. Some residents entered training having completed an MPH degree. In these cases, transcripts are carefully reviewed by the program director for content, currency of knowledge is assessed, and individual needs are determined. Residents may be asked to repeat their MPH if coursework is older than 4 years since completion, or they may choose to earn an MSPH or MTM&H.

### **PGY3 Practicum Year**

The practicum year begins immediately after completion of the academic year. Residents must spend 52 weeks (equivalent of 12 months) in practicum year rotations. Residents may not take more than two weeks of leave in either the MPH/MTM&H or practicum years, if they elect to use it. This will permit an on-time graduation if convalescent leave or permissive TDY is needed for house-hunting.

The object of the practicum year is to complete the training of the resident by giving him/her a variety of opportunities to apply the 'book knowledge' of the academic year to real world occupational medicine practice situations. The challenge of occupational medicine is to make rational, evidenced-based decisions based on sound data and science in the face of uncertainty, inadequate information, politics, economics, and other confounders.

The practicum year is structured as a series of rotations, typically lasting 8 weeks each. Each rotation is built around ACGME competencies, and each rotation has a designated preceptor who supervises and guides the resident. The resident is expected to fully participate in a "hands-on" mode during practicum rotations, assuming significant responsibilities. Usually, in addition to dealing with the day-to-day work at the rotation site, the preceptor will assign a specific project or series of projects for the resident to complete.

Because of the unique circumstances of the USUHS OEM residency (robust support for the residency, fully funded and salaried residents, and a prime location in Washington, DC), a large number of practicum rotations are possible. The greatest dilemma for most residents in the practicum year is choosing among the different rotation possibilities. Doing a variety of rotations is desirable because it allows the resident to experience a wide range of occupational medicine practice situations.

The practicum year will be tailored to the needs of the individual and his/her sponsoring service. The practicum year may be viewed as the hands-on application of the academic knowledge. Specific residency educational goals and objectives for each practicum rotation are expressed in clear behavioral and measurable terms in the letter of agreement between the residency and the practicum site and in the resident rotation evaluation. These educational goals and objectives for each practicum rotation are reviewed with the resident prior to each rotation and are included as an appendix to the residency handbook.

In addition to their rotations, practicum year residents continue to participate in residency meetings and journal club. They are expected to take a more active leadership role in these activities. They are expected to serve as mentors for the MPH/MTM&H year residents, advising them on their courses and teaching them about the practicum year. The resident must present the results of their research projects at a national professional meeting and submit an abstract for publication.

### **Core Rotations**

Required "core" rotations, are 4-8 weeks in duration. They are designed to cover a wide spectrum preventive and occupational medicine practice, from front-line military and civilian public health agencies, including the policy level. The philosophy of the residency is that every resident needs to get experience with front line civilian and military occupational and environmental medicine. They should also get experience with higher-level policy

organizations in the military and civilian sectors. If a resident already has significant experience in one of these areas then a core rotation may be waived at the discretion of the Program Director.

Of note, per the residency program requirements, each resident must complete a minimum of six months of clinical rotations in their practicum year. The core required Occupational & Environmental Medicine Rotations include:

### **Required Administrative Rotations**

1. Two months at the Federal Occupational Health and Safety Administration, Office of Occupational Medicine, Washington DC
2. One to two month service specific administrative rotations:
  - Army: Two month at the US Army Center for Health Promotion and Preventive Medicine, Edgewood Arsenal, MD (includes US Army Inspector General Surety Inspection)
  - Navy: One Month at the Bureau of Medicine and Surgery, Washington, DC, one month at the Navy and Marine Corps Public Health Center, Portsmouth, VA.
  - Air Force: Two months at Air Force Medical Support Agency, Bolling AFB, Washington, DC.
  - Canadian Forces: One month at the service-specific rotations listed above or by arrangement in advance, the Canadian equivalent rotation.

### **Six Months Required Clinical Rotations**

Army Medical Center, Occupational Health Service (Two Months WRAMC OHC) or  
National Naval Medical Center, Occupational Health Service, Bethesda, MD (Two months)  
National Institute of Health, Occupational Health Clinic (Two Months)  
Walter Reed Army Medical Center, Physical medicine & Rehabilitation Service, Washington, DC (One Month)  
Annapolis Naval Health Clinic, Sports Medicine or  
Dewitt Army Community Hospital Sports Medicine Service, Alexandria, VA (One month)

### **One Month Required Research Rotation**

Walter Reed Army Institute of Research, Washington DC  
Naval Health Research Center, San Diego, CA  
USUHS Department of Preventive Medicine and Biometrics

### **Clinical Electives**

Pulmonary medicine, NNMC or Walter Reed  
Dermatology, NNMC or Walter Reed  
Ophthalmology, NNMC or Walter Reed  
Travel Medicine, NNMC or Walter Reed

### **Two Month Required Industrial Rotation:**

Aberdeen Proving Grounds, Kirk OH Clinic  
US Coast Guard Shipyard, Occupational Health Clinic, Curtis Bay, MD.  
National Security Agency, Occupational Health Service, Fort Meade, MD  
Shipyard Rotations (Philadelphia, PA and Portsmouth, New Hampshire)

### **Policy/Union Electives**

VA Central Office  
Office of the Assistant Secretary of Defense for Health Affairs, Falls Church, VA  
International Association of Fire Fighters, Washington, DC

### **Application Process**

The NCC/USUHS OEM Residency does not participate in the civilian residency match program, but instead uses the DoD Joint Graduate Medical Education Selection Board (JGMESB) to select our residents. The JGMESB typically meets early in December each year, and notification of those selected occurs shortly thereafter, usually by posting to the Service respective graduate medical education websites.

Army, Air Force and Navy information on the JGMESB process is available from:

**Army:**

GENERAL INFORMATION FOR MEDICAL EDUCATION DIRECTORATE  
HQDA, OTSG  
ATTN: DASG-PSZ-M  
5109 LEESBURG PIKE  
Skyline 6, Room 691  
FALLS CHURCH, VA 22041-3258  
Phone Numbers: (877) 633-2769, (703) 681-7781, DSN 761-7781  
Fax Numbers: 703-681-8044, DSN 761-8044  
Email: DASG.ZHM@OTSG.AMEDD.ARMY.MIL  
Internet: <http://www.mods.army.mil/medicaleducation/>

**Navy:**

Naval Medical Education and Training Command  
Graduate Programs - Code OG12  
Bldg 1, Tower 15  
8901 Wisconsin Avenue  
Bethesda, MD 20889-5611

FTOS/OFI PROGRAMS ASSISTANT (CODE-OG151)  
COMM: (301) 319-4511 DSN: 285-4511  
FAX: (301) 295-6113  
Internet: <http://nshs.med.navy.mil/gme/mcpp.htm>

**Air Force:**

HQ AFPC/DPAME  
550 C Street W Suite 25  
Randolph AFB, TX 78150-4727

COMM: 210-565-2638 DSN 665-2638  
Toll Free: 1-800-531-5800  
FAX: 210-565-2830  
E-Mail: [afpc.dpame@randolph.af.mil](mailto:afpc.dpame@randolph.af.mil)  
Internet: <http://www.afpc.randolph.af.mil/medical/PhysicianEducation/default.htm>

The NCC/USUHS OEM residency program has the capacity for fifteen total residents between the PGY2 and PGY3/4 years. The number of sponsored (fully funded) residency training authorizations varies from year-to-year, based upon Service training needs. Canadian military officers are accommodated on a space available basis after the DoD match is completed.

Application to the USUHS MPH is done separately after acceptance to the NCC/USUHS Preventive Medicine residency program through the JGMESB. Information on application to the USUHS graduate school is available at . The deadline for application to the MPH or MTM&H program is 15 January.

Applicants must have, at a minimum, completed an internship of which at least 6 months are clinical. Fulfilling this requirement allows the internship to count as the PGY1 year for ABPM certification eligibility. Applicants may apply immediately after internship.

The most competitive physician applicants have completed an initial tour as a general medical officer (GMO), or flight surgeon (FS) prior to residency. Many past and current residents enter the OEM residency already board certified in another specialty, such as Family Practice.

## **National Capital Consortium (NCC) / Uniformed Services University (USUHS) General Preventive Medicine (GPM) Residency**

### **Mission**

*The NCC (USUHS) General Preventive Medicine Residency trains fully competent, board-certified physicians who expertly apply population-based methods to promote, protect, maintain and rehabilitate the health of all entrusted to their care anytime, anywhere.*

### **Overall Learning Objectives**

At the completion of this training program, residents will be able to:

- Apply principles and methods of biostatistics and epidemiology effectively
- Plan, administer, and evaluate health systems and medical programs
- Recognize, assess, and control environmental and occupational health hazards
- Address social, cultural and behavioral factors influencing individual and public health
- Implement primary, secondary, and tertiary prevention for assessed needs
- Identify and counter disease and injury threats related to military service

### **Background and Overall Residency Structure**

The NCC (USUHS) GPM Residency is a two year graduate medical education training program for Medical Corps officers sponsored by the uniformed Services of the United States and is fully accredited by the Accreditation Council for Graduate Medical Education (ACGME) through March 2013. This program trains primarily Air Force and Navy physicians since the Army operates two GPM residency programs of its own: one at Walter Reed Army Institute of Research and the other at Madigan Army Medical Center. The NCC (USUHS) GPM residency program is approved by the ACGME for twelve (12) total residents split between the Post-Graduate Year two (PGY2) (six residents) and PGY3 (six residents) training phases. The number of sponsored (fully funded) residency training authorizations varies from year-to-year, based upon Service training needs. The NCC (USUHS) GPM Residency is co-located and shares resources with the NCC (USUHS) Occupational and Environmental Medicine (OEM) Residency. Both programs are also able to train sponsored foreign military and Public Health Service physicians on a space-available basis.

The NCC (USUHS) GPM and OEM Residencies are the only DoD-sponsored training programs leading to American Board of Preventive Medicine (ABPM) certification accredited by the Accreditation Council for Graduate Medical Education (ACGME) in which the second post-graduate year (PGY2) academic training and following PGY3 practicum year are at the same institution. Currently, in all other DoD sponsored ABPM residencies the training is separate. The collocation of the PGY2 academic and PGY3 practicum years allows for optimal continuity and coordination throughout both training years.

### **PGY2 Academic Year**

The USUHS Academic Year is twelve months in duration, beginning the first week in July and ending the last week in June. For the purpose of board certification in General Preventive Medicine and Public Health, the ABPM requires a PGY2 Academic Year consisting of foundational courses in epidemiology, biostatistics, health services administration, environmental health, and behavioral health. This academic training culminates in either the Master of Public Health (MPH) or Master of Tropical Medicine and Hygiene (MTM&H) degree, both of which are available at USUHS. Within the USUHS MPH degree program, there are several “concentration areas” from which PGY2 GPM residents generally select in order to focus their studies. Full details on available options may be found elsewhere in the graduate handbook for the Department of Preventive Medicine and Biometrics.

Residents must complete all MPH or MTM&H degree requirements. In addition, all GPM residents are required to take PMO 512 Epidemiology II, PMO 549 Principles of Toxicology, PMO 558 Fundamentals of Clinical

Occupational, Environmental, and Preventive Medicine, PMO 573 Epidemiology and Prevention of Vaccine-Preventable Diseases, PMO 973 General Preventive and Occupational and Environmental Medicine Journal Club, and PMO 990 Travel Medicine. In addition all residents pursuing the MPH degree must also take PMO 513 Advanced Epidemiologic Methods. Residents intending to meet the requirements for the MTM&H curriculum are encouraged to take PMO 513, but it is not mandated in recognition of the heavier course load often encountered for this degree during the spring semester.

A number of other electives are also highly encouraged if the student's schedule permits, such as PMO 514 (and 515) Epidemiology and Control of Infectious (and non-infectious) Diseases, PMO 531 Program Planning and Development, and PMO 548 Joint Medical Operations and Humanitarian Assistance. Resident educational plans will be discussed and approved each academic quarter by the program director and deputy director who serve as academic advisors during the PGY2 year.

Some residents may enter training already in possession of an MPH degree. In these cases, the program director carefully reviews previous transcripts for content that meets at a minimum the ABPM foundational course requirements. Currency of the knowledge base is also assessed, and individual needs relative to the adequacy of Board preparation are determined. Upon the advice of residency program director and in consultation with the individual's Service sponsor, these residents may elect to complete a second MPH in a different area of concentration or obtain an MTM&H degree. Decisions on placement directly into the practicum year are unusual, and would be made at the Joint Service Graduate Medical Education Selection Board (JSGMESB) by the Service Board President in consultation with the program directors.

### **PGY3 Practicum Year**

Following the academic year, at least 12 months (minimum 48 "work weeks") of practicum "on the job" training is required by the ABPM. The current NCC (USUHS) GPM core practicum rotations include:

- A county public health department rotation, usually Montgomery County Department of Health and Human Services. Rotations at either the Anne Arundel County or Fairfax County health departments may be substituted to meet this requirement.
- A policy rotation at either:
  - ✓ Navy Bureau of Medicine (BUMED) or Headquarters Marine Corps (HQMC) [Navy]
  - ✓ Or, the Air Force Medical Operations Agency (AFMOA) [Air Force]
- A clinical preventive services rotation at the Agency for Healthcare Research and Quality (AHRQ)
- Navy residents are also required to rotate at one of the Navy Environmental Preventive Medicine Units (NEPMUs).

Most of these rotations, except for the NEPMUs, are readily available in the National Capital Area. Core required rotations are generally two months duration.

### **PGY3 Elective Rotations**

There are a wide range of additional rotations available. The remainder of the practicum year can be tailored to an individual resident's interests, needs, and experience level. With adequate notice, new rotations may be established as needed. Because of continued solid financial support from the Services, residents have great flexibility in electives and are usually able to travel for rotations if needed. A list of current possibilities includes:

#### **Policy Rotations**

ACPM Pfizer Fellowship in Preventive Medicine Policy

#### **Primary Public Health Rotations**

Armed Forces Health Surveillance Center, Washington, DC

Navy and Marine Corps Public Health Center, Norfolk, VA

Air Force Medical Operations Agency-South (AFMOA), (USAF) San Antonio, TX

#### **Managerial Medicine Rotations**

National Committee for Quality Assurance, Washington, DC  
Military Vaccine Agency (MILVAX), Falls Church, VA

### **Research Rotations**

Naval Medical Research Center, Bethesda, MD  
Military Overseas Research Activities  
(Lima, Bangkok, Nairobi, Cairo, Jakarta)  
Walter Reed Army Institute of Research, Washington DC  
Naval Health Research Center, San Diego, CA  
USUHS Department of Preventive Medicine and Biometrics

### **Others**

Armed Forces Medical Intelligence Center, Frederick, MD (requires Top Secret security clearance that must be applied for on starting residency)  
Vaccine Healthcare Center, WRAMC, Washington, DC  
USU Center for Disaster and Humanitarian Assistance Medicine (CDHAM)  
NORTHCOM, Preventive Medicine and Public Health

Additionally, residents usually attend at least one civilian and one military public health related conference during the practicum year as well as required training in the areas of risk communication, medical management of chemical and biological casualties (MMCBC), and the medical effects of ionizing radiation (MEIR) course. Air Force residents may attend either the two week Global Medicine or four to six week Military Tropical Medicine (MTM) during the practicum year; Navy residents are usually allowed by the Navy to take the MTM course at the conclusion of their training, thus freeing additional elective time during the practicum year. Several residents have also elected to be sponsored to attend the Health Emergencies in Large Population course run by the American Red Cross.

### **Application Process**

The NCC (USUHS) GPM Residency does not participate in the civilian residency match program, but instead uses the DoD Joint Service Graduate Medical Education Selection Board (JSGMESB) to select our residents. The JSGMESB typically meets early in December each year, and notification of those selected occurs shortly thereafter, usually by posting to the Service respective graduate medical education websites. Air Force and Navy information on the JSGMESB process is available from:

HQ AFPC/DPAME  
550 C Street W Suite 25  
Randolph AFB, TX 78150-4727  
COMM: 210-565-2638 DSN 665-2638  
Toll Free: 1-800-531-5800  
FAX: 210-565-2830 E-Mail: afpc.dpame@randolph.af.mil

Internet: <http://airforcemedicine.afms.mil/afphysicianeducation> - Main Physician Education Public site  
<http://airforcemedicine.afms.mil/afphysiciangme> - Main Physician GME Public site

Naval Medical Education and Training Command  
Graduate Programs - Code OG12  
Bldg 1, Tower 15  
8901 Wisconsin Avenue

Bethesda, MD 20889-5611

Navy Medicine Manpower, Training, and Education Command  
GME website: <http://navmedmpte.med.navy.mil/gme/index.cfm>

FTOS/OFI PROGRAMS ASSISTANT (CODE-OG151)  
COMM: (301) 319-4511 DSN: 285-4511  
FAX: (301) 295-6113  
Internet: <http://nshs.med.navy.mil/gme/mcpp.htm>

Residents designating the NCC (USUHS) GPM residency training program as their first choice are required by the JSGMESB to interview with the residency Program Directors either in person or by phone if travel is not possible based on individual circumstances. It is also advisable to arrange for an interview even if our program is only your second choice, as sometimes the selection process results in residents being placed in other than their first choice for training. Please contact the residency director or administrator to arrange for an interview (see contact information below).

Application to the USUHS MPH or MTM&H program is done separately after acceptance to the NCC (USUHS) General Preventive Medicine residency program through the JSGMESB. Information on application to the USUHS graduate school is available at <http://cim.usuhs.mil/geo/application.htm>. The deadline for application to the MPH or MTM&H program is 15 January.

Applicants must have, at a minimum, completed an internship of which at least 6 months are clinical. Fulfilling this requirement allows the internship to count as the PGY1 year for ABPM certification eligibility. It is experientially helpful and preferred by the sponsoring Services for prospective residents to complete at least an initial tour as a general medical officer (GMO), flight surgeon (FS), or undersea medical officer (UMO). Many past and current residents enter the GPM residency already board certified in another specialty, such as Family Practice. On a selective basis, exceptional or uniquely qualified applicants have been accepted for training immediately after internship.

#### **Contact information**

The administrator for both the GPM and OEM residency programs may be reached by phone at 301-295-3717 for further inquiry. Also, contact information for both NCC (USUHS) residency program directors is updated annually and available at the ACPM website, which also has data on all similar programs. The pertinent link is <http://www.acpm.org/Education/residency/ataglance.htm>.

OEM Residency Program Director  
PMB Department  
(301) 295-3717

GPM Residency Program Director  
PMB Department  
(301)295-3717(Program Administrator)

## **ENVIRONMENTAL HEALTH POSTGRADUATE TRAINING PROGRAM**

The Environmental Health Postgraduate Training (EHPT) Program is a 12-month training program, which began in 1992 as a joint effort between the U.S. Public Health Service Indian Health Service and USUHS. The EHPT program is designed to provide specialized training in the area of environmental and occupational health and safety to Masters'-trained individuals.

Applicants are eligible upon completion of a graduate degree in an environmental health or physical science, or upon approval by the Director, EHPT Program. Most trainees are graduates of the USUHS Master of Public Health degree program with a concentration in environmental health or industrial hygiene, including elective courses, directed studies, and a major project.

The postgraduate year of training is a series of practicum rotations and short courses tailored to the needs of individual students. Practicum rotations are available at the Walter Reed Army Medical Center, National Naval Medical Center, National Institutes of Health (NIH), U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM), Federal Occupational Safety and Health Administration, and other organizations. Rotations with the Environmental Protection Agency and the environmental staff of other Federal agencies can also be arranged for individuals interested in governmental procedures and policy setting. Short courses in topics of current interest or concern are offered to students needing specialized training.

For students interested in institutional environmental control, typical rotations would be at major DoD hospitals or the NIH hospital in the preventive medicine or safety departments. During hospital rotations, the student is expected to participate in all types of health and safety activities, such as industrial hygiene monitoring, radiation protection surveys, and tuberculosis control and surveillance. At CHPPM, a number of practicum options are available, such as work with the Health Care Hazards Management branch and rotations in environmental services and industrial hygiene.

### **ADMISSION AND APPLICATION**

For specific information about the EHPT and agency funding requirements, contact:

Director, Environmental Health Postgraduate Training Program  
Department of Preventive Medicine and Biometrics  
Uniformed Services University of the Health Sciences  
4301 Jones Bridge Road  
Bethesda, MD 20814-4799  
Telephone (301) 295-6970; DSN 295-6990; FAX (301) 295-9298

## LIST OF COURSES

Course No.	Title	Division	Page
PMO502	Introduction to SAS (1)	EPI/BIOST	51
PMO503	Biostatistics I (4)	EPI/BIOST	51
PMO504	Biostatistics II (4)	EPI/BIOST	52
PMO505	Microcomputer Applications in Public Health (1)	EPI/BIOST	52
PMO508	Biostatistics III (5)	EPI/BIOST	52
PMO511	Introduction to Epidemiology I (4)	EPI/BIOST	52
PMO512	Epidemiologic Methods (4)	EPI/BIOST	52
PMO513	Advanced Epidemiologic Methods (4)	EPI/BIOST	52
PMO514	Epidemiology and Control of Infectious Diseases (2)	EPI/BIOST	53
PMO515	Chronic Disease Epidemiology (2)	EPI/BIOST	53
PMO516	Design and Analysis of Follow-up Studies (3)	EPI/BIOST	53
PMO519	Occupational & Environmental Epidemiology (2)	EPI/BIOST	53
PMO520	Molecular Epidemiology (2)	EPI/BIOST	53
PMO521	Concepts in Molecular Biology & Immunology (2)	EPI/BIOST	53
PMO522	Meta Analysis (1)	EPI/BIOST	54
PMO523	Fundamentals of U.S. Healthcare Policy (2)	HSA	55
PMO524	Health Care Performance Improvement (2)	HSA	55
PMO526	Health Systems (4)	HSA	55
PMO527	Principles of Healthcare Management (2)	HSA	55
PMO528	International Health I (3)	HSA	56
PMO529	Health Care Financial Management (2)	HSA	56
PMO530	Behavioral and Soc Sciences Applied to Public Health (4)	SOC/BEHAV	58
PMO531	Program Planning and Development (3)	SOC/BEHAV	58
PMO534	Medical Anthropology (2)	HSA	56
PMO535	The Law of Health Care (2)	HSA	56
PMO537	Clinical Decision Making (1)	HSA	56
PMO539	International Health II (3)	HSA	56
PMO540	Environmental Health (4)	EOH	43
PMO541	Advanced Environmental Health	EOH	43
PMO542	Clinical Occupational and Environmental Medicine (4)	EOH	44
PMO548	Joint Medical Operations & Humanitarian Assistance (3)	EOH	44
PMO549	Principles of Toxicology (4)	EOH	44
PMO550	Industrial Hygiene I and Laboratory (4)	EOH	44
PMO552	Industrial Hygiene II and Laboratory (4)	EOH	44
PMO553	Industrial Hygiene Field Studies (1)	EOH	45
PMO555	Industrial Ventilation (4)	EOH	45
PMO557	Introduction to Military Occupational Health (3)	DEPT	64
PMO558	Fundamentals of Clinical Occupational Health Environmental & Preventive Medicine (1)	DEPT	64
PMO559	Decision Support in Health Care Performance Improvement	HSA	57
PMO598	Health Care Economics	HSA	57
PMO560	Principles & Practice of Tropical Medicine (6)	TPH	58
PMO561	Medical Parasitology (3)	TPH	59
PMO563	Clinical Tropical Medicine (1-12)	TPH	59
PMO564	Epidemiology and Control of Arboviruses (Lec-2 and Lab-4)	TPH	59
PMO565	Vector Biology (2)	TPH	59
PMO566	Physiological Parameters of Vector Competence (4)	TPH	60
PMO567	Changing Patterns of Arthropod-borne Diseases (4)	TPH	60

PMO568	Medical Acarology (4)	TPH	60
PMO569	Malaria Epidemiology and Control (3)	TPH	60
PMO570	Modern Technology and Vector-borne Disease (4)	TPH	60
PMO571	Biosystematics in Medical Zoology (2)	TPH	61
PMO573	Epidemiology and Prevention of Vaccine-preventable Diseases (1)	TPH	61
PMO577	Introduction to GIS in Public Health (2)	TPH	61
PMO578	Remote Sensing Methods in Public Health (3)	TPH	61
PMO581	Radiation Dosimetry (3)	EOH	45
PMO582	Radiation Biology (3)	EOH	45
PMO584	Introduction to Health Physics (3)	EOH	46
PMO585	Environmental Health Physics (3)	EOH	46
PMO587	Nuclear Reactors, Criticality, and Shielding (3)	EOH	46
PMO588	Instrumentation of Ionizing Radiation (3)	EOH	46
PMO589	Introduction to Medical Physics (3)	EOH	46
PMO591	Marketing and Strategic Issues for Health Care Organizations (2)	HSA	57
PMO592	Health Technology Assessment (2)	HSA	57
PMO594	Introduction to Medical Informatics (3)	HSA	58
PMO595	Introduction to Complex Sample Survey Analysis	EPI/BIOST	54
PMO599	Introduction to Health Risk Communication (2)	EOH	47
PMO600	Fundamentals of Human Physiology (2)	EOH	47
PMO601	Environmental Health Risk Assessment (2)	EOH	47
PMO602	Solid & Hazardous Wastes (3)	EOH	47
PMO603	Deployment Environmental Exposures (5)	EOH	47
PMO604	Hydrology, Water & Wastewater Treatment Plant Design (5)	EOH	48
PMO605	Analytical Instrumentation Methodologies in Environmental Health (3)	EOH	48
PMO606	Non-Ionizing Radiation (3)	EOH	48
PMO607	Environmental Chemistry (3)	EOH	48
PMO611	Classic Studies in Epidemiology (2)	EPI/BIOST	54
PMO613	Public Health Issues of Disasters in Developing Countries (4)	TPH	61
PMO614	Tropical Medicine Rounds (2)	TPH	62
PMO615	Sand Flies and Disease (3)	TPH	62
PMO631	EOH Journal Club: Env and Occ Health Case Studies (1)	EOH	48
PMO635	Military Radiological Operations in Peacetime (1)	EOH	49
PMO636	Military Radiological Operations in Conflict (1)	EOH	49
PMO637	Military Radiological Operations in Homeland Defense (1)	EOH	49
PMO642	Selected Topics in Occupational Health (4)	EOH	50
PMO651	Human Factors Engineering (3)	EOH	50
PMO652	Occupational Ergonomics (3)	EOH	50
PMO653	Work Analysis Methods (3)	EOH	50
PMO654	Safety Engineering (3)	EOH	50
PMO655	Current Injury Prevention Issues and Initiatives (1)	EOH	51
PMO661	Medical Zoology Seminar	TPH	62
PMO670	Public Health Practicum (1-3)	DEPT	64
PMO671	Introduction to the MPH Project and Practicum (1)	DEPT	64
PMO672	MPH Project/Practicum Design and Development (1)	DEPT	64
PMO673	MPH Project/Practicum Implementation and Evaluation (1)	DEPT	65
PMO674	MPH Independent Project (3)	DEPT	65
PMO680	Introduction to Public Health (1)	DEPT	65
PMO682	History of Preventive Medicine (2-4)	DEPT	65
PMO683	Critical Reading Seminar (2)	DEPT	65

PMO684	Clinical Research Seminar (1)	DEPT	66
PMO685	Health Policy Seminar (1)	DEPT	66
PMO688	Information Gathering in Clinical Medicine (2-12)	DEPT	66
PMO691	Teaching Practicum (3)	DEPT	66
PMO701	Advanced Biometrics Tutorial (1-12)	EPI/BIOST	54
PMO760	Tropical Medicine Research Tutorial (1-12)	TPH	62
PMO761	Immunoparasitology Tutorial (3)	TPH	63
PMO763	Tutorial in Medical Zoology (1-12)	TPH	63
PMO764	Tutorial in Aquatic Biology (4)	TPH	63
PMO811	Independent Study in Epidemiology (1-12)	EPI/BIOST	54
PMO830	Independent Study in Social and Behavioral Science (1-12)	SOC/BEHAV	58
PMO841	Aerospace Operational Physiology I (3)	AEROSP	42
PMO842	Aerospace Operational Physiology II (3)	AEROSP	42
PMO845	Human Factors in Aviation (3)	AEROSP	42
PMO846	Aerospace Exercise Physiology (3)	AEROSP	42
PMO847	Aerospace Performance and Health (3)	AEROSP	42
PMO848	Special Topics in Aerospace Medicine (2-3)	AEROSP	43
PMO849	Aerospace Medicine in the Modern Age (3)	AEROSP	43
PMO900	Introduction to Clinical Trials (2)	DEPT	66
PMO911	Research in Epidemiology (1-12)	EPI/BIOST	55
PMO926	Health Services Administration Directed Research (1-12)	HSA	58
PMO940	Environmental/Occupational Health Directed Studies (1-15)	EOH	51
PMO941	Environmental/Occupational Health Directed Research (1-15)	EOH	51
PMO942	Environmental/Occupational Health Directed Rotations (1-15)	EOH	51
PMO964	Research in Medical Zoology (1-12)	TPH	63
PMO970	Directed Studies in Preventive Medicine (1-12)	DEPT	67
PMO971	PMB Doctoral Student Journal Club (1)	DEPT	67
PMO972	Seminar in Critical Thinking (4)	DEPT	67
PMO973	GPM and OEM Residency Journal Club (1)	DEPT	67
PMO975	Introduction to Aerospace Medicine Seminar (2)	DEPT	68
PMO990	Travel Medicine (3)	TPH	63
PMO991	Ethics in Public Health (3)	Dept	68
PMO996	Clinical Trials Design and Analysis	Dept	68



analysis of the event. Topics will include such things as nutritional supplements, fatigue, fitness, body defenses, general health, dehydration, and medications. At the end of the course the student will have a broad understanding of the relationship of health to performance in the aerospace environment.

Prerequisites: Concurrence of Course Director

Recommended: PMO841 & 842

Spring

Lawry

3 Quarter Hours/Graded

PMO848

SPECIAL TOPICS IN AEROSPACE MEDICINE

Focus is current medical issues within Aerospace Medicine and physiology. Topic theme can vary annually depending on student/faculty interest. Themes can include medicine in extreme environments, diving medicine, wilderness medicine, hyperbaric medicine to mention a few. Each theme will be dealt from both a physiologic and clinical viewpoint while keeping in mind that overarching principles of preventive medicine and public health.

Prerequisites: Concurrence of Course Director

Winter& variable

TBA

2-3 Quarter Hours/Graded

PMO849

AEROSPACE MEDICINE IN THE MODERN AGE

Focus is current medical issues affecting those individuals engaged in flying, whether aircrew or passengers. Physiologic, clinical, and operational aspects of each issue will be emphasized. Major areas will be addressed including Aeromedical Evacuation, Radiation Exposure, Space Medicine, Aircraft Accident Investigation, Mishap Forensics, Clinical Aviation Medicine, Physical Standards, and Hot Topics in Aerospace Medicine. Each will involve some degree of didactic presentation, interactive discussion led by students, literature review, and case studies.

Prerequisites: Concurrence of Course Director

Fall

Barnes

3 Quarter Hours/Graded

**ENVIRONMENTAL AND OCCUPATIONAL HEALTH (EOH)**

PMO540

INTRODUCTION TO ENVIRONMENTAL HEALTH

This course provides a broad exposure to basic environmental health subjects, including toxicology, epidemiology, indoor and outdoor air quality, food service sanitation, insects and rodents, environmental noise, energy, drinking water treatment, wastewater treatment, solid waste disposal, injury control, the workplace, risk assessment, risk communication, and environmental regulations. Discussions will cover the specific, general and global issues associated with these environmental health topics. Several site visits are scheduled during the course which will reinforce understanding of selected topics.

Prerequisites: None

Pre-Fall

Lundy

4 Quarter Hours/Graded

PMO541

ADVANCED ENVIRONMENTAL HEALTH

This course will focus on global environmental health concerns in geographic areas outside of the United States, especially developing countries. It will emphasize the basis of concern for environmental health issues and resources available for the health professionals working in developing countries. The course will compare and contrast environmental health infrastructure situations with that of developed countries. The approach will include a framework for evaluating environmental health science and practice. The topics selected for detailed review will vary to reflect current global and international health concerns. Topics may include foreign animal and zoonotic disease; international organizations, principles, and practices; selected topics of special interests in developing countries; impacts of religion and culture; and resource issues. Students will participate in discussions, case studies, and realistic scenarios.

Prerequisites: PMO 540 and Concurrence of Course Director

Fall

Kluchinsky

2 Quarter Hours/Grade



IH focus in this course will primarily cover recognition, evaluation and control of nuclear, biological and chemical (NBC) agents that military members may confront while under NBC attack or upon inadvertent exposure in performance of their military duties. Topics to be covered include military field detection techniques for NBC agents and protection techniques. Particular attention will focus on field detection characteristics such as limit of detection, false readings, usability etc. Familiarization with instruments will also be emphasized in this class.

Prerequisites: PMO550 and Concurrence of Course Director  
Spring Cook 4 Quarter Hours/Graded

PMO553 INDUSTRIAL HYGIENE FIELD STUDIES

This course is designed to familiarize the student with functional industrial hygiene operations. This will be accomplished by a series of lectures that support field trips to military and civilian work sites. Industrial facilities will be toured and industrial hygiene operations reviewed on site. The practice of industrial hygiene in the workplace will be demonstrated.

Prerequisites: PMO550 and Concurrence of Course Director  
Summer Cook 1 Quarter Hour/Graded

PMO555 INDUSTRIAL VENTILATION

This course is intended to give in-depth and specialized instruction in the areas of industrial ventilation systems and local exhaust hoods. The engineering design of industrial ventilation systems will be evaluated to include contaminate generation, principles of air flow, ventilation of specific contaminants, design of local exhaust hoods, layout and sizing of ducts, balancing ventilation systems, and selection of fans, collectors, and testing instruments. Upon completion of the course, the student should be able to evaluate the effectiveness of any industrial or laboratory ventilation system.

Prerequisites: PMO550 and Concurrence of Course Director  
Spring Lundy 4 Quarter Hours/Graded

PMO581 RADIATION DOSIMETRY

Students will be able to do internal dose calculations based on the methods used in ICRP 30 and ICRP 60, and based on the Medical Internal Radiation Dose (MIRD) method. Students will acquire a working knowledge of ICRP and NCRP reports relevant to the calculation of external and internal dosimetry calculations such as ICRP 51 "Data for Use in Protection Against External Radiation", NCRP Report No. 65 "Management of Persons Accidentally Contaminated with Radionuclides", etc. Students will acquire a working knowledge of NUREG/ CR-4884 "Interpretation of Bioassay Measurements" relevant to the calculation of internal dose. Students will learn the fundamental principles, design, and operating characteristics behind passive and active personnel dosimetry systems such as Electronic Personal Dosimeters (EPDs), Optically Stimulated Luminescent (OSL) dosimeters, EEPROM type dosimeters, Thermoluminescent Dosimeters (TLDs), Film Dosimetry, etc. Students will learn the fundamental principles, design, and operating characteristics of dosimetry area monitoring and environmental devices. Students will learn the fundamental principles of whole body, extremity, and environmental dosimetry.

Prerequisites: PMO584 and Concurrence of Course Director  
Winter Staff 3 Quarter Hours/Graded or Credit

PMO582 RADIATION BIOLOGY

The use of ionizing radiation in medical and industrial applications continues to expand. For example, approximately 320 million diagnostic medical and dental x-ray procedures are performed each year in the US. This fact highlights the need to study and quantify the stochastic (chronic) and non-stochastic (acute) effects of ionizing radiation. At the end of the course the student will demonstrate an understanding of the fundamentals of ionizing radiation interactions with matter, human radiation exposure scenarios, fundamentals of radiation chemistry and cellular radiobiology, biological effects of low doses of ionizing radiation (chronic effects), radiation risks in perspective, biological effects of high doses of ionizing radiation (acute effects), and radiation accidents and biodosimetry.

Prerequisites: Concurrence of Course Director

Spring Blakely 3 Quarter Hours/Graded or Credit

PMO584 INTRODUCTION TO HEALTH PHYSICS

Upon the completion of the course, students will be able to: Describe the various modes of decay, determine the types of equilibrium achievable for chains of nuclides, describe the basic interaction mechanisms for all types of ionizing radiation, recognize naturally occurring and man made radionuclides, calculate equilibrium activities and specific activities, perform basic activation calculations, understand the difference between roentgen and rad, and determine external and internal dose based on simplified scenarios.

Prerequisites: Concurrence of Course Director

Fall Nemmers 3 Quarter Hours/Graded or Credit

PMO585 ENVIRONMENTAL HEALTH PHYSICS

Upon completion of this course, the student will be able to: Perform atmospheric modeling calculations using Pasquill Gifford equations for both continuous and puff sources and understand the model limitations; describe the accumulation of nuclides in a lake or pond and the doses associated with utilizing this water for drinking, fishing or swimming; determine doses from sewage effluents; understand MARSSIM and how to apply it; determine environmental sampling strategies; understand air, water, and soil sampling principals; calculate doses to personnel from various environmental pathways; and transportation of radioactive waste.

Prerequisites: PMO584 and Concurrence of Course Director

Winter Nemmers 3 Quarter Hours/Graded or Credit

PMO587 NUCLEAR REACTORS, CRITICALITY, AND SHIELDING

Upon completion of this course, students will be able to explain basic atomic and nuclear physics concepts. They will be able to explain the interactions of radiation with matter. Students will learn the fundamental principles, design, and operating characteristics of several types of nuclear reactors including pressurized water reactors, boiling water reactors, heavy water reactors, liquid metal reactors, and research reactors. Students learn how to write a technical laboratory report and perform laboratory experiments in neutron activation and reactor criticality at the Armed Forces Radiobiology Radiation Institute (AFRRI). They will become familiar with and use available computer codes and programs used in radiation interactions, reactor modeling, and shielding design. Students will be able to do radiation and reactor shielding calculations. Students will become familiar with nuclear reactor; safety, environmental, and regulatory issues.

Prerequisites: PMO584 and Concurrence of Course Director

Fall Nemmers 3 Quarter Hours/Graded or Credit

PMO588 INSTRUMENTATION OF IONIZING RADIATION

By the end of this course students will be able to calculate all of the statistical descriptors associated with counting; and will demonstrate a fundamental understanding of radiation detectors including (1) Particle counting instruments, (2) Dose measuring devices, and (3) Neutron detectors. Students will also be able to determine calibration characteristics for a given detector and calculate theoretical response of detectors and understand their theoretical operation.

Prerequisites: PMO584 and Concurrence of Course Director

Winter Nemmers 3 Quarter Hours/Graded or Credit

PMO589 INTRODUCTION TO MEDICAL PHYSICS

This introductory course will cover three of the core disciplines of medical physics: Diagnostic and therapeutic radiological physics, and medical nuclear physics. At the end of the course the student will demonstrate an understanding of the diagnostic applications of x-rays, gamma rays from sealed sources, radio frequency radiation, magnetic fields and ultrasonic radiation; the therapeutic applications of x-rays, gamma rays, electron and charged particle beams, neutrons and radiations from sealed radionuclide sources; the diagnostic and therapeutic applications of radionuclides (except those used in sealed sources for therapeutic purposes); the equipment

associated with their production, use, measurement and evaluation; and the quality of images resulting from their production and use.

Prerequisites: PMO581, PMO584 and Concurrence of Course Director

Spring Nemmers 3 Quarter Hours/Graded or Credit

PMO599 INTRODUCTION TO HEALTH RISK COMMUNICATION

This course is an introduction to the basic principles of risk communication theory and practice. The student is oriented to the fundamentals, principles, and processes that have proven effective in communicating health risk in a high concern / low trust environment. Students are guided through the process of responding to difficult questions from a hostile or suspicious audience, of identifying key stakeholders, and of working with the media. Students will, while working in a small group, develop and present a risk communication strategy for a provided scenario.

Prerequisites: Concurrence of Course Director

Spring Lundy 2 Quarter Hours/Credit

PMO600 FUNDAMENTALS OF HUMAN PHYSIOLOGY FOR PUBLIC HEALTH

The objective of this class is to familiarize the student with the concepts and principles involved in human physiology. It is assumed that the student has limited or no background in human physiology or biological sciences. The class will also benefit students who need a refresher course in physiology. It will provide a basic foundation in physiology and prepare non-clinicians for further study in toxicology. The major topic areas covered are cell physiology, genetics, cancer, general toxicology concepts, liver, kidney, nervous system, immune system, endocrine system, and reproductive system.

Prerequisites: None

Fall Criswell 2 Quarter Hour/Graded

PMO601 ENVIRONMENTAL HEALTH RISK ASSESSMENT

Risk assessment impacts many disciplines and various tools are used to evaluate and quantify risk. Environmental Health risk assessment will be covered in depth using the EPA Risk Assessment Guidelines for Superfund sites. Topics to be covered are toxicology concepts, genetics, cancer, animal toxicology studies, exposure assessments, environmental data collection considerations, tools used in risk analysis and ecological risk assessment. A comprehensive project will reinforce understanding of a risk assessment.

Prerequisites: PMO540 and Concurrence of Course Director

Summer Kluchinsky 2 Quarter Hours/Graded

PMO602 SOLID & HAZARDOUS WASTES

Students will learn about the collection, transfer, disposal by sanitary landfill, waste to energy, and resource conservation and recovery of solid wastes. In addition, classification of hazardous wastes, risks, Resource Conservation and Recovery Act, Hazardous and Solid Waste Act, Comprehensive Environmental Response, Compensation and Liability Act, Superfund Amendments and Reauthorization Act, hazardous waste management, treatment technologies, land disposal, groundwater contamination and remediation will also be presented. Lab time will be devoted to problem solving exercise and site visits to waste material treatment, storage, handling and recycling operations. The course has a mid-term and a non-comprehensive final exam. Class participation and graded problem sets also contribute to the final grade.

Prerequisites: PMO540 and Concurrence of Course Director

Winter Kluchinsky 3 Quarter Hours/Graded

PMO603 DEPLOYMENT ENVIRONMENTAL EXPOSURES

Students will learn how environmental exposures are quantified, recorded, analyzed, and interpreted into usable information not only for the ground commanders' immediate use but subsequently for later use by DOD, the Veteran's Administration, and others. Students may be offered the opportunity to go TDY/TAD with environmental experts during mission work relating to environmental exposure surveillance. Students will produce a final graded project.

		Prerequisites: PMO540 and Concurrence of Course Director Kluchinsky	5 Quarter Hours/Graded
PMO604	<u>FUNDAMENTALS OF HYDROLOGY AND WATER AND WASTEWATER TREATMENT PLANT DESIGN</u>		
	Students will learn basic hydrology and how water and wastewater treatment plants are designed and the physical and chemical processes involved. Given a moderately complex treatment plant design problem, students should be able to determine if the process meets industry guidelines or public health standards. Students should also be able to recommend corrective design solutions. Site visits will reinforce the student's understanding of selected topics.		
	Prerequisites: PMO540 and Concurrence of Course Director Kluchinsky		5 Quarter Hours/Graded
PMO605	<u>ANALYTICAL INSTRUMENTATION METHODOLOGIES IN ENVIRONMENTAL HEALTH</u>		
	Students will examine the major instrumental methodologies used in the quantitative and qualitative analysis of samples taken during environmental health risk assessment or environmental health surveillance procedures. Methods examined will include gas chromatography mass spectroscopy, inductively coupled plasma spectrometry, ion and liquid chromatography, ELISA, PCR, radiochemistry and techniques. For each methodology the student will learn the scientific basis, equipment set-up and procedures, limitations, interferences, calibration, and sample preparation. The course is conducted through lectures, demonstrations and laboratory exercises. The course grade is based on two examinations and course participation.		
	Prerequisites: Concurrence of Course Director Cook		3 Quarter Hours/Graded
PMO606	<u>NON-IONIZING RADIATION</u>		
	The electromagnetic spectrum, transmission and absorption, biological effects, units of exposure, protection standards, measurement and control of UV, IR, microwaves, and lasers for both military and industrial use will be examined in detail. Actual measurements will be performed in laboratories and at various local military bases.		
	Prerequisites: PMO584 and Concurrence of Course Director Nemmers		3 Quarter Hours/Graded
PMO607	<u>ENVIRONMENTAL CHEMISTRY</u>		
	This course will provide students with the knowledge and experience needed to predict, study, and describe the origin and distribution of xenobiotic chemical species, and their properties that effect uptake into biological systems.		
	Prerequisites: PMO540, 549, 1 year of organic & inorganic chemistry, and Concurrence of Course Director Cook		4 Quarter Hours/Graded
PMO631	<u>EOH JOURNAL CLUB: ENVIRONMENTAL AND OCCUPATIONAL HEALTH CASE STUDIES</u>		
	From an in depth examination of selected case studies the class will identify policy issues from the perspective of the DOD, individual military services, and other federal agencies such as EPA, OSHA, and the US Public Health Service. The class will describe research requirements needed to address problems identified in the case studies. The class will formulate possible organizational changes and resource shifts needed to addresses issues raised by the in-depth examination, and list lessons learned from the perspective of public health/preventive medicine good practice, federal statutes and standards, DOD regulations, and service specific guidance and requirements. For the course grade, each student will independently research from the scientific literature a case study, prepare a written in-depth analysis, and provide a short oral briefing. NOTE: This course is intended for students in the two-year MSPH program. Students will be expected to attend a monthly one and-a-half hour session during the Fall, Winter, and Spring Quarters of both years of the MSPH program. Students will receive one credit for each year of attendance by registering for this course during the Spring Quarter of each year.		

Prerequisites: none  
Winter Lundy 1 Quarter Hour/Credit

PMO635

MILITARY RADIOLOGICAL OPERATIONS IN PEACETIME

Description: The seminar will familiarize students with the multifaceted health physics aspects of the peacetime operations of the Army, Navy and Air Force. Experts in various levels and positions will present “mini-courses” of their area of expertise. New and established reference documents, texts and modeling software will be reviewed. The course is designed to be a dynamic presentation of issues that graduates will be exposed to post graduation. The course will cover a wide range of operational topics ranging from the duties and responsibilities of a medical health physicist to casualty estimations from nuclear weapons or radiological dispersal devices, from low level environmental measurements to issues of mass hysteria caused by potential releases of biological, chemical or radiological agents. Classified material may be discussed in some of the presentation. Course Objectives to be met by the students by the end of this seminar course series include: (1) students will discuss the differences and similarity between the Navy, Army and Air Force peace time health physics/medical physics programs and operations, (2) students will grasp how they interact during peace time, (3) students will identify and appreciate classified and unclassified modeling software that is used to provide appropriate information to regulators, (4) students will be familiar with an assortment of electronic and written reference publications, reports, fact sheets, and regulations.

Prerequisites: PMO 584 or Concurrence of Course Director  
Fall Nemmers 1 Quarter Hours/ Credit

PMO636

MILITARY RADIOLOGICAL OPERATIONS IN CONFLICT

The seminar will familiarize students with the multifaceted health physics aspects of the operations of the Army, Navy and Air Force during conflict. Experts in various levels and positions will present “mini-courses” of their area of expertise. New and established reference documents, texts and modeling software will be reviewed. The course is designed to be a dynamic presentation of issues that graduates will be exposed to post graduation. The course will cover a wide range of operational topics ranging from the duties and responsibilities of a medical health physicist in the field to casualty estimations from nuclear weapons or radiological dispersal devices, from low level environmental measurements to issues of mass hysteria caused by potential releases of biological, chemical or radiological agents. Classified material may be discussed in some of the presentation. Course Objectives to be met by the students by the end of this seminar course series include: (1) students will discuss the differences and similarity between the Navy, Army and Air Force health physics/medical physics operations during conflict and emergency responses, (2) students will grasp the health physics operations of the various services and joint operations, (3) students will identify and appreciate classified and unclassified modeling software that is used to provide appropriate information to war fighters, (4) students will be familiar with an assortment of electronic and written reference publications, reports, fact sheets, and regulations.

Prerequisites: PMO 584 and Concurrence of Course Director  
Winter Nemmers 1 Quarter Hours/Credit

PMO637

MILITARY RADIOLOGICAL OPERATIONS IN HOMELAND DEFENSE

The seminar will familiarize students with the multifaceted health physics aspects of the operations of the Army, Navy and Air Force and how they interact with the various civilian emergency response agencies. Experts in various levels and positions will present “mini-courses” of their area of expertise. New and established reference documents, texts and modeling software will be reviewed. The course is designed to be a dynamic presentation of issues that graduates will be exposed to post graduation. The course will cover a wide range of operational topics ranging from the duties and responsibilities of a military health physicist supporting an emergency situation to casualty estimations from nuclear weapons or radiological dispersal devices, from low level environmental measurements to issues of mass hysteria caused by potential releases of biological, chemical or radiological agents. Classified material may be discussed in some of the

presentation. Course Objectives to be met by the students by the end of this seminar course series include: (1) students will discuss the capabilities and expertise of the Navy, Army and Air Force health physicist/medical physicists operations during conflict and emergency responses, (2) students will grasp the health physics operations and capabilities of the various civilian response agencies and teams, (3) students will identify and appreciate the classified and unclassified modeling software that is used to provide appropriate information in emergency situations, (4) students will be familiar with an assortment of electronic and written reference publications, reports, fact sheets, and regulations.

Prerequisites: PMO 584 and Concurrence of Course Director  
Spring Nemmers 1 Quarter Hours/Credit

PMO642 SELECTED TOPICS IN ENVIRONMENTAL/OCCUPATIONAL HEALTH

This course is designed primarily for residents in occupational and environmental medicine and for residents in general preventive medicine and provides an introduction to the scope of occupational and environmental health in the United States, the practice of occupational health, administrative and legal aspects of occupational health, and general concepts of toxicology and medical surveillance.

Prerequisites: Concurrence of Course Director  
Pre-fall Mallon/Jankoski 4 Quarter Hours/Graded

PMO651 HUMAN FACTORS ENGINEERING

This course is a practical introduction to the application of human physical, perceptive and cognitive abilities and behaviors, human performance engineering design criteria, and human factors principles and practices to the design of systems, subsystems, equipment and facilities. Topics include basic human factors research and design methods, perception, cognition, information reception and processing, decision theory, memory, judgment, performance capabilities and limitations in human-machine systems.

Prerequisite: Concurrence of Course Director  
Winter Lopez 3 Quarter Hours/Graded

PMO652 OCCUPATIONAL ERGONOMICS

This introductory course focuses on fundamental ergonomic principles involved in understanding the interactions among the worker, workplace, and job tasks and how these interactions can impact work and health outcomes. Particular emphasis is placed on the recognition and prevention/control of work-related musculoskeletal disorders. Topics covered include basic concepts of Anthropometrics, Biomechanics, and Work Physiology, major sources of occupational ergonomic exposures, and considerations in the development of ergonomic programs.

Prerequisite: Concurrence of Course Director  
Fall Lopez 3 Quarter Hours/Graded

PMO653 WORK ANALYSIS METHODS

This course will familiarize students with ergonomic analysis techniques using traditional industrial engineering approaches such as timemotion study and work sampling in the analysis of task demands and human performance. Topics include performance measures, function allocation, general and specific task analysis techniques (OWAS, RULA, Strain Index, PATH, NIOSH Lift Equation, etc.), human reliability and economic analyses.

Prerequisites: PMO562 & Concurrence of Course Director  
Spring Lopez 3 Quarter Hours/Graded

PMO654 SAFETY ENGINEERING

This course covers key concepts and techniques involved in Occupational Safety Engineering and Management to provide students with considerations and tools for implementing and/or evaluating programs targeted at reducing/eliminating workplace injuries. Lectures, discussions, and assignments address topics in: legislation, regulations, and standards in workplace safety;

quantitative and qualitative analyses of systems, operations, and activities associated with risk for injury; and, development and implementation of corrective actions/programs for reducing/eliminating potential hazards that may contribute to worker injury and associated costs.

Prerequisite: Concurrence of Course Director

Spring Lopez 3 Quarter Hours/Graded

PMO655 CURRENT INJURY PREVENTION ISSUES AND INITIATIVES (Seminar)

Examination of injury prevention policies, initiatives, plans and current knowledge with special emphasis on the examination of analytic and intervention research studies and risk communication methods. Topics include current Department of Defense policies and initiatives, the Defense Medical Surveillance System (DMSS), epidemiologic studies, case studies and demonstration projects, behavioral issues and risk communication methods.

Prerequisite: Concurrence of Course Director

Winter Lopez 1 Quarter Hour/Graded

PMO940 ENVIRONMENTAL/OCCUPATIONAL HEALTH DIRECTED STUDIES

The student will conduct an independent study project concerning some specific aspect of environmental health, industrial hygiene or occupational health under the close supervision of his/her academic advisor. This course is designed for students working independently to explore a defined topical area or problem or on their MPH year final academic project. Selected students may utilize this independent study option to expand their knowledge in selected subject areas relative to the MPH, or occupational medicine and general preventive medicine residencies.

Prerequisites: Concurrence of Course Director

All Staff 1-15 Quarter Hours/Graded or Credit

PMO941 ENVIRONMENTAL/OCCUPATIONAL HEALTH DIRECTED RESEARCH

The student will conduct an independent research project in environmental and/or occupational health or industrial hygiene under supervision of his/her academic advisor. The research project will be designed to involve field studies, laboratory studies, and/or a policy study. A written report and an oral presentation will be required.

Prerequisites: Concurrence of Course Director

All Staff 1-15 Quarter Hours/Graded or Credit

PMO942 ENVIRONMENTAL/OCCUPATIONAL HEALTH DIRECTED ROTATIONS

The student will gain relevant experience and specified knowledge, skills, and abilities while working closely with a mentor. The directed rotation will cover staff and technical functions of environmental/occupational health and/or industrial hygiene to include laboratory, field, and policy situations.

Prerequisites: Concurrence of Course Director

All Staff 1-15 Quarter Hours/Graded or Credit

**EPIDEMIOLOGY AND BIostatISTICS (EPI/BIOST)**

PMO502 INTRODUCTION TO SAS

This hands-on course is designed for students who want to perform statistical analyses using SAS, a popular statistical software package. The course will cover basic skills in writing SAS programs, managing data, and performing various statistical procedures covered in PMO504. Concepts and techniques covered will also be useful when using other statistical software packages.

Prerequisites: PMO503, PMO504 concurrently

Winter Kao 1 Quarter Hour/Graded

PMO503 BIostatISTICS I

This course instructs students in the application of elementary statistical procedures commonly used in biomedical and public health research. Topics include techniques of exploratory data analysis, probability, discrete and continuous statistical distributions, sampling procedures,

confidence intervals, hypothesis testing, and sample size determination for experiments and observational studies.

Fall Prerequisites: None  
Cruess 4 Quarter Hours/Graded

PMO504 BIostatistics II

This continuation of PMO503 covers many of the advanced statistical procedures commonly used in biomedical and public health research. Statistical methods include techniques for the analysis of contingency tables or frequency data, non-parametric methods, simple linear regression and correlation, analysis of variance, multiple regression, logistic regression, and analysis of survival data.

Winter Prerequisites: PMO503  
Chen 4 Quarter Hours/Graded

PMO505 MICROCOMPUTER APPLICATIONS in PUBLIC HEALTH

This course introduces the basic microcomputer software applications that are commonly used in the Uniformed Services University Department of Preventive Medicine and Biometrics graduate programs. Successful completion of this course should enable students to access and document the scientific literature, identify internet sources of public health information, manipulate, merge, analyze, graphically display, interpret and present electronic data sets using spread sheets, databases, statistical, presentation and other software in common use in epidemiology and public health. Emphasis is on acquisition of basic familiarity with progression toward intermediate level skills.

Pre-Fall Prerequisites: None  
Bradshaw 1 Quarter Hour/Graded or Pass/Fail

PMO508 BIostatistics III

This course instructs students in understanding the concepts of more advanced statistical methods, and learning how to obtain and interpret results from the computer output of performing suitable statistical procedures by using statistical software, SAS on: basic concepts of matrix algebra used in biostatistics, introduction to generalized linear models, , maximum likelihood estimation, advanced analysis of multiple linear regression, analysis of covariance, Poisson regression, advanced binary logistic regression, multinomial logistic regression, logistic regression for matched study, and generalized estimating equations (GEE).

Spring Prerequisites: PMO502, 503, 504 and  
Concurrence of Course Director  
Kao 5 Quarter Hours/Graded

PMO511 EPIDEMIOLOGY I: INTRODUCTION TO EPIDEMIOLOGY

This course introduces the student to basic epidemiologic principles. The course focuses first on the measurement of disease and then transitions to instruction on basic principles of study design. Instruction is provided through lectures and small-group exercises.

Fall Prerequisites: None  
Lipnick 4 Quarter Hours/Graded

PMO512 EPIDEMIOLOGY II: EPIDEMIOLOGIC METHODS

This course expands upon the basic concepts of epidemiology presented in PMO511. Methodological issues discussed include sampling, measurement error, bias, confounding and study design with special emphasis on how to analyze categorical data.

Winter Prerequisites: PMO503, 504II concurrently, 511  
Lipnick 4 Quarter Hours/Graded

PMO513 EPIDEMIOLOGY III: ADVANCED EPIDEMIOLOGIC METHODS

This course expands on the content of PMO511 and 512. Particular emphasis is placed on data analysis. Small-group exercises and simulations provide the student with hands-on experience in

solving selected epidemiologic problems. The course covers advanced material on data analysis, rates and measures, bias, confounding, and specific methodologic problems in epidemiology.

Prerequisites: PMO503, 504A, 504B, 511, 512 and Concurrence of Course Director

Spring

Scher

4 Quarter Hours/Graded

PMO514

EPIDEMIOLOGY AND CONTROL OF INFECTIOUS DISEASES

The natural history, distribution patterns, and risk factors of selected infectious diseases are discussed. Strategies for prevention or control are derived from such epidemiologic concepts as natural reservoir, modes of transmission, inapparent versus apparent infections, herd immunity, and the effects of immunization. Student participation in seminars and student presentations will constitute a major part of the course.

Prerequisites: PMO511, Concurrence of Course Director

Winter

Lewis

2 Quarter Hours/Graded

PMO515

CHRONIC DISEASE EPIDEMIOLOGY

The current strategies for the control of selected chronic diseases are presented in the context of their epidemiology (definition, distribution patterns, natural history and risk factors of etiologic or prognostic significance).

Prerequisites: PMO511, 512, Concurrence of Course Director

Spring

TBA

2 Quarter Hours/Graded

PMO516

DESIGN AND ANALYSIS OF EPIDEMIOLOGIC STUDIES

This course is designed primarily for the doctoral student. The students will use the knowledge and abilities acquired in previous epidemiologic courses to conduct a cohort or a case-control study. This includes writing the study protocol, analyzing and interpreting the data, and writing a final report in the way of a journal article. The study will be based on existing databases and students will work under the supervision of a faculty member.

Prerequisites: PMO513, Concurrence of Course Director

Fall

TBA

3 Quarter Hours/Graded

PMO519

OCCUPATIONAL AND ENVIRONMENTAL EPIDEMIOLOGY

This course emphasizes the epidemiologic methods/tools used in assessing occupational and environmental risk factors. A series of lectures, case studies and exercises are integrated in order to teach various methodologic and analytic approaches to studying the relationship between occupational and environmental exposures and outcome measures in specific populations.

Prerequisites: PMO503, 504A, 511, 512

Spring

Rusiecki

2 Quarter Hours/Graded

PMO520

MOLECULAR EPIDEMIOLOGY

This course reviews the application of techniques in molecular biology to the study of epidemiological problems. The range of techniques discussed includes variations of the polymerase chain reaction, nucleic acid hybridization, mutation screening, solid phase immunoassays, fluorescence activated cell scanning, and other immunoassay techniques. The application of these techniques is discussed in relation to the epidemiological study of transmission, pathogenesis, and etiology of infectious diseases, genetic predisposition to cancer and other diseases, gene discovery, and the genome project. A prerequisite for this course is the course, "Concepts in Molecular Biology and Immunology," unless the requirement is waived by the course director. It is the goal of these two related courses that each student will develop the capability to critically evaluate use of and apply molecular techniques in epidemiological studies.

Prerequisites: PMO521, Concurrence of Course Director

Spring (Alternates with PMO521) Quinnan

2 Quarter Hours/Graded

PMO521

CONCEPTS IN MOLECULAR BIOLOGY AND IMMUNOLOGY

This course is intended as an overview of current concepts in molecular and cell biology and immunology that will serve as a useful background for understanding the application of molecular

techniques to the study of epidemiological problems. Conceptual areas reviewed include the nature, synthesis, and function of macromolecules, cellular structure, organization and function, techniques in molecular biology commonly used in epidemiology, important principles and techniques in immunology, and genetics. The concepts are presented at a level appropriate for allied health professionals or as an update for individuals with doctoral degrees in human or animal health fields. The course is generally intended as a prerequisite for the course, "Molecular Epidemiology," although individuals who are already knowledgeable about the areas covered may have the requirement for this course waived by the course director.

Prerequisites: Concurrence of Course Director

Spring (Alternates with PMO520) Quinnan 2 Quarter Hours/Graded

PMO522

META-ANALYSIS

Using interactive, small group self-directed learning techniques, the course objectives are to (1) understand the strengths and weaknesses of meta-analysis and when the method is appropriate; (2) understand the steps of meta-analysis, including question definition, literature review, data abstraction, analysis and publication; and (3) understand the theory and statistical methods of meta-analysis including fixed and random effects models, tests of heterogeneity, publication bias, file drawer tests, and sensitivity analysis.

Prerequisites: PMO503, 511 and Concurrence of Course Director

Spring/Summer Jackson 1 Quarter Hour/Credit

PMO595

INTRODUCTION TO COMPLEX SAMPLE SURVEY ANALYSIS

This course is developed to enable the students to do basic statistical analysis based on the complex surveys with sample weights. Such population complex surveys have been conducted in U.S. for civilians and military personnel. Well-known surveys are: the third National Health and Nutrition Examination Surveys (NHANSES III) funded by National Center for Health Statistics (NCHS), Center for Disease Control and Prevention (CDC), and surveys of Health Related Behaviors among Military Personnel (HRB) funded by the Department of Defense (DOD). A real data extracted from one of the HRB will be used to illustrate the concepts in complex surveys and related statistical analyses. Statistical software, SAS-callable SUDAAN (by performing the statistical analysis of complex survey under the SAS environment) using SAS will be taught. Prior knowledge in using SAS, one of the popular statistical software is not required, although it is preferred. Lectures, labs for statistical analysis using SUDAAN, and written assignment for homework problems will be used throughout the course.

Prerequisites: Concurrence of Course Director

Spring Kao 2 Quarter Hour/Graded

PMO611

CLASSIC STUDIES IN EPIDEMIOLOGY

Students will analyze the original articles in the medical literature that formed the basis for current practices in epidemiology. Focus will be on the conceptual and methodologic advances in the field. Articles will be selected for discussion based on their quality, originality and, above all, on their influence on the field of epidemiology. Definitions of "classic" studies vary, but we will concentrate on those which changed the way epidemiologic studies are conducted and the way that epidemiologists think.

Prerequisites: PMO511 and Concurrence of Course Director

Winter Lipnick/Haverkos 2 Quarter Hours/Graded

PMO701

ADVANCED BIOMETRICS TUTORIAL

Selected advanced topics in biometrics, not covered in other graduate courses, that are of interest to the student(s).

Prerequisites: Concurrence of Course Director

All Staff 1-12 Quarter Hours/Graded

PMO811

INDEPENDENT STUDY IN EPIDEMIOLOGY

This course provides experience in epidemiologic investigations as well as programs of reading and research in specific areas of epidemiologic interest. Students work under the supervision of a faculty member. A proposal must be submitted to the faculty mentor for approval and credits are assigned commensurate with the complexity of the project.

All Prerequisites: Concurrence of Division Director  
Staff 1-12 Quarter Hours/Graded or Credit

PMO911 RESEARCH IN EPIDEMIOLOGY

This course teaches students methods in conducting epidemiologic studies. Under mentorship of a faculty member, the student may continue research already started or participate in research in progress at USUHS.

All Prerequisites: PMO511, 512, Concurrence of Course Director  
Staff 1-12 Quarter Hours/Credit

HEALTH SERVICES ADMINISTRATION (HSA)

PMO523 FUNDAMENTALS OF U.S. HEALTHCARE POLICY

This course examines the application of concepts and techniques of advocating or influencing policy on behalf of organizations, the community, and the health services industry. Legislative, executive and judiciary branches and their role in national and state policy will be discussed. Comparisons of the roles and effects of public and private policy will be conducted. The role of interest groups in the policy process, and the concept of political competence at the individual and organizational levels will be examined.

Winter Prerequisites: Concurrence of Course Director  
Thompson 2 Quarter Hours/Graded

PMO524 HEALTH CARE PERFORMANCE IMPROVEMENT

This course will provide students an in-depth view of the Malcolm Baldrige National Quality Award criteria. Students will learn the scoring methods used by Baldrige examiners and will apply their skills to a standard case. Lecture and discussion periods will focus on the Core Values, applicability of the business criteria to the health profession, actual impact of the criteria set on quality and profitability in those businesses which have won the Award. This course will provide the student with an understanding of the systems approach to quality improvement and will enable students to use the Baldrige criteria for assessment of health care systems.

Spring Prerequisites: None  
Barbour 3 Quarter Hours/Graded

PMO526 HEALTH SYSTEMS

This course provides an overview of the organization and function of health services in the U.S., including the pluralistic nature of the systems, the behavioral and economic foundations for understanding its function, major historical and legislative events that have shaped the current system, current research relating to the health system financing and staffing, and current policy issues in regard to the organization of health services. At the completion of this course, students will be able to explain the historical development of American health care and to analyze the factors that effect change in the system.

Fall Prerequisites: None  
Corriere 4 Quarter Hours/Graded

PMO527 PRINCIPLES OF HEALTHCARE MANAGEMENT

This course provides a survey of health care management principles, including strategic and health systems planning, leadership, resource and information management, performance measurement and improvement, and organizational theory and design.

Winter Prerequisites: None  
Corriere 2 Quarter Hours/Graded



nations, use of the media and methods of social communication in disease prevention and health promotion; economic issues in developing countries affecting health; and the structure and function of health systems in selected geographic regions. By the end of the course, students will have an understanding of major health systems and programs in place throughout the world and their influence on global health.

Prerequisites: PMO528 and Concurrence of Course Director  
 Winter Ainscough 3 Quarter Hours/Graded

PMO559

DECISION SUPPORT IN HEALTH CARE PERFORMANCE IMPROVEMENT

This course focuses on developing student's skills and knowledge on how to improve performance in health care systems of any size. The subject matter begins with first level knowledge needed to understand how to make good decision when faced with problems and issues of inefficiency. At the second level, students will learn to uncover information showing the current health care delivery performance status of the system. They will also learn the key attributes of data use and the discipline of which data to use at specific times in performance improvement.

Prerequisites: None  
 Winter Barbour/Crawford 4 Quarter Hours/Graded

PMO598

HEALTH CARE ECONOMICS

This course applies economics concepts to: analyze health, the healthcare market and policies for healthcare. Two primary themes for this course are: public health care economics, and military health care economics. As they relate to the primary topics of the course, the primary objectives of this course are: 1) to understand the distinctive economics characteristics of health, the healthcare industry and the professional responsible for delivering health services 2) from the standpoint of economics, to analyze and evaluate, the American systems of healthcare financing and delivery 3: to discuss multiple current policy issues such as health care costs, uncompensated care, managed care and health insurance reform.

Prerequisites: None  
 Winter Anderson 2 Quarter hours/Graded

PMO591

MARKETING AND STRATEGIC ISSUES FOR HEALTH CARE ORGANIZATIONS

This course provides an overview of health systems marketing and strategic planning while integrating key concepts and skills derived from other courses within the health services track. Select topics include measuring and understanding consumer behavior, market segmentation and strategic targeting, crafting business case analyses, forecasting demand for care, analysis of the competitive environment, governance, and leveraging your public relations assets. At the completion of this course, students will present – in small teams - a solution to the Regents Health Care System case study used throughout the health services track to a mock “board of directors” for approval.

Prerequisites: PMO 526 and 527  
 Spring Faculty 2 Quarter hours / graded

PMO592

HEALTHCARE TECHNOLOGY ASSESSMENT

This course provides an introduction to technology assessment as a tool for public policy, evidence-based health administration, and clinical decision-making. There are two modules in this course. The first module introduces medical technology assessment and its role in health systems and evaluates the priorities and strategies of the major initiatives in healthcare technology assessment. This includes an appraisal of the role of government agencies like the Centers for Medicare and Medicaid Services, the Food and Drug Administration, and the Agency for Healthcare Research and Quality; industry entities such as the Blue Cross Blue Shield Technology Evaluation Center; and academic efforts such as the Cochrane Collaboration. The second module introduces the tools of economic evaluation of health services and interventions, to include cost-effectiveness, cost-utility, and cost-benefit analyses; and provides guidance on the presentation and use of economic evaluation results.

Prerequisite: None  
 Summer Faculty 2 Quarter Hours/Graded



This course presents a comprehensive approach to the principles and practice of tropical medicine. Tropical illness will be presented from both a pathogen and organ system perspective (i.e., cardiac, neurological, dermatological). The epidemiology, pathogenesis, clinical manifestations, complications, differential diagnoses, diagnostic features, and treatment of each disease will be presented. Methods for the prevention and control of these diseases are emphasized. Rational approaches to patients with various symptom complexes are discussed. Students are strongly encouraged to enroll concurrently in PMO 614 Tropical Medicine Rounds. Graded; or Pass/Fail in limited circumstances with instructor permission.

Prerequisites: PMO600 Fundamentals of Human Physiology (for non-clinicians only)  
or Concurrence of Course Director

Spring Keep/Hickey 6 Quarter Hours/Graded or credit

PMO561

MEDICAL PARASITOLOGY

This course consists of lectures, practical exercises, and demonstrations covering the important helminthic and protozoan diseases of man. The life cycle, epidemiology, geographic distribution, pathology and immunology together with laboratory and field methods of diagnosis, treatment, and prevention are covered.

Prerequisites: Concurrence of Course Director

Spring Cross 3 Quarter Hours/Graded

PMO563

CLINICAL TROPICAL MEDICINE

This course consists of advanced and applied training in the diagnosis and management of diseases of the tropics that present special problems and in the principles and methods of disease surveillance. The course is clinically oriented and exposes the student to patients at selected health care facilities in Asia, Africa, Central or South America.

Prerequisites: Concurrence of Course Director

All (Overseas) Keep/Hickey 1-12 Quarter Hours/Credit

PMO564

EPIDEMIOLOGY AND CONTROL OF ARBOVIRUSES

This course covers the epidemiology, prevention and control of viruses that are biologically transmitted by arthropods such as mosquitoes and ticks. In addition, some of the important African and South American hemorrhagic fever viruses and the hantaviruses are covered. At the end of the course, students should have an extensive understanding of how these viruses may cause outbreaks of human disease in urban and/or rural environments, how to assess risk of exposure to these viruses, and how to prevent and/or treat these viral diseases. Lectures and discussions will cover topics such as arthropod infection and transmission of viruses, the epidemiology of various viruses carried by arthropods and rodents, clinical course and pathology of certain viral diseases, risk assessment of arthropod-borne virus transmission, prevention/control of arthropod-borne virus transmission, and development of new antiviral drugs. Students taking the laboratory will receive extensive training in the latest techniques for isolating, diagnosing, and cultivating certain viruses. All students will have a wide variety of current scientific articles to read and discuss. Graded; or Pass/Fail in limited circumstances with instructor permission.

Prerequisites: Concurrence of Course Director

Spring(Lec)/Summer(Lab) Grieco 2(Lec), 4(Lab) Quarter Hours/Graded or Credit

PMO565

VECTOR BIOLOGY

This course presents an overview of vector biology as it relates to the epidemiological patterns of arthropod-borne diseases in human populations. Vector species of major arthropod-borne diseases will be selected to illustrate different types of disease transmission and to examine vector potential as influenced by climate and habitat, susceptibility to infection, vector longevity, length of extrinsic incubation, host preferences and the relationships between vector behavior, socio-cultural characteristics of human populations and disease incidence. The influence of vector biology on the methods and success of control efforts will be emphasized. The course will be presented in a series of lectures, discussions and class projects.

Prerequisites: Concurrence of Course Director

Fall Andre 2 Quarter Hours/Graded



Laboratories will focus on utilizing the latest research techniques to examine various aspects of vector biology and disease transmission ecology. Students will have the opportunity to read and discuss a wide variety of current, cutting-edge scientific articles.

Prerequisites: Graduate-level medical entomology course  
Concurrence of Course Director

Summer Andre 4 Quarter Hours/Graded

PMO571 BIOSYSTEMATICS IN MEDICAL ZOOLOGY

This course will be presented in the form of lectures, discussion, demonstrations, and individual projects. The first half of the course will consist of lectures on the history and importance of systematics, the International Code of Zoological Nomenclature, the concept of species, sources of variation, population genetics and mimicry. The second half of the course will examine the major systems of biological classification and how behavioral, physiological, biochemical, and molecular techniques are applied in classifying medically important taxa.

Prerequisites: Concurrence of Course Director

Winter Grieco/Johnson 2 Quarter Hours/Graded

PMO573 EPIDEMIOLOGY AND PREVENTION OF VACCINE-PREVENTABLE DISEASES

The primary focus of this course will be to provide updates on vaccine-preventable diseases, vaccine management and safety, and standard immunization practices. The course is a self-paced distance-learning course using an annual teleconference from the National Immunizations program at the Centers for Disease Control and Prevention in Atlanta, GA. The teleconference is held live in the spring, so this course uses the archived video online. Session one will cover principles of vaccination, general recommendations on immunization, vaccine safety, storage and handling, and vaccine administration. Session Two will cover pertussis, pneumococcal disease (childhood), polio and Hib, Session Three will cover measles, rubella, varicella, smallpox and meningococcal disease. Session Four will cover hepatitis B, Hepatitis A, influenza, and pneumococcal disease (adult). For more information about this course see the course director.

Prerequisites: Concurrence of Course Director

Summer Keep 1 Quarter Hours/Credit

PMO577 INTRODUCTION TO GIS IN PUBLIC HEALTH

Geographic Information Systems (GIS) have a variety of uses including: mapping and analyzing the spatial distribution of diseases, determining the proximity of diseases to environmental factors, and planning the distribution of public health services. The goal of the course is to give students an understanding of GIS and spatial analysis techniques, example applications, and hands-on experience in the lab using hardware and software that will enable students to use the techniques discussed in class in a knowledgeable way in their research and future work in public health. The lectures will cover GIS data structures, entering data into a GIS, GPS, geographic analysis, cartographic presentation, and applications of GIS to public health.

Prerequisites: Concurrence of Course Director

Fall Achee/Masuoka 2 Quarter Hours/Graded

PMO578 REMOTE SENSING METHODS IN PUBLIC HEALTH

Images acquired from aircraft and satellites have an increasing role in public health research as a way to map environmental factors that can affect health (such as mosquito larval habitats, water pollution, dust storms, etc.). The lectures will cover types of remote sensing imagery, image processing, photointerpretation of various imagery types, and examples of applications of remote sensing to public health from the literature. The laboratory will give students experience in photointerpretation, image processing, and use of remote sensing data with GIS data.

Prerequisites: Concurrence of Course Director

Winter Masuoka 3 Quarter Hours/Graded

PMO613 PUBLIC HEALTH ISSUES OF DISASTERS IN DEVELOPING COUNTRIES

This course focuses on the public health consequences of disasters in developing countries (natural, man-made and technological) and on the principal public health interventions needed to mitigate and respond to the disaster's effects. Students will learn epidemiological tools to assess and monitor the health of populations affected by disasters. The role of the medical community when planning for and/or supporting the response to complex humanitarian crises will be emphasized. The course will use guest speakers to support the course material.

Prerequisites: Concurrence of Course Director  
Spring Schor 4 Quarter Hours/Graded

PMO614

TROPICAL MEDICINE ROUNDS

This is a clinical case management course, geared toward the diagnosis and treatment of actual clinical cases. X-rays, basic laboratory specimens and photographs will be available for consideration. Discussion will include differential diagnosis, specific treatment, complications, epidemiological implications and preventive measures that could have avoided disease. Upon completion of this course the students should be able to (1) develop a tropical medicine disease case management strategy that is logical, realistic and comprehensive; (2) discuss the differential diagnosis of a patient symptom complex and recommend diagnostic and therapeutic actions; (3) know the chemotherapeutic treatment and case management strategy for common tropical diseases; and (4) devise a public health program to prevent further disease transmission in the community. This course is strongly recommended for anyone enrolled in PMO560 Principles and Practice of Tropical Medicine.

Prerequisites: Concurrence of Course Director  
Spring Hickey/Keep 2 Quarter Hours/Credit

PMO615

SAND FLIES AND DISEASE

This course presents a thorough coverage of the phlebotomine sand flies and their importance as vectors of diseases such as the leishmaniasis, bartonellosis and sand fly fever. Particular emphasis is given to the leishmaniasis and the ecology of Leishmania transmission, including parasite-vector and vector-host interactions, sand fly and Leishmania surveillance and leishmaniasis prevention and control. The course also covers in less detail the biting midges (also called sand flies) and the diseases they transmit, such as blue tongue and Oropouche viruses, and certain microfilariae. Students will gain an extensive understanding of sand fly and biting midge biology and ecology, and will be able to recognize sand flies and biting midges by sight and identify important vector species using dichotomous keys. They will learn to organize and conduct sand fly and Leishmania surveys to assess the risk of human exposure, and will be able to recommend appropriate countermeasures for vector and disease suppression. Students will be required to rear sand flies in the laboratory and to collect age-specific life-table data through an entire colony generation.

Prerequisites: Concurrence of Course Director  
Winter Lawyer 3 Quarter Hours/Graded

PMO661

TROPICAL PUBLIC HEALTH SEMINAR

This seminar series presents reviews of current concepts and research in tropical public health. Guest speakers and faculty members present weekly seminars on selected topics.

Prerequisites: Concurrence of Course Director  
Spring Andre 1 Quarter Hours/Graded

PMO760

TROPICAL MEDICINE RESEARCH TUTORIAL

Students, with faculty advice, will develop a study question for a directed research project during the overseas quarter. Background research of the medical/scientific literature will be required to formulate a hypothesis to be investigated. Laboratory procedures necessary for the study, but with which the student is unfamiliar, will be identified. This tutorial will include learning these techniques. There will be requirements for outside reading to understand the theory, as well as laboratory hands-on instruction to master the mechanics of the procedure(s) required to do the research project.

Prerequisites: PMO560, Concurrence of Course Director

	All	Hickey/Keep	1-12 Quarter Hours/Graded
PMO761	<u>IMMUNOPARASITOLOGY TUTORIAL</u>		
	This course covers the immune responses in hosts caused by parasites and the mechanisms of escape selected by the parasites. The student will gain knowledge in the immune responses, including non-specific mechanisms such as activated macrophages, neutrophils and eosinophils, and the humoral and cellular arms of the specific immune response to various human parasites. In addition, antigenic variation demonstrated in a number of protozoan parasites will be analyzed with reference to malaria and trypanosomiasis. The mechanisms which permit intracellular survival of Leishmania and Toxoplasma will also be assessed. The potential for immunization against human parasites, utilizing the state-of-the-art molecular biology techniques is explored specifically with reference to malaria, trypanosomiasis, and schistosomiasis.		
	Spring	Prerequisites: Concurrence of Course Director Richards	3 Quarter Hours/Credit
PMO763	<u>TUTORIAL IN MEDICAL ZOOLOGY</u>		
	The faculty will prescribe a literature review to cover a broad background in medical parasitology and vector biology. The students will meet with the faculty member for discussion of the material.		
	All	Prerequisites: Concurrence of Course Director Andre	1-12 Quarter Hours/Credit
PMO764	<u>TUTORIAL IN AQUATIC BIOLOGY</u>		
	This course is designed to familiarize the student with the major groupings of aquatic arthropods, with emphasis on those families which are vectors of disease, which prey on disease vectors; and which serve as useful indicators of environmental pollution. Lectures will be presented on morphology, classification, behavior and ecology of the major groups. Procedures for collecting, preserving, mounting and identifying the different groups of aquatic arthropods will be covered in the laboratory sessions. Students will be required to develop and turn in an extensive collection, complete with field notes, of preserved and identified specimens of genera represented in the locale of Washington, DC.		
	Summer/Fall	Prerequisites: Concurrence of Course Director Grieco	4 Quarter Hours/Graded
PMO964	<u>RESEARCH IN MEDICAL ZOOLOGY</u>		
	Graduate students will conduct a project of original research under the supervision of a faculty member. The graduate student will, with faculty review, design the study, conduct the experiments and data collection, do the appropriate analysis, including a literature review, and prepare oral presentations and a written dissertation.		
	All	Prerequisites: Concurrence of Course Director Grieco	1-12 Quarter Hours/Credit
PMO990	<u>TRAVEL MEDICINE</u>		
	This clinically oriented lecture and clinic care course will teach and demonstrate the principles of travelers' medicine from the perspective of the tourist and, to a lesser extent, the military unit. The course will consist of lectures, a practical exercise, and evaluation of patients. The Travel Clinic at the National Naval Medical Center will be used to teach the clinical requirements for preparing tourists and business travelers of all ages and health states to travel safely abroad. Students will be introduced to multiple sources of travelers' health information, including travel medicine computer software, published sources, and the Centers for Disease Control and Prevention via the Internet. Preventive medicine will be emphasized, including the use of vaccines, personal protective measure, and malaria chemoprophylaxis. After travel evaluation and care of ill travelers will be taught.		
	Winter/Spring	Prerequisites: M.D., D.O., P.A., N.P., Concurrence of Course Director Keep/Hickey	2-3 Quarter Hours/Credit



(i.e., grant proposal, policy paper, public health problem solving, etc), the process for institutional assurances and approvals (for human subjects research and animal care and use issues), and the integration of the core public health disciplines. Students will be encouraged to select a project which combines the project and practicum requirements if possible. By the end of the course, students will be able to develop and critique study proposals and describe the process of institutional assurances and approvals for research studies.

Prerequisites: Concurrence of Course Director  
 Winter Hooper 1 Quarter Hour/Credit

PMO673 MPH PROJECT/PRACTICUM IMPLEMENTATION AND EVALUATION

This is the third and last in this seminar series on the MPH independent project and practicum. The course will be a forum for discussing and finding solutions to issues or problems related to project mentorship, authorship issues, funding issues, and/or study implementation, among others. Speakers will reinforce the oral and written communication skills essential for effective public health practice, including how to prepare scientific abstracts and posters. By the end of the course, students will be able to prepare, briefings, written reports, policy papers, abstracts, posters, and oral presentation slides related to public health practice or research. They will be able to effectively participate in the iterative process of manuscript development and demonstrate effective oral and written communication skills when reporting research findings to various audiences.

Prerequisites: Concurrence of Course Director  
 Spring Hooper 1 Quarter Hour/Credit

PMO674 MPH INDEPENDENT PROJECT

This is a required course for all MPH/MTM&H students to receive credit for the products of their independent project: project proposal, oral presentation, and final written report.

Prerequisites: Eligibility for graduation  
 Summer Hooper 3 Quarter Hours/Graded

PMO680 INTRODUCTION TO PUBLIC HEALTH

This course will include lectures on ethics, the history of preventive medicine, and effective oral presentations. The objective is to provide students with a solid background in these topics as a foundation for the rest of the academic year.

Prerequisites: Concurrence of Course Director  
 Pre-Fall TBA 1 Quarter Hour/Credit

PMO682 HISTORY OF PREVENTIVE MEDICINE

The evolution and development of the medical and social aspects of public health and preventive medicine, and specialized disciplines (statistics, epidemiology) will be studied to explicate both the historical background of the present, and to extract the historical foundation for persistent concepts and functions.

Prerequisites: Concurrence of Course Director  
 Spring D. Smith 2-4 Quarter Hours/Graded

PMO683 CRITICAL READING SEMINAR

The Critical Reading Seminar is part of the USUHS/WRAMC Fellowship Program in General Internal Medicine. It is designed to teach participants to read clinical literature critically, using epidemiologic and statistical techniques. The seminar in the Fall quarter is devoted to a study of the critical appraisal materials designed by the Department of Clinical Epidemiology and Biostatistics at McMaster University. Exercises are designed to provide a practical experience in employing McMaster's methodology to significant articles chosen to exemplify both excellent and problematic clinical investigation. Subsequently, participants choose their own critical reading packages. Each session is devoted to reading in depth about a single topic; all participants are provided with three to five articles to read critically prior to the seminar. During the seminar, participants rotate as facilitators; all participants discuss the chosen articles. The articles reviewed are primarily from the internal medicine literature and deal with major topics in preventive

medicine, epidemiology, and utilization of diagnostic technology, causation, quality of care, economic analysis, prognosis, and therapy.

Prerequisites: Concurrence of Course Director

Fall/Winter/Spring

TBA

2 Quarter Hours/Credit

PMO684

CLINICAL RESEARCH SEMINAR

The Clinical Research Seminar is part of the WRAMC/USUHS Fellowship Program in General Preventive Medicine. The seminars concentrate on how to design clinical investigation projects, with a particular emphasis on areas in academic general medicine, such as ambulatory care, geriatrics, medical interviewing, preoperative evaluation, clinical decision making, medical education, behavioral medicine, and health services research. Speakers emphasize methodologic issues and, in particular, explore problems associated with clinical research. About 1/3 of the seminars will be conducted by WRAMC or USUHS investigators; 1/3 will focus on special topics in clinical research; and 1/3 will be led by speakers invited from outside agencies and institutions. The format is informal to allow a brisk dialogue between participants and speakers. Students will see how principles of clinical research and implemented in actual projects, and will learn how to identify methodologic problems when designing protocols and reading the literature.

Prerequisites: Concurrence of Course Director

Fall/Winter/Spring (2 Tues/mo)

Jackson

1 Quarter Hour/Credit

PMO685

HEALTH POLICY SEMINAR

The Health Policy Seminar is given as a part of the USUHS/WRAMC Fellowship Program in General Internal Medicine. Selected topics in both military and civilian medicine are addressed, such as biomedical ethics, legislative issues, health care utilization and manpower, and other health policy issues. Sessions will include invited speakers, selected readings with discussion, and occasionally a congressional field trip. Students will become more aware of how policy decisions impact upon the teaching and practice of medicine.

Prerequisites: Concurrence of Course Director

Spring (2 Thurs/mo)

Jackson

1 Quarter Hour/Credit

PMO688

INFORMATION GATHERING IN CLINICAL MEDICINE

Information gathered in the clinical setting becomes data used in epidemiological and health outcomes research. This course will provide opportunities for students to learn from research-oriented practicing clinicians in a clinical setting. Students will learn the problems involved in collecting accurate information from patients through history-taking, physical examination, laboratory testing, and questionnaire administration. Teaching methods will center on observation of the physician at work and, as much as possible, active participation of the students in collecting data, and will include assigned readings and tutorials.

Prerequisites: PMO511, 512, Concurrence of Course Director

All

Staff

2-12 Quarter Hours/Credit

PMO691

TEACHING PRACTICUM

As one of the requirements of the Dr.P.H. program, students serve as Teaching Assistants for at least one course per year. In addition to providing assistance to the course director, they are expected to expand and deepen their knowledge of the subject matter taught, sharpen their critical thinking skills, and gain experience in giving lectures, leading seminars, supervising laboratory exercises, preparing and grading examinations, reviewing homework, and counseling students.

Prerequisites: Concurrence of Course Director

All

TBA

3 Quarter Hours/Credit

PMO900

INTRODUCTION TO CLINICAL TRIALS

Presents students with the rationale for conducting clinical studies and introduces basic clinical trial methodology. Fundamentals of design, conduct, and analysis will be presented through modern and historical examples. Key ethical and regulatory issues related to clinical trials will be highlighted, as will the unique role of the military in past and present examples of clinical research. The course is intended to provide a basis for understanding clinical trial design and

analysis. Students interested in developing the skills necessary to independently design clinical trials, including the development of an analysis plan, are advised to enroll in PMO 996 Clinical Trial Design and Analysis.

Winter Prerequisites: PMO 503 or Concurrence of Course Director  
TBA 2 Quarter Hours/Credit

PMO970

DIRECTED STUDIES IN PREVENTIVE MEDICINE

Additionally, students may register for this course in order to receive credit for extra work on the MPH independent project. Selected students will use this independent study project to expand their knowledge in a specific area of Preventive Medicine or Public Health.

All Prerequisites: Concurrence of Course Director  
Staff 1-12 Quarter Hours/Graded or Credit

PMO971

PMB DOCTORAL STUDENT JOURNAL CLUB

This course is required for all PMB doctoral students. Each student in the class will read the selected scientific article and come prepared to discuss the salient points. A different student each week will present a current scientific paper published in the peer-reviewed scientific literature and lead the discussion. PMB faculty will attend the weekly seminar and are encouraged to join in the discussion. The major objective of the course is to develop and refine critical reading skills, as well as presentation skills.

Fall, Winter, Spring Prerequisites: Concurrence of Course Director  
Staff 1 Quarter Hour/Credit

PMO972

SEMINAR IN CRITICAL THINKING

The course is designed to teach methods for evaluating arguments and policies; identifying and assessing alternatives; and developing reasonable, persuasive positions of one's own. Students master specific logical, rhetorical, and critical techniques that they then use to examine published works in ethics, epistemology, literature, history, science, and mathematics. Taken together, these techniques should provide the student with the verbal skills essential to oral presentation, criticism, and defense, and a reliable method for producing clear, well-structured, and persuasive written arguments. Thus, the course requirements include a series of short written essays (250 to 500 words) and a brief weekly reading assignment followed by student-directed discussion in class. The class will meet twice a week, once to examine a family of analytic techniques and once to discuss a reading assignment related to those techniques. The course will last 24 weeks (2 hours per week.)

Winter-Spring Prerequisites: Concurrence of Course Director  
Heitman 4 Quarter Hours/Graded

PMO973

GENERAL PREVENTIVE AND OCCUPATIONAL & ENVIRONMENTAL MEDICINE RESIDENCY JOURNAL CLUB

The overall goals of the GPM/OEM Journal club are to teach problem-based learning to participants by identification of public health problems from "real-world" situations, reviewing the extant scientific literature and utilizing structured critical appraisal skills to determine the evidence-based recommendations that can be translated into policy and practice. The intent of the process is to instill in participants a habit of life-long learning to maintain current and valid knowledge relevant to preventive and occupational medicine. In addition, each student is expected to prepare, present and lead a critical appraisal discussion of an article one or more times during the academic year, as well as to read and participate in the weekly discussions of each article selected. Residency and graduate faculty and are encouraged to attend and contribute to all sessions. Faculty and invited guest speakers may also present "hot topics" of interest at times during the year. Secondary goals are to share experiences and expertise, pass on announcements and events of interests, and foster a sense of collegiality and identity within the residency programs and the graduate students in affiliated residency programs.

Fall-Winter-Spring Prerequisites: Concurrence of Course Director  
Burnett/Jankosky 1 Quarter Hours/Graded

PMO975	<p><u>INTRODUCTION TO AEROSPACE MEDICINE SEMINAR</u></p> <p>Students will understand basic aerospace physiology and its importance in aviation safety. They will also relate medical conditions to the selection and retention of civil and military aviators as well as astronauts. Students will understand the basics of the aerospace medicine program of the DOD, NASA, and FAA including environmental and occupational aspects. They will understand the basics of aerodynamicis.</p>
Fall	<p style="text-align: right;">Prerequisites: Concurrence of Course Director</p> <p style="text-align: center;">TBA</p> <p style="text-align: right;">2 Quarter Hours/Grade</p>
PMO991	<p><u>ETHICS IN PUBLIC HEALTH</u></p> <p>This course is based on the Ethics and Public Health model curriculum developed by HRSA and ASPH in 2003. The course serves to encourage well-informed critical discussions of ethical issues in the field of public health. The scientific considerations in public health policy and interventions sometimes cause political and ethical conflicts. Central to public health practice are questions of autonomy, individual rights, coercion, justice, community, and multicultural values. The population-based perspective of public health goals should be ethically reconciled with the preservation of human rights and protection of civil liberties. The goals that guide this course curriculum are: stimulating the moral imagination, recognizing ethical issues, developing analytical skills, eliciting a sense of moral obligation and responsibility, and coping with moral ambiguity. The course will enable students to recognize, analyze, criticize, and evaluate ethical issues in public health, and equip them with practical knowledge to construct arguments and make decisions in public health practice.</p>
Spring	<p style="text-align: right;">Prerequisites: None</p> <p style="text-align: center;">Faculty</p> <p style="text-align: right;">3 Quarter Hours/Credit</p>
PMO996	<p><u>CLINICAL TRIAL DESIGN &amp; ANALYSIS</u></p> <p>This course is designed for MPH and other graduate students / researchers interested in synthesizing their learning from previous coursework/experience in the design and analysis of clinical trials. The course is intended for students interested in developing the skills necessary for a more independent role in designing clinical trials, including ones that contribute to effective collaboration in developing a statistical analysis plan. The course will survey advanced topics in clinical trials, discussing issues commonly faced, from the prospective planning phases, through conducting and monitoring an ongoing study, to analyzing a completed study. Lectures will emphasize the conceptual aspects of design/analysis issues in this survey of topics, drawing on examples from the current literature. Each lecture is followed by a lab or a selection of breakout sessions, during which students engage in a topic of their choosing with in-depth coverage of issues and hands-on experience with analysis methods to handle them; pros and cons of various approaches and implementing methods using software will be emphasized.</p>
Spring	<p style="text-align: right;">Prerequisites: PMO 900 or Concurrence of Course Director</p> <p style="text-align: center;">Wilkins</p> <p style="text-align: right;">2 Quarter Hours/Credit</p>

**DEPARTMENT OF PREVENTIVE MEDICINE AND BIOMETRICS  
PRIMARY FACULTY APPOINTMENTS**

Quinnan, Gerald V., Jr., M.D. (St. Louis University School of Medicine); Professor and Chair; CAPT, USPHS  
Cruess, David F., Ph.D. (The Johns Hopkins University); Professor and Vice Chair for Biometrics; Director,  
Graduate Programs; Professor, Emerging Infectious Diseases  
Andre, Richard G., MSc. (North Carolina State University), Ph.D. (Iowa State University); Professor and Vice Chair  
for Research and Faculty Development; Professor, Emerging Infectious Diseases  
Hooper, Tomoko I., M.D. (University of California, San Francisco), M.P.H. (Uniformed Services University of the  
Health Sciences); Assistant Professor and Director, Graduate Research and Practicum Programs; Deputy  
Director, Graduate Programs  
Bradshaw, Robert Dana, M.D. (University of Texas), M.P.H. (Uniformed Services University of the Health  
Sciences); Assistant Professor and Director, General Preventive Medicine Residency; Col, USAF, MC  
Mallon, Timothy, M.D. (Syracuse) Assistant Professor and Director, Occupational and Environmental Medicine  
Residency; COL, MC, USA  
Jankosky, Christopher, M.D. (Georgetown University); M.P.H. (John Hopkins School of Hygiene and Public  
Health); Assistant Professor and Deputy Director, Occupational and Environmental Medicine Residency,  
CDR, MC, USNR  
Schor, Kenneth, D.O. (Philadelphia College of Osteopathic Medicine), M.P.H. (USUHS), Assistant Professor and  
Deputy Director, General Preventive Medicine Residency; CAPT, MC, USN

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Achee, Nicole, Ph.D. (Uniformed Service University of the Health Sciences), Assistant Professor (Tropical Public  
Health)  
Ainscough, Michael J, M.D. (Southern Illinois University), M.P.H. (University of Texas), Assistant Professor and  
Program Director International Health; Col, USAF, MC, CFS  
Anderson, Katherine, Ph.D. (University of Tennessee Health Science Center, Memphis), M.S. (University of  
Tennessee, Knoxville), B.S. (University of Tennessee, Knoxville) Assistant Professor (Health Services  
Administration)  
Barbour, Galen L., M.D. (University of Arkansas School of Medicine); Professor and Division Director (Health  
Services Administration)  
Barnes, Steven L., M.D. (Medical College of Wisconsin), M.P.H. (University of Utah): Assistant Professor  
(Aerospace Medicine) and Division Director (Occupational and Environmental Health Sciences); Col, USAF,  
MC, SFS  
Berti, Janice, MPH (Uniformed Service University of the Health Sciences), Assistant Professor (International  
Health)  
Chan, Wing T., Ph.D. (McGill University, Canada), S.M. (Harvard University School of Public Health); Visiting  
Scientist (Environmental and Occupational Health)  
Chen, Dechang, PhD (SUNY, Buffalo); Assistant Professor (Epidemiology & Biostatistics)  
Claborn, David, DrPH (Uniformed Services University of the Health Sciences); Assistant Professor (Tropical Public  
Health)  
Cook, Greg, PhD (Uniformed Service University of the Health Sciences), Assistant Professor; (Environmental and  
Occupational Health); LCDR, MSC, USN  
Corriere, Micheal A., Ph.D (American University), M.S. (Naval Postgraduate School): M.B.A (University of New  
Mexico): B.S. (United State Naval Academy); Assistant Professor (Health Services Administration): LCDR,  
MSC, USN  
Crawford, Raymond S., III, M.D. (University of Arkansas), M.B.A. (Troy State University); Assistant Professor  
(Health Services Administration)  
Criswell, Darrell, Ph.D., (University of North Texas) Assistant Professor (Aerospace Physiology); LtCol, USAF,  
BSC  
Cross, John H., M.A. (Miami University), Ph.D. (University of Texas Medical Branch); Professor (Tropical Public  
Health)  
Dela Cruz, Georgia, DMD, (University of Pennsylvania), MPH (University of North Carolina), Assistant Professor  
(Center for Oral Health Studies); LTC, DC, USA  
Gimbel, Ronald W., Ph.D. (SUNY-Albany), M.A. (Webster University); Assistant Professor (Health Services  
Administration); LCDR, MSC, USNR

Girasek, Deborah, C., M.P.H. (University of Michigan School of Public Health), Ph.D. (The Johns Hopkins University School of Hygiene and Public Health); Associate Professor and Division Director (Social and Behavioral Sciences)

Grieco, John P., Ph.D. (Uniformed Services University of the Health Sciences); Assistant Professor (Tropical Public Health)

Hickey, Patrick, M.D. (Uniformed Service University of the Health Sciences); Assistant Professor (Tropical Public Health); MAJ, MC, USA

Johnson, Richard N., Ph.D. (University of Florida); Assistant Professor (Tropical Public Health); COL, MS, USA

Kao, Tzu-Cheng, M.S. (National Tsing Hua University, Taiwan), Ph.D. (Purdue University); Professor (Biostatistics)

Keep, Lisa W., M.D. (University of Miami), M.P.H. (Harvard University); Assistant Professor and Division Director (Tropical Public Health); COL, MC, USA

Kinnamon, Kenneth E., D.V.M. (Texas A&M University), M.S. (University of Rochester), Ph.D. (University of Tennessee); Professor Emeritus (Tropical Public Health)

Lawry, Russell S., M.S. (North Dakota State University) Assistant Professor, (Aerospace Physiology); CDR MSC, USN

Leiendecker, Thomas , DDS, (University of North Carolina), MPH (Uniformed Services University of the Health Sciences), Assistant Professor (Center for Oral Health Studies); CAPT, DC, USN

Lewis, Michael D., M.D. (Tulane University School of Medicine); M.P.H. (The John Hopkins University School of Hygiene and Public Health), M.B.A. (American Later Continental University); Assistant Professor (Epidemiology and Biostatistics); LTC, MC, USA

Lipnick, Robert J., Sc.D. (Harvard University School of Public Health), M.S. (University of Massachusetts); Assistant Professor and Division Director (Epidemiology and Biostatistics); COL, MS, USA,

Lopez, Mary, M.S., Ph.D., (Texas A & M), M.S. (Baylor), M.S. (California State University), Assistant Professor, LTC, MS, USA

Lundy, Donald O., M.S. (Austin Peay State University); Assistant Professor; (Environmental and Occupational Health); LTC, USA, MS

Martin, David B., M.D. (Johns Hopkins University School of Medicine), MPH (Johns Hopkins University Bloomberg School of Public Health); MAJ, USAF, MC, FS

Martin, Gregory, MD, Assistant Professor (IDCRP)

Masuoka, Penny, M.S. (University of Tennessee); Assistant Professor (Tropical Public Health), NASA/Goddard Space Flight Center

Michelson, Edward H., M.S. (University of Florida), Ph.D. (Harvard University); Professor Emeritus

Mongeau, Susan W., D.D.S. (Emory University); M.P.H. (USUHS); DC Assistant Professor (Center for Oral Health Studies); Lt Col, USAF

Moran, Kimberly A., M.D. (Uniformed Service University of the Health Sciences); Assistant Professor (Tropical Public Health); MAJ, MC, USA

Olsen, Cara H., M.S. (Cornell University), DrPH (Uniformed Service University of the Health Sciences); Assistant Professor and Biostatistical Consultant

Rusiecki, Jennifer A., Ph.D. (Yale University, School of Medicine), MPH (Yale University, School of Medicine); Assistant Professor (Epidemiology and Biostatistics)

Scher, Ann I, Ph.D (The Johns Hopkins University School of Hygiene and Public Health), M.S. (University of Maryland); Assistant Professor (Epidemiology and Biostatistics)

Smith, Philip, MPH, PhD, CIH, Assistant Professor; (Environmental and Occupational Health); CDR, MSC, USN

Srikantan, Vasantha, Ph.D. (Indian Institute of Science, Bangalore), DVM (Veterinary College, U. of Agricultural Sciences, Bangalore); Research Assistant Professor

Tang, Douglas B., M.S., Ph.D. (University of Minnesota), Adjunct Professor (Epidemiology & Biostatistics)

Thompson, Beverly, MHSA, (George Washington University), Assistant Professor for Research (Health Services Administration)

Tribble, David, MD, MPH (Uniformed Service University of the Health Sciences), DrPH (USUHS), Associate Professor (IDCRP)

Truet, April, MD, Assistant Professor (Tropical Public Health); CDR, MC, USN

Wegner, Scott MD, Assistant Professor (IDCRP), Col, MC , USAF

Wierzba, Rachel, MD, (University of Wisconsin), MPH, (Johns Hopkins University), Assistant Professor (IDCRP)

Wilkins, Kenneth, Ph.D., (Harvard University), Assistant Professor (IDCRP)

Zhang, Peng Fei, Ph.D. (National Vaccine and Serum Institute, Beijing); Research Associate Professor (Tropical Public Health)

## SECONDARY FACULTY APPOINTMENTS

Feuerstein, Michael, M.S., Ph.D., Professor, Department of Medical and Clinical Psychology  
Heitman, Kristin, M.A., Ph.D., Assistant Professor, Department of Medical History  
Jackson, Jeffrey L., M.D., M.P.H., Associate Professor; LTC, MC, USA; Department of Medicine  
Martin, Gregory J., M.D.; Assistant Professor; CAPT, MC, USN; Department of Medicine  
Smith, Dale C., Ph.D., Professor and Chair, Department of Medical History  
Wilson, Cindy C., Ph.D., Professor, Department of Family Medicine

## ADJUNCT AND VISITING FACULTY

Baine, William B., Adjunct Assistant Professor; CAPT, USPHS  
Baker, John E, J.D, LL.M.; Adjunct Assistant Professor; COL, JAG, USA (Retired)  
Bautista, Leonelo E., M.D., Dr.P.H., Adjunct Assistant Professor  
Bell, Micheal R., Adjunct Assistant Professor, Maj, MC, USA  
Blakely, William F., Ph.D., M.S.; Adjunct Assistant Professor  
Bonventre, Eugene, M.D., Adjunct Assistant Professor  
Bradshaw, Patrick P., Adjunct Assistant Professor; Lt Col, BSC, USAF  
Brady, Paul J., M.D., M.P.H.; Adjunct Assistant Professor; LCDR, MC, USPHS  
Brundage, John F., M.D., Adjunct Assistant Professor  
Buck, Alfred S., M.D., Adjunct Professor  
Buttery, Christopher M.G., M.B.B.S., M.P.H.; Adjunct Associate Professor  
Calloway, Margaret., Assistant Professor, LCDR, MC, USNR  
Campbell, James R., M.S. Ph.D., M.P.H.; Adjunct Professor; CAPT, MSC, USN  
Carney, W. Patrick, Ph.D; Adjunct Professor  
Ching, Wei-Mei, Ph.D., Adjunct Associate Professor  
Cowan, David N., Ph.D., Adjunct Assistant Professor  
Coyne, Phillip E., Jr., M.D., M.S.P.H; Adjunct Assistant Professor; LCDR, MC, USN  
Crapo, Philip E, Adjunct Assistant Professor, LCDR, MSC, USN  
Culpepper, Randall., Adjunct Assistant Professor, CDR, MC, USN  
Cunnion, Stephen., Adjunct Assistant Professor; CAPT(Ret), MC, USN  
DeFraites, Robert, M.D., M.P.H.; Adjunct Assistant Professor; COL, MC, USA  
Eckenrode, Brian E., PhD; Adjunct Professor  
Erickson, Ralph L., Adjunct Assistant Professor; COL, MC, USA  
Feighner, Brian H., M.D. Associate Professor, COL, MC, USA  
Fitz, Robert, Adjunct Assistant Professor  
Friedman, Heidi, PH.D. Adjunct Assistant Professor  
Gabriele, Edward F., D. Min, Adjunct Assistant Professor  
Gardner, John W., Ph. D, Adjunct Professor; COL (Ret), MC, USA  
Gaydos, Joel C., M.D., M.P.H.; Adjunct Professor  
Gordon, Scott W., Assistant Professor; LTC, MSC, USA  
Granger, Elder, Adjunct Assistant Professor; MG, MC, USA  
Gray, Gregory C., M.D. Adjunct Professor  
Haffner, Marlene E., Adjunct Professor; RADM, USPHS  
Halstead, Scott B., M.D., Adjunct Professor  
Hanson, R. Kevin, M.D., M.P.H.; Adjunct Assistant Professor; CAPT (Ret), MC, USN  
Haverkos, Harry, MD, Adjunct Assistant Professor  
Heller, Jack, Ph.D., M.S.; Adjunct Assistant Professor  
Hickey, Thomas E., Adjunct Assistant Professor, LCDR, MSC, USN  
Hoffman, Kenneth J., M.D., M.P.H.; Adjunct Assistant Professor; COL(Ret), MC, USA  
Hoffman, Stephen L., M.D., D.T.M.H.& H; Adjunct Professor; CAPT, MC, USN;  
Holland, Christopher S., M.D., Assistant Professor  
Hook, Gary, Assistant Professor, CDR, MSC, USN  
Hshieh, Paul B., Adjunct Assistant Professor  
Jones, Bruce H., M.D., Adjunct Assistant Professor

Jorgensen, Robert R., D.V.M., M.P.H.; Adjunct Assistant Professor  
 Kang, Han K., Dr.P.H., Adjunct Assistant Professor  
 Kazandjian, Vahe A., Ph.D., Adjunct Professor  
 Kelley, Patrick W., M.D., M.P.H.; Adjunct Assistant Professor; COL, MC, USA  
 Kluchinsky, Timothy A. Jr., M.B.S.,M.S.P.H., Dr.PH, Adjunct Assistant Professor  
 Krauss, Margot R., Adjunct Assistant Professor; COL(Ret), MC, USA  
 Lapa, Joyce A., Adjunct Assistant Professor, CAPT, MC, USN  
 LaPuma, Peter T., Ph.D, Adjunct Assistant Professor  
 Lawyer, Phillip G., M.A., Ph.D., Associate Professor; COL (Ret), MS, USA  
 Lee, Arthur P., Ph.D Adjunct Assistant Professor  
 Liao, Ximan, Ph.D. Research Assistant Professor  
 Lincoln, Andrew J., Sc.D, Adjunct Assistant Professor  
 Litow, Francesca K., M.D., MPH , Adjunct Assistant Professor  
 Louis, David, M.D. Adjunct Professor, Col, USAF, MC  
 Madsen, James, M.D. Assistant Professor, COL, MC, USA  
 Magill, Alan J., Adjunct Assistant Professor; COL, MC, USA  
 McBride, Wayne Z., Adjunct Assistant Professor; CDR, MC, USN  
 Moritsugu, Kenneth P., Adjunct Assistant Professor; RADM, USPHS  
 Moss, David, D.D.S., M.P.H., Adjunct Assistant Professor  
 Moultrie, Wilbert, Adjunct Assistant Professor  
 Nemmers, Scott A., Ph.D, M.S., Adjunct Assistant Professor  
 Nicogossian, Arnauld, M.D., M.S.; Adjunct Assistant Professor  
 Niebuhr, David W., Adjunct Assistant Professor, LTC, MC, USA  
 Noah, Donald L., D.V.M., M.P.H.; Adjunct Assistant Professor; LtCol, USAF, BSC  
 Patterson, Redford E., M.D., M.P.H.; Adjunct Assistant Professor; Col, USAF, MC  
 Primack, Aron, M.A., M.D.; Adjunct Associate Professor; CDR USPHS  
 Rayman, Russell B., M.D., M.P.H.; Adjunct Associate Professor  
 Redington, Bryce C., Ph.D., Adjunct Assistant Professor  
 Resta, John, Master of Civil Engineering, Adjunct Assistant Professor  
 Richards, Allen L., Ph.D., Adjunct Assistant Professor  
 Richie, Thomas L., Adjunct Assistant Professor, CAPT, MC, USNR  
 Roadman II, Charles H., M.D., Distinguished Professor  
 Robert, Leon L Jr., Adjunct Associate Professor, LTC, MS, USA  
 Rush, Vivian C., M.D. Adjunct Assistant Professor  
 Russell, Kevin L., M.D., M.T.M.&H.; Adjunct Assistant Professor; CDR, MC, USN  
 Russell, Philip K., M.D., Adjunct Professor  
 Ryan, Margaret A. M.D., M.P.H.; Adjunct Assistant Professor; CDR, MC, USN  
 Sardelis, Michael, M.S., Ph.D., Adjunct Assistant Professor  
 Schinski, Veron D., Ph.D, Adjunct Assistant Professor  
 Schultz, George W., Adjunct Assistant Professor, CDR, MC, USN  
 Schutt, David C., M.D., Adjunct Assistant Professor  
 Sjogren, Maria, M.D., Adjunct Associate Professor; COL, MC, USA  
 Smith, Philip A., M.P.H. Adjunct Professor, CDR, MSC, USN  
 Smoak, Bonnie L., M.D., Ph.D., M.P.H., Adjunct Associate Professor; COL (ret), MC, USA  
 Stewart, Ann, D.V.M., Ph.D.; Adjunct Assistant Professor  
 Thomas, Dana L., M.D., Adjunct Assistant Professor  
 Thomas, Mason J., Ph.D., Adjunct Professor  
 Thomas, Richard J., Associate Professor, CAPT (Ret), MC, USN  
 Tinling, Walter W., Adjunct Assistant Professor  
 Tornberg, David N., M.D, Adjunct Assistant Professor  
 Trosper, James H., Ph.D., Adjunct Assistant Professor  
 Turell, Michael J., Ph.D, Adjunct Associate Professor  
 Turner, Martha, Ph.D., Adjunct Assistant Professor  
 Weese, Coleen B., M.D. Adjunct Assistant Professor  
 Weina, Peter J., Adjunct Assistant Professor; LTC, MC, USA  
 White, Donald J., M.S., Adjunct Assistant Professor

Whitmeyer, Antoinette, M.S. Adjunct Assistant Professor, CAPT, MSC, USN  
Wilkerson, Richard C., M.S., Ph.D.; Adjunct Assistant Professor;  
Williams, Jackie L., Ph.D., Adjunct Assistant Professor; LTC, MSC, USA  
Willis, Gordon B., Ph.D., Adjunct Assistant Professor  
Wilson, Deborah E., Adjunct Assistant Professor; CAPT, USPHS  
Wirtz, Robert A., M.S., Ph.D.; Adjunct Associate Professor  
Wood, Owen L., Ph.D., Adjunct Assistant Professor  
Wu, Shuenn-Jue L., Ph.D, Adjunct Assistant Professor  
Yevich, Steven J., M.D. Adjunct Assistant Professor  
York, Andrew K., Adjunct Assistant Professor, CAPT, DC, USN  
Yund, Alan J., Adjunct Assistant Professor; CAPT, MC, USN  
Zhu, Kangmin, Ph.D, Adjunct Associate Professor

## GRADUATES

### 1983

FALK, Leo J., MD, MPH  
JACKSON, Frederick L., DO, MPH, CDR MC USN  
LONG, Truman E., MD, MPH, CDR MC USN  
MARAIST, Donald J., MD, MPH, CDR MC USN  
TECEC, Thomas G., DVM, MPH, CPT VC USA

### 1984

McGINLEY, John L., DDS, MPH, LCDR DC USN  
MIEDZINSKI, Mollie M., BS, MPH  
MITCHELL, Benjamin S., MD, MPH, LCDR MC USN  
PAULSEN, H. Jay, MD, MPH, CDR USPHS

### 1985

ARTHUR, James S., DDS, MPH, CDR DC USN  
BESSER, Yheskel, AB, MPH, COL, IDF  
BISHOP, William C., MD, MPH, CDR MC USN  
CLARKE, William R., MD, MTM&H, LtCol USAF MC  
DREIS, Michael W., BS Pharm, MPH, LCDR USPHS  
KELSEY, Charles, Jr., DVM, MPH, CPT VC USA  
LEVINE, Debra A., BSN, BA, MPH  
LYONS, Fred E., DVM, MPH, CPT VC USA  
ROSENSTOCK, Joel, MD, MPH, LCDR MC USNR

### 1986

BASH, Margaret C., MD, MPH, LT USPHS  
BEADLE, Christine, MD, MPH  
BLUMENBERG, Thomas L., BS Pharm, MPH, LCDR USPHS  
CALDWELL, M. Blake, MD, MPH, LCDR MC USNR  
IQBAL, Mohammed, MD, MPH, LtCol, Pakistan AMC  
MICHALOSKI, Cathleen, BSN, MPH  
PEARSON, Kay, BS Pharm, MPH, CAPT USPHS  
RECHES, Moshe, MSC, MPH, LtCol, Israeli Defence Forces  
SAVAGE, Gale, MD, MPH  
SIMMONS, John, MD, MPH, MAJ MC USA  
SMITH, Kermit, DO, MPH, CDR USPHS  
SUANSILPPONGSE, Aroon, MD, MPH  
TAMIR, Arnon, MD, MPH, MAJ, IDF  
WEIR, Robert, DVM, MPH, CPT VC USA  
YANEY, Sandra, M.N., MPH, CPT NC USA

### 1987

BORDERS, Rosa M., MD, MPH  
BURR, Peggy Q., BS, MPH  
DAVEY, Victoria, BSN, MPH  
GROCHMAL, David L., DDS, MPH, LCDR DC USN  
HEIBA, Ibrahim M., MD, MTM&H  
KIRKPATRICK, Laura, AB, MPH  
McNABB, Cheryl Hisatomi, BS, MPH

OLSON, Richard, MD, MPH, CDR USPHS  
PARKER, John A., MD, MTM&H, MAJ MC USA  
PEREZ, Thomas R., R.Ph., MA, MPH, LCDR USPHS  
RONISH, Ross, MD, MPH, Capt USAF MC  
ROSEN, Steven, BS, MPH  
STEWART, William R., MD, MPH, LCDR MC USN  
TEMPLE, Diana J., AB, MPH

### 1988

BERTSCHE, Patricia K., BSN, MPH  
BEYMER, Charles H., Dr Pharm, MPH, LT USPHS  
BRADY, William E., BS, MPH  
CHAUDRY, M. Ashraf, MBBS, MPH, Maj, Pakistan AMC  
DIEMER, Margretta M., MD, MPH, MAJ MC USA  
DORON, Eytan, BA, MPH, Lt Col, IDF  
GUM, Robert M., DO, MPH, CPT MC USA  
HANSON, Kevin, MD, MPH, LCDR MC USN  
HOOPER, E.Y., MD, MPH, CDR USPHS  
JOHNSON, George M., MD, MPH, Capt USAF MC  
LAI, Sheng-han, MD, MPH  
MIDDLETON, Timothy, M.E., MPH, Maj USAF BSC  
MILLER, Marissa A., DVM, MPH, LT USPHS  
PHILLIPS, Kenneth G., MD, MPH, CPT MC USA  
1988 (continued)  
SANBORN, Jill S., BS MPH  
SMERZ, Richard W., DO, MTM&H, LTC MC USA  
TONAT, Kevin, BA, MPH, LT USPHS  
TROULLOS, Emanuel S., DMD, MPH  
ZAFAR, Abdul, MBBS, MPH

### 1989

CABIRI, Mordechai, BA, MPH, Lt Col, IDF  
CANDLER, Wm H., Jr., MS, DO, MTM&H, CPT MC USA  
CARR, Michael W., DVM, MPH, MAJ MC USA  
CHEN, Kyone (Joe), MBBS, MPH  
KADLEC, Robert P., MD, MTM&H, Maj USAF MC  
LIU, Lei, MD, MPH  
MITCHELL, Glenn W., MD, MPH, LTC MC USA  
PRUETT, Richard K., MD, MPH  
REED, William W., MD, MPH, MAJ MC USA  
SCOTT, Steven G., MD, MPH, LT USPHS  
SHOSHAN, Nimrod, MD, MPH, Lt Col, IDF  
SMITH, Phillip L., MD, MPH, LCDR USPHS  
TAYLOR, Dewayne G., DVM, MPH, MAJ VC USA  
VINCENT, Dale S., MD, MPH, MAJ MC USA  
WARFE, Peter G., MBBS, MTM&H, Lt Col, RAAMC  
WEST, Peter Amory, MD, MPH

### 1990

ALSHECH, Itzhak, MD, MPH, Maj, IDF  
ANDERSON, James W., MD, MTM&H, MAJ, Canadian Forces  
BERGEISEN, Gershon H., MD, MPH, CDR USPHS  
CAUDLE, Lester C., III, MD, MTM&H, CPT MC USA

1990 (continued)

GOFORTH, Gary, MD, MTM&H, MAJ MC USA  
HEIL, John R., MD, MPH, LCDR MC USN  
HOLDER, Keith, MD, MPH, LCDR MC USN  
JAJOSKY, Philip, MD, MPH, Ph.D., CDR USPHS  
KHAN, Ahmed, M.B.B.S., MPH, Maj, Pakistan AMC  
MAY, Laurel A, MD, MPH, LCDR MC USN  
McCARDLE, Peggy D., MPH, Ph.D.  
MYETTE, Thomas L., MD, MPH, CDR, Canadian Forces  
NOWAK, Rudolf Z., MD, MPH, MAJ, Canadian Forces  
OLESEN, Mark C., MD, MPH, LCDR MC USN  
PELLOSIE, Carmine, D.O., MPH, LCDR MC USN  
PESSONEY, John T, MD, MPH, CAPT MC USN  
POLANCO, Jorge A, MD, MPH, Belize MOH  
RAFORD, Paul, MD, MPH, LCDR USPHS  
REDFORD, Maryann, DDS, MPH  
SALAZAR, Guillermo J., MD, MPH  
SCHUCKENBROCK, David R., DVM, MPH, MAJ  
VC USA  
SCHWARTZ, Keith A., BS, MPH  
SHERMAN, Stephanie J., DVM, MPH, LTC VC USA  
STINSON, Nathaniel, MD, MPH, PhD, CDR USPHS  
TANCHEZ, Mario, MD, MPH, Maj USAF MC  
TANNER, Ann L., BS, MPH  
WILLIAMS, Richard P., MD, MPH, CDR MC USN  
ZABARI, Arnon, BA, MPH, Lt Col, IDF

1991

BELIZARIO, Vicente Y Jr., MD, MTM&H  
BHATTY, Nusrat, MBBS, MPH  
BURTE, Francoise, MD, MPH  
CHANDLER, Bruce P., MD, MPH, CDR, USPHS  
CHEN, Xi, B.S., MPH  
CRAIG, Stephen C., DO, MTM&H, MAJ MC USA  
CUMMINGS, Curtis E., MD, MPH, CDR MC USN  
deJESUS, Antonita V., MD, MPH, CAPT MC USN  
HEATH, Stephen W., MD, MPH, CAPT USPHS  
HAR-NOY, Shmuel, MSc, MPH, Lt Col MC, IDF  
HUNTER, James R., BS, MPH, LCDR USPHS  
JAJOSKY, Ruth A., DMD, MPH  
JORDAN, Wanda M., BS, MPH  
KIM, Dong Hyun, MD, MPH  
LIMPERT, Scott F., MD, MPH, LCDR MC USN  
MASTERS, Carolyn F., BA, MPH  
MIRANDA, Jose R., MD, MPH, LCDR USPHS  
MOORHEAD, John A., MD, MPH, LCDR USNR  
OMORI, Deborah J., MD, MPH, MAJ MC USA  
VASUT, Debbie J., DVM, MPH, CPT VC USA  
YORK, Andrew K. II, DMD, MPH, LCDR DC USN

1992

BURKE, Laurie B., BS, MPH, LT USPHS  
CRAIG, Peter George, MBBS, MTM&H  
FALLON, Ann P., MD, MPH, LT MC USN  
FERNANDEZ, Ildefonso S., MS, Ph.D.  
HIRA, Subhash K., MBBS, MPH

KACZMARCZYK, Joseph M., DO, MPH, CDR USPHS  
KARNEI, Karen Z., BSN, MPH  
KEARY, Frank V., MD, MPH  
GARKAPARTHI, Mohan Kishore, MBBS, MTM&H  
LANDRY, Frances J., MD, MPH, CPT MC USA  
LEE, Lionel Kim H., MBBS, MPH  
LEWIS, Drew E., MD, MTM&H, LCDR MC USN  
LYNCH, Kathryn Jo, PhD, MPH  
MARPLE, Richard, MD, MPH, MAJ MC USA  
McARTHUR, Jon A., BS, MPH, CDR USPHS  
McGUIRE-RUGH, Karen, BSN, MPH  
MEO, Ahmed Bashir, MBBS, DPH, MPH, MAJ MC  
Pakistan AMC  
OLIGNY, Christopher, BS, PA, MPH  
PELEG, Jacob, BA, MA, MPH, LtCol IDF  
PITTS, Michael B., MBBS, MPH  
RUELL, Ellen Mary, BS, MEd, MPH

1993

BRAITHEWAITE, Lana L., BS, MPH  
CHADWICK, Gary, DPh, MPH, CAPT USPHS  
DOWNING, Denise M., BA, MPH  
FARRAR, Curtis Lynn, MPH, CDR USPHS  
GEFROH, Gary J., BS, MPH, LT USPHS  
HENDERSON, Kenrick G, BS, MPH  
MAAS, Vernon A, MD, MPH, LT USPHS  
MARLIN, Kay, BA, MPH  
McMAHON, David, BS, MPH, LTJG USPHS  
MURPHY, Frances M., MD, MPH  
NEALE, John Franklin, DDS, MPH, CDR USPHS  
PIERCE, Elizabeth A, BS, MPH  
ROHRER, Rebecca J, BS, MPH  
ROY, Michael, MD, MPH, CPT MC USA  
SCHUTT, Robert W., DDS, MPH, LCDR DC USN  
SCOTT-WRIGHT, Alicia O., MD, MPH, MTM&H,  
LCDR USPHS  
TAKASHIMA, Herbert T, MD, MPH, CAPT USPHS  
TANI, Yukiko, BSN, MPH, LT USPHS  
WATTENDORF, Nicole, BS, MPH  
WELLS, Glen, MD, MPH, Lt Col RAAMC

1994

ALTARAC, Maja, MD, MPH  
AUSTER, Rosalie, MD, MPH  
BALL, Robert, MD, MPH, LCDR MC USN  
BONA, James D., BS, CDR USPHS, MPH  
CASERTA, Vito M., MD, MPH, CDR MC USPHS  
EVERETT, Nancy, RN, BS, MPH  
FEIGHT, Andrea G., DMD, MPH, CDR USPHS  
GOLDBERG, Avishy, MA, MPH, Lt Col, IDF  
GRAF, James A., DO, MPH, CDR MC USN  
HALL, Elvira L., DVM, MPH  
HOOPER, Tomoko I., MD, MPH  
HENDRICK, Byron B., MD, MPH, LCDR MC USNR  
KARLBERG, Kristen K., BS, MPH  
LEIENDECKER, Thomas, DDS, MPH, LCDR USN

1994 (continued)

LILLIE, Ralph B, BS, MPH, CDR USPHS, FDA  
MONDRAGON, Donald, MD, MPH, CPT MC USA  
MORRIS, Carolyn Blank, BA, MPH  
MORRIS, Jeffrey S., BS, MPH, LTJG USPHS  
RYAN, Margaret A.K., MD, MPH, LT MC USNR  
SCHIBLY, Barbara A., PhD, MPH, MD, CDR MC USN  
SONG, Guan-hong, MS, PhD  
STOUTE, Ellen J., BS, MPH  
TIOKASIN, Linda, BS, MPH, LTJG USPHS  
WAGNER, Cheryl A., BS, MPH  
YOSHINAGA, Mary F. Austen, BA, MPH

1995

ALLEN, James W., MD, MPH, CAPT MC USN  
BALEIX, John C., MD, MPH, LCDR MC USN  
BEAUJON, Jan R., MS, MPH, LT MSC USN  
CHAMBERLIN, Judith, BS, MPH  
CHAREONVIRIYAPHAP, Theeraphap, PhD  
COLE, Marlene N., DVM, MPH, CAPT VC USPHS  
EMERSON, Maura A., MD, MPH, CDR MC USN  
FLORIO, Emily, Ph.D., MPH  
GALLAURESI, Beverly A., RN, BS, MPH  
HOOPER, TOMOKO, I., MD, MPH  
JONES, David L., MD, MPH, MAJ MC USA  
JONES, Trevor R., MA, PhD, MPH, LCDR MSC USN  
KANESA-THASAN, Niranjan, MD, MTM&H, MAJ MC USA  
KARITIS, J. William, DMD, MPH, LCDR DC USN  
LANGE, Susan C., BS, MPH  
LI, Jun, MD, SMMC, PhD  
LINDQUIST, H.D. Alan, MEnvSci, PhD  
MAPES, Peter B, MD, MPH, MAJ MC USAF  
McBRIDE, Wayne Z., DO, MPH, LCDR MC USN  
McCLOSKEY, Carolyn A., MD, MPH  
MORGAN, Jacqueline, MD, MPH, Col MC USAF  
SHERMAN, S. Scott, MD, MPH, LCDR MC USN  
SMITH, April P., BS, MPH  
SWARTWORTH, Wm J., MD, MPH, LCDR MC USN  
TOWLE, Cynthia, PA, MPH  
WALTERS, Terry J., MD, MPH, MAJ MC USA  
WILCOX-RIGGS, Sandra L., MD, MPH, LTC MC USA  
YANCY, April D., DVM, MPH  
YUND, Alan J., MD, MPH, CDR MC USN

1996

BRIAND, Edward J., DVM, MPH, CPT VC USA  
BUCHANAN, Kelvin C., DVM, MPH, CPT VC USA  
CAMPBELL, James R., PhD, MPH, CDR MSC USN  
DEUSTER, Patricia A., PhD, MPH  
DIEHL, Mark C., DDS, MPH, CDR USN  
FREEMAN, Annette K., DVM, MPH, CPT VC USA  
FULLER, Linda J., DO, MPH, CDR MC USN  
GABRIEL, Mary E., MD, MTM&H, LtCol USAF MC  
HALL, Matthew D., MD, MPH, LCDR USPHS/USCG

HARPER, Kristina, BA, MPH  
HAZOUT, Yehiel, MA, MPH, LtCol MC IDF  
HOHENHAUS, Guy S., DVM, MPH  
HOLLAND, John D., BS, MPH, LT USPHS  
INOUE, Lisa S., MD, MPH, LT MC USNR  
JACKSON, Jeffrey L., MD, MPH, MAJ MC USA  
LaMAR II, James E., MD, MPH, LCDR MC USN  
MALAKOOTI, Mark A., MD, MTM&H, LT MC USNR  
MILLER, Kelly J., BA, MPH  
PETERSEN, Kenneth E., DVM, MPH  
RUSSELL, Kevin L., MD, MTM&H, LT MC USN  
SCHIRNER, Wayne A., DO, MPH, LTC MC USA  
SILVERS, Linda E., DVM, MPH  
SMITHWICK, Joel A., MD, MPH, LT MC USNR  
SNYDER, Ricky L., DO, MPH, LCDR MC USN  
SUTTON, Ernest L., MD, MPH, COL MC USA

1997

ARMSTONG, Karyn L., DVM, MPH, CPT VC USA  
BERNIER, J. Jean-Robert S., MD, MPH, MAJ Canadian Forces  
BRADSHAW, Robert D., MD, MPH, LtCol USAF MC  
deALMEIDA, Genevive, MS, MPH  
DUVERNOY, Tracy S., DVM, MPH  
ELTING, Jeffrey, MD, MPH, LTC MC USA  
FISHER, Carol A., DVM, MPH, Maj USAF BSC  
GIBBONS, Robert V., MD, MPH, CPT MC USA  
HAKRE, Shilpa, BSC, MPH  
HARRIS, Linda D., DVM, MPH, CPT VC USA  
HEFFLIN, Brockton J., MD, MPH, LCDR MC USPHS  
ISENBARGER, Daniel W., MD, MPH, MAJ MC USA  
LEISHMAN, Martha F., BSN, MPH  
MARINO, Karma D., MPH  
MAWN, Stephen V. MD, MPH, CDR MC USN  
McCARTHY, Michael C., MD, MPH, CDR MC USN  
McMILLAN, David L., MD, MPH, CDR MC USN  
MITTON, Robert H., DDS, MPH, LCDR MC USN  
NAHIN, Richard L., PhD, MPH  
POTTER, Robert N., DVM, MPH  
SNEAD, Thomas A., MD, MPH, CDR MC USN  
THORSON, Lisa T., MD, MPH, LCDR MC USN

1998

ARNESS, Mark K., MD, MTM&H, Maj USAF MC  
BAUGH, Keith J., MD, MPH, MAJ MC USA  
BENEDEK, Paul, MD, MPH, COL MC IDF  
BERG, Thomas C., DVM, MPH, Maj USAF BSC  
BETTENCOURT, Jr., Bernard M., DO, MPH, MAJ MC USA  
CAMARCA, Margaret M., BSN, MPH  
CHAUDHRY, Amjad M., DVM, MPH, CPT VC USA  
COOK, Keith W., BS, MPH, LT USPHS  
GRAHAM, Sherry L., DVM, MPH, CPT VC USA  
JAN, Moore, MD, MPH, LCDR MC USN

1998 (continued)

MALEY, Elizabeth A., MD, MPH, LT MC USN  
MALINER, Beverly I., DO, MPH, LTC MC USA  
McKULA, Melanie L., BS, MPH  
O'MALLEY, Patrick G., MD, MPH, MAJ MC USA  
PETITT, Patricia L., DO, MPH, LT MC USN  
PRASCSAK, George M., BS, MPH, Maj USAF  
SANTORO, James A., MD, MPH, CPT MC USA  
SCHOR, Kenneth W., DO, MPH, CDR MC USN  
SHEETS, James T., DVM, MPH, CPT VC USA  
SMART, John D., BS, MPH, LT USPHS  
STATEN, Jr., David C., BS, MPH  
STAUDENMEIER, James J., MD, MPH, MAJ MC USA  
STUART, Kelly A., MD, MPH, CPT MC USA  
STUTLER, Shannon A., DVM, MPH, CPT VC USA  
SYLVESTER, Theresa K., BS, MPH  
TAKAFUJI, Julia A., BS, MPH  
TONEY, Steven D., DVM, MPH, Maj USAF BSC  
WEISS, Yosef, MA, MPH, LtCol MC IDF  
WEST, Norman S., MS, MPH, CPT USAF BSC

1999

BANGS, Michael J., MSPH, PhD, LCDR MSC USN  
BLANKENSHIP, Tammy L., MD, MPH, LCDR MC USN  
BRADY, P. Jeffrey, MD, MPH, LT MC USNR  
BRYCE L. Michelle, DO, MTM&H, Maj USAF MC  
BUTLER, William P., DO, MTM&H, LtCol USAF MC  
CHAPMAN, Alice S., DVM, MPH, Capt USAF BSC  
DALAL, Stephen J., DVM, MPH, CPT VC USA  
DUQUE, Jr., David, DVM, MPH, Maj USAF BSC  
EGGLESTON, Thomas A., DVM, MPH, CPT VC USA  
FITZHARRIS, Joseph B., MD, MPH, COL MC USA  
HARRE, Joseph G., DVM, MPH, CPT VC USA  
KILBANE, Edward M., MD, MPH, CAPT MC USN  
MacINTOSH, Victor M., MD, MPH, LtCol USAF MC  
MAGUIRE, Jason D., MD, MPH, LT MC USN  
MARTSCHINSKE, Robert O., MD, MPH, LCDR MC USN  
McCORD, Cedric F., MD, MPH, CPT MC USA  
McDONALD, Kimberly K., MD, MPH, LT MC USN  
McKENZIE-GARNER, Pearlina, MD, MPH, MAJ MC USA  
MULLINS, J. Andrew, DVM, MPH, Maj USAF BSC  
NESBY-O'DELL, Shanna L., DVM, MPH, CDR USPHS  
NIEBLAS, Minda G., MD, MPH, LT MC USN  
NIEHOFF, Steve, DVM, MPH, Maj USAF BSC  
O'MARA, Ann M., PhD, MPH  
PEDERSON, Charles L., MD, MPH, CPT MC USA  
PHINNEY, Lloyd T., DVM, MPH, CPT VC USA  
PROBST, Richard J., DVM, MPH, CPT VC USA  
SCHULTZ, Stephen T., DDS, MPH, LCDR DC USN

SMITH, Doreen A., MS, MPH, Maj USAF NC  
TOMKINS, Glen E., MD, MPH, MAJ MC USA  
TRIBBLE, David R., MD, MPH, CDR MC USNR  
ZENTRICH, Eve C., MA, MS

2000

ADESANYA, Margo R., DDS, MPH, CDR USPHS  
BATSEL, Tanis M., MD, MPH, LCDR MC USN  
BROWN, Linda M., MPH, DrPH, CAPT USPHS  
BURGESS, Timothy H., MD, MPH, LT MC USN  
CANNON, Loraine D., DVM, MPH,  
CLAGETT, Christopher D., MD, MPH, LCDR MC USN  
CLARKE, Thomas F., MD, MPH, Maj USAF MC  
CROSLAND, Telita, MD, MPH, MAJ MC USA  
EKSTRAND, John R., MD, MPH, MAJ MC USA  
FLETCHER, David J., DVM, MPH  
GOLANI, Rafael, MA, MPH, LTC IDF  
GOODRICH, Scott G., DO, MPH, LTC DC USA  
GROSCH, Kit C., BS, MPH, LCDR USPHS  
GUTMANN, Frank D., MD, MPH  
HASKE, Terry L., MD, MPH, Maj USAF MC  
HAYNES, Margaret F., DVM, MPH, Capt USAF BSC  
HEBRINK, Scott T., DVM, MPH, Capt USAF BSC  
HOLT, Rebecca K., DVM, MPH, CPT VC USA  
HUANG, Grant D., MPH  
JACOCKS, John M., MD, MTM&H, LTC MC USA  
KATES, Christopher T., BS, MPH, LCDR USPHSR  
KELSEY, Fred C., DVM, MPH, LtCol USAF BSC  
KILIAN, Dennis B., MS, MSPH, CPT MS USA  
KLUCHINSKY, Jr., Timothy A., MBS, MSPH, CPT MS USA  
LANGSTEN, Randall L., DVM, MPH, Maj USAF BSC  
LOPEZ, Kenneth R., DVM, MPH, CPT VC USA  
LYNCH, John P., MD, Maj USAF MC  
MARTIN, Gregory J., MD, MPH, CPT MC USA  
MILLER, Barry A., MSPH, DrPH, CAPT USPHS  
NAITO, Neal A., MD, MPH, CDR MC USN  
OLLAYOS, Curtis W., MD, MPH, LCDR MC USN  
ORTMAN, Brian V., DVM, MPH, Maj USAF BSC  
RICO, Redro J., DVM, MPH, CPT VC USA  
SCHNEIDER, Diana L., MA, DrPH  
SCHWARTZ, Erica G., MD, MPH, LT MC USNR  
SEVILLA, Nereyda L., BS, MPH, 1LT USAF BSC  
SMITH, Pamela D., MD, MPH, Capt USAF MC  
STETTO, Jayne E., MD, MPH, Maj USAF NC  
THOMPSON, Jennifer C., MD, MPH, MAJ MC USAR  
WINTERTON, Brad S., DVM, MPH, Capt USAF BSC

2001

AIMPUN, Pote, MD, DrPH, Capt MC Thai Army  
ANDERSON, Steven M., BS, MPH, Capt USAF BSC  
BAILEY, Rachel L., DO, MPH, CPT MC USA  
BELL, Michael R., MD, MPH, MAJ MC USA  
BLAZES, David L., MD, LCDR MC USN  
CHAMBERLIN, Judith A., MPH, DrPH  
CLABORN, David, MS, DrPH, LCDR MSC USN

2001 (continued)

DANE, Dana, DVM, MPH, Maj USAF BSC  
DAVIS, Barbara E., DVM, MPH, Maj USAFR BSC  
DEUTSCH, Wayne M., DDS, MPH, CDR USN DC  
FAIX, Dennis J., MD, MPH, LT MC USN  
GOULD, Philip L., MD, MPH, Maj USAF MC  
GRIECO, John P., MS, PhD  
HANSON, Chris E., DVM, MPH, MAJ VC USA  
HUYNH, Mylene T., MD, MPH, Maj USAF MC  
KETZENBERGER, Bryan K., DVM, MPH, MAJ VC USA  
KLUCHINSKY, Jr., Timothy A., MBS, MSPH, DrPH, CPT MS USA  
LANDRO, Frederick J., MD, MPH, CDR MC USN  
MALONEY, Elizabeth, DrPH  
McCOY, Gretchen A., MD, MPH  
MONGEAU, Susan W., DDS, MPH, Lt Col USAF DC  
NISKA, Richard W., MD, MPH, CAPT USPHS  
SALERNO, Stephen M., MD, MPH, MAJ MC USA  
SARDELIS, Michael, PhD, MAJ, USA  
SHARMA, Archana N., MD, MPH  
TASHIRO, Ken M., MD, MPH, Lt Col USAF MC SFS  
THOMAS, Joseph G., MD, MPH, LCDR MC USN  
WEGNER, Mark V., MD, MPH  
WEI, Gina S., MD, MPH  
WELCH, Paul G., MD, MPH, COL MC USA  
ZINDERMAN, Craig E, MD, MPH, LT MC USN

2002

AMON, Joseph, PhD  
CARTER, Gary W., MPH, LT, USPHS  
COMPLETO, John D., MD, MPH, CPT, MC, USA  
CONNER, Bryon F., MD, MPH, LCDR, MC, USN  
DUNN II, James C., MD, CDR MC USN  
EADER, Scott A., MD, MPH, CPT, MC, USA  
FEUERSTEIN, Michael, MD, MPH  
FLYNN, Joseph M., MD, MPH, MAJ, MC, USA  
HALL, Tara L., BA, MSPH, CPT, MS, USA  
HARTZELL, Michael C, MPH, Lt Col, USAF, BSC  
HEMMER, Paul A., MD, MPH, Lt Col, USAF, MC  
HROCH, Brian E., MPH, LT, USPHS  
KASOWSKI, Eric J., MD, MPH, LCDR, MC, USN  
KAZEROUNI, Niloufar, DrPH  
KEELER, Natalie M., MPH, Capt, USAF, BSC  
KIMM, Gregory L., BS, MSPH, MAJ, MS, USA  
LAPA, Joyce A., MD, MPH, CAPT, MC, USN  
LYONS, Keegan M., MD, MPH, Capt, USAF, MC  
MAHER, Paul D., MD, MPH, LT, USPHS  
MCCANNON, Charles E., MD, MPH, LCDR, MC, USN  
MEIER, Michael J., MD, MPH, LCDR, MC, USN  
MISHOE, Helena O., MPH, CAPT, USPHS  
MURRAY, Len E., DVM, MPH, MAJ, VC, USA  
NEWMAN, Sara, DrPH  
ORTIZ, Jose M., MD, MPH, MAJ, MC, USA  
ROBINSON, Christopher S., MA, PhD, MPH, Maj USAF BSC  
SCOVILLE, Stephanie, DrPH

SHEEHAN, James J., MD, MPH, MAJ, MC, USA  
STAKER, Michael L., MD, MPH, CPT, MC, USA  
SZETO, Astrid L., MPH, LCDR, USPHS  
TAI, Ting J., MD, MPH, CPT, MC, USA  
THOMAS-FUENTES, Maria R., MD, MPH  
THORNTON, Venita B., DVM, MPH, LCDR, USPHS  
TORRIE, Ian D., MD, MPH, Lt (N), Canadian Forces  
VAUGHN, Andrew F., MD, MPH, LCDR, MC, USN

2003

BENTZEL, David, DVM, MPH, MAJ, VC, USA  
BERG, Sven, MD, MPH, LtCol, USAF, MC  
BRANCH, Stacey, DO, MS, MPH, Capt, USAF, MC  
BUFFETT, Stephanie J., RN, MSN, MPH, Capt, USAF, NC  
CHAMPINE, Jon D., MPH  
CIMINERA, Paul, MD, MPH, CPT, MC, USA  
DUFFY, Mark, MPH, Capt, USAF, BSC  
FELT, Stephen, DVM, MPH, MAJ, VC, USA  
FONSECA-RIVERA, Jose, MPA, MPH, Maj, USAF, BSC  
GIBBINS, John D., DVM, MPH, DACVPM, Maj, USAF, BSC  
HALL, Francis X., MD, MPH, LCDR, MC, USNR  
HATZIGEORGIOU, Christos, MD, MPH, MAJ, MC, USA  
HINDS, Sarah Bro, DVM, MPH, CPT, VC, USA  
HOLTZCLAW, Suezane, MPH, LCDR, MC, USN  
HAKRE, Shilpa, DrPH  
HOOK, Gary, PhD, LCDR, MSC, USN  
JACOBSEN, Kenneth, DVM, MPH, MAJ, VC, USA  
JACOBSON, Jon R., DO, MPH, CPT, MC, USA  
KELLER, Christopher, DVM, MPH, MAJ, VC, USA  
KUENY, Monica B., MPH, LCDR, USPHS/USCG  
LANGHAM, Gregory, DVM, MPH, LT, VC, USPHS  
LEAL, Joanne R., DDS, MPH, CDR, DC, USN  
MATIS, Steven, DDS, MPH, LCDR, DC, USN  
MERRILL, Nancy, DVM, MPH, CPT, VC, USA  
MILLIKAN, Amy, MD, MPH, CPT, MC, USA  
MORIN, Nathalie, DDS, MPH, MAJ, Canadian Forces Dental Services  
MULHALL, Brian, MD, MPH, MAJ, MC, USA  
NGUYEN, TRAM T., MPH  
OLSEN, Cara, MS, MPH  
PHILLIPS, Stephen, MD, MPH, LTC, MC, USA  
RICHARDSON, Joanne, MD, MPH, Maj, USAF, MC  
SEEMAN, Paul, MD, MPH, LCDR, MC, USN  
SHELTON, Larry, DVM, MPH, CPT, VC, USA  
STONE, Kari, MPH, Capt, USAF, NC  
TABATZKY, Christiane, MD, MPH  
TJADEN, Jeffrey, MD, MPH, LCDR, MC, USN  
TOMON, John, MSPH, LT, MSC, USN  
WHITE, Sharon, MPH, LCDR, USPHS  
WINGER, Kirk, DVM, MPH, Maj, USAF, BSC

2004

ACHEE, Nicole, DrPH  
AUSTIN-LANE, Joy, DrPH  
BECK, Kimberly, MD, MPH, CPT, MC, USA

2004 (continued)

BERBANO, Elizabeth, MD, MPH, MAJ, MC, USA  
BONHAGE, Michael, DVM, MPH, MAJ, MC, USA  
BOWDEN III, Lynden, MD, MPH, CPT, MC, USA  
BOYD, Sean, MPH, LCDR, USPHS  
BROSCH, Lorie, MD, MPH, Lt Col, USAF, MC  
COCKRUM, David, MD, MPH, Maj, USAF, MC  
COGSWELL, Brad, MPH, Capt, USAF, MSC  
CRAMER, David, MPH, LCDR, USPHS  
DANIEL, Colleen, CPT, USA  
EATON, Melinda, Capt, DVM, MPH, USAF, BSC  
HACHEY, Wayne, MD, MPH, LTC, MC, USA  
HARMAN, Dale, MD, MPH, LCDR, MC, USN  
JOBANPUTRA, Nishith, MD, MPH, LCDR, MC, USN  
LANG, Bradford; MPH  
LAWLER, James, MD, MPH, LCDR, MC, USN  
LUKE, Thomas, MD, MPH, LCDR, MC, USN  
MACLARTY, Anne, MAJ, DVM, MPH, VC, USA  
MAY, Lisa, DrPH  
McPHERSON, Nicole, MPH  
MOORE, Brian, MPH, Maj, USAF, BSC  
Moore, Vincent, MAJ, USA  
OLSEN, Cara, MPH  
OSTRANDER, Gregory, MPH, LT, MSC, USN  
OTTO, William, MD, MPH, CPT, MC, USA  
POEL, Christine, DVM, MPH, Maj, USAF, BSC  
RITCHIE, Elspeth, MD, MPH, COL, MC, USA  
ROCKSWOLD, Paul, MD, MPH, CDR, MC, USN  
SCHAEFER, Richard, MD, MPH, COL, MC, USA  
SELENT, Monica, DVM, MPH, Maj, USAF, BSC  
SHUKAN, Evan, Maj, USAF, BSC  
STRAUSS, Mark, MPH, LT, USPHS  
SUNDSTROM, Julie, MPH, Capt, USAF, BSC  
VEST, Kelly, LT, USN  
WESTPHALL, Johann, MD, MPH, Maj, USAF, MC  
WILSON, Keith, MPH, Capt, USAF, NC

2005

ABBOTT, Kevin, MD, MPH, LTC, USA, MC  
ASSEFF, David, MD, MTM&H, LCDR, USNR, MC  
BARTHEL, Robert, MD, MPH, LCDR, USN, MC  
BATZ, Raymond, MD, MPH, LDCR, USNR, MC  
CLARK, Krystyn, MSPH, Capt, USAF, BSC  
COLLINS, Todd, MPH, CPT, USA, VC  
DEZEE, Kent, MD, MPH, MAJ, USA, MC  
EAGAN, Paul, MPH, MAJ, Canada, CFMG  
FAERBER, Juliann, MD, MPH, LCDR, USN, MC  
FITZHUGH, Dawn, DVM, MPH, CPT, USA, MC  
FYFFE, James, MSPH, Lt, USAF, BSC  
GIBSON, Brent, MD, MPH, CPT, USA, MC  
GUTKE, Gregory, MD, MPH, Capt, USAF, MC  
HALVORSON, Heather, MD, MPH, CAPT USAF, MC  
HANCOCK, Miranda, MPH, Capt, USAF, BSC  
HEMLOCK, Bethany, MPH, Civ  
HUNT, James, MPH, LT, USN, MSC  
JOLIVET, Rima, MPH, CNM, MSN

KOCH, David, MSPH, LCDR, USN, MSC  
KRAUTHEIM, Mark, MD, MPH, LtCol, USAF, MC  
LANKIN, Kenneth, MD, MPH, CDR, USN, MC  
LICINA, Derek, MPH, CPT, USA, MS  
MALONE, John, MD, MPH.  
MEDELLIN, Christopher, MD, MPH, MAJ, USA, MC  
MICHAEL, Nack, CPT, MS, USA  
O'CONNOR, Francis, MD, MPH, COL, USA, MC  
PARRISH, Douglas, PhD, LT, USN  
PIPER, Williams, LT, USAF, BSC  
SHIAU, Danny, MD, MPH, LCDR, USN, MC  
SHIMEALL, William, MD, MPH, LCDR, USNR, MC  
SHINABERY, Lynn, DVM, MPH, Maj, USAF, BSC  
SMELSER, Christopher, MD, MPH, CPT, USAR, MC  
SUH, Ryung, MD, MPH, MAJ, USA, MC  
TAYLOR, Jean, DrPH  
THOMAS, Cynthia, DVM, MPH, USAF, BSC  
TRIBBLE, David, DrPH  
WILLIAMS, Piper, MSPH, Lt, USAF, BSC

2006

BEAL, Jessica, MPH, 1LT, USAF, BSC  
BRADBURY, Meredith, Ph.D, MPH  
BROOKS, John, MC, MD, MPH, LCDR, USN, MC  
BRUDER, Catherine, M.A. MPH  
BRYANT, Chet, MSPH, Capt, USAF, BSC  
CARR, Deborah, MD, USAF, BSC  
COLLINS, Ryan, MPH  
DOUGLAS, Kevin, MD, MPH, MAJ, USA, MC  
FAJARDO, Kevin, MD, MTM&H, USAF, MC  
GARGES, Eric, MD, MTM&H, CPT, USA, MC  
GREEN, Kathy, MD, MPH, Maj, USAF, MC  
HAMMETT, Mark, MD, MPH, CDR, USN  
JOHANSON, Scott, MPH  
KAN, Waikwong, MSPH, Capt, USAF, BSC  
KRAHL, Pamela, MD, MPH, LCDR, USNR, MC  
KRYGIER, Julie, MD, MPH, Maj, USAF, BSC  
LAFORCE, Paul, Maj, MPH, Canadian Forces  
LAKIN, Terrence, MD, LTC, MPH, USA, MC  
LEIDEL, Jason, MSPH, Lt, USAF, BSC  
McGUIRE, Christopher, MD, CPT, MPH, USA, MC  
McMANUS, Catherine, VMD, MPH  
MORAN, Michael, MSPH, USAF, BSC  
NEWKIRK, Scott, MSPH, USA, MS  
OKAMOTO, Misa, MPH, USAF, BSC  
OZEROGLU, Muhammed, MSPH, LT, USN  
RODRIGUEZ, Anne, MD, Maj, MTM&H, USAF, MC  
SKINNER, Michael, MSPH, Capt, USAF, BSC  
SOLTIS, Bryony, MD, MAJ, MPH, USA, MC  
TAMMINGA, Cindy, MD, CDR, MPH, USN, MC  
WADLEY, Rodney, MD, MAJ, MPH, USA, MC  
WELLS, Natalie, MD, LT, MPH, USNR, MC  
WA, Hongu, MD, MPH  
WURAPA, Eyako, MD, MAJ, MTM&H, USA, MC  
WYNN, Michael, MD, MPH, USA, MC

2007

Agee, Brian, MD, LtCol, MPH, USAF, MC  
Arnold, Sarah, MD, LCDR, MPH USN, MC  
Berti, Janice, MPH, USAF, NC  
Boetig, Bradley, MD, MPH, USAF, MC  
Burke, Robin, CPT, USA, VC  
Cook, Greg, Dr. P.H., LCDR, USN, MSC  
Derrick, David, MPH, USA, MS  
Florin, David, Dr. P.H, LCDR, USN, MSC  
Gambino-Shirley, Kelly, Capt, MPH, USAF, BSC  
Gleeson, Todd, MD, MPH, LCDR, USN, MC  
Hauerstein, Paul, MPH, LCDR, USN, MSC  
Kent, Robert, MD, MAJ, MPH, USAF, MC  
Kim, Andrew, MD, MPH, USA, MC  
Lacunza, Julia, MD, MPH, USN, MC  
Lipsitz, Robert, MD, MPH, CDR, USN, MC  
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Moccia Krinon, DVM, MPH, MAJ, VC, USA  
Money, Nisha, MD, MPH, Capt, USA, MC  
Mozzachio, Alicia, MPH, LT, USPHS  
Patterson, Steven, MD, MSPH, MAJ, USA, MS  
Ramirez, Juan., MPH, Capt, USAF, BSC  
Razuri, Hugo, MD, MPH  
Reaves, Erik, MD, MTM&H, LT, MC, USN  
Riley, Brian, MD, MPH, LCDR, USN, MC  
Rodriguez, Christopher, MD, MPH, CPT, USA, MC  
Rogers, Heather, M.S., MPH  
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Szpisjak, Dale, MD, MPH, CDR, USN, MC  
Taylor, Brett, DVM, MPH, CPT, VC, USA,  
Taylor, Kevin, MD, MTM&H, CPT, MC, USA  
Terhakopian, Artin, MD, MPH, CPT, USA, MC  
Wentworth, Michael, MD, MPH, LCDR, USN, MC  
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