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ABSTRACT

This document presents an outline of a program of instruction for a global medicine course offered in 3 blocks by the Department of the Army. The purpose of the first block, which would take 156 hours to complete, is to provide Army Medical Department officers with a basic working knowledge of, and the fundamental concepts underlying, biostatistics and epidemiology that will enable them to plan, conduct, and evaluate scientific investigations in the biomedical field. The second block, consisting of 220 hours, is to provide Army Medical Department officers with advanced training in diseases occurring in tropical and other areas of the world. The third and final block consists of 132 hours and has as its purpose training Army Medical Department officers in (1) environmental factors of medical and potential military importance; (2) the examination and evaluation of all disease problems using the ecological approach; and (3) the appropriate use of public health and preventive medicine principles in varying environmental and cultural situations. (HS)

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WALTER REED ARMY INSTITUTE OF RESEARCH
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, D. C. 20012

AUGUST 4, 1970

PROGRAM OF INSTRUCTION

FOR

GLOBAL MEDICINE COURSE

Length: Block I - 4 Weeks
Block II - 5 Weeks
Block III - 3 Weeks
12 Weeks

Approved By:

The Surgeon General

Department of the Army

Washington, D. C.

January 1970

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EDUCATION & WELFARE
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HE 003 306

Section II - Summary

| A. Block I - Epidemiology and Biostatistics | <u>Hours</u> |
|--|--------------|
| 1. Epidemiology | 70 |
| 2. Biostatistics <i>Tang, Bentley, Kaelber</i> | 80 |
| 3. Non-academic | <u>6</u> |
| | 156 |
| | |
| B. Block II - Tropical Medicine | |
| 1. Parasitology | |
| a. Lecture | 30 |
| b. Laboratory | 40 |
| 2. Infectious diseases | 72 |
| 3. Immunology and immunization | 12 |
| 4. Chemotherapy | 10 |
| 5. Medical entomology | 16 |
| 6. Miscellaneous | 26 |
| 7. Non-academic | <u>14</u> |
| | 220 |
| | |
| C. Block III - Ecology and Disease | |
| 1. Environmental medicine | 39 |
| 2. Medical ecology | 37 |
| 3. Military psychiatry and behavior | 18 |
| 4. Principles of public health | 23 |
| 5. Miscellaneous | 6 |
| 6. Non-academic | <u>9</u> |
| | 132 |

*Monday
20
2*

Section III - Annexes

Annex A

Block I - EPIDEMIOLOGY AND BIostatISTICS

Hours: 156

1. Purpose: To provide Army Medical Department officers with a basic working knowledge of, and the fundamental concepts underlying, biostatistics and epidemiology which will enable them to plan, conduct, and evaluate scientific investigations in the biomedical field.
2. Academic hours: 150
3. Method of Instruction: Lecture, laboratory.
4. Scope of Instruction:
 - a. Epidemiology (70 hours)
 - (1) Lecture: Introduction, dynamics of infection, epidemiological concept of causation, experimental epidemics, introduction to chronic disease epidemiology, practice of epidemiology and special topics. Emphasis is on the epidemiology of infectious diseases of military importance.
 - (2) Laboratory: Written and slide exercises to illustrate the principles of epidemiological investigation.
 - b. Biostatistics (80 hours)
 - (1)- Lecture: Review of basic mathematics; scales of measurement; rates and ratios; graphs and tables; measures of central tendency and dispersion; life table methods; introduction to

probability theory; the Binomial, Poisson, and normal distribution; tests of significance and confidence limits to include Z, t, and Chi Square; simple linear regression and correlation, introduction to analysis of variance and experimental design; and statistical inference.

(2) Laboratory: Calculations with data from exercises involving rates and ratios, graphs and tables, measures of central tendency and dispersion, life tables, simple tests of significance and confidence limits, and a number of journal club presentations by students.

Annex B

Block II - TROPICAL MEDICINE

Hours: 220

1. Purpose: To provide Army Medical Department officers with advanced training in diseases occurring in tropical and other areas of the world, and which are usually not emphasized in civilian medical education.
2. Academic hours: 206
3. Method of Instruction: Lecture, conference, seminar, laboratory.
4. Scope of Instruction:
 - a. Parasitology (70 hours)
 - (1) Lecture (30 hours): introduction to parasitology; life cycles, diagnosis, treatment, prevention and control of nematodes, cestodes, trematodes, protozoa and blood parasites; immunology and serologic diagnosis of parasitic diseases; and special lectures in the pathogenesis and treatment of malaria, amebiasis, schistosomiasis, leishmaniasis, filariasis and trypanosomiasis.
 - (2) Laboratory (40 hours): identification of parasites using laboratory methods, collection and submission of specimens to the laboratory.
 - b. Infectious Disease (72 hours)

Diagnosis, treatment, epidemiology, prevention and control of smallpox, cholera, plague, melioidosis, rabies, hepatitis, typhoid, leptospirosis, leprosy, rickettsial diseases, virus diseases with

emphasis upon arboviruses, enteric and respiratory viruses, venereal diseases, eye diseases, and skin diseases.

c. Immunology and Immunization (12 hours)

Review of basic cellular and humoral immune mechanisms, immunologic techniques, serologic diagnosis, experimental vaccines, and the army immunization program.

d. Chemotherapy (10 hours)

Principles of chemotherapy, mechanisms of action of drugs, group chemoprophylaxis, problems of drug resistance, and therapy of diseases of special interest.

e. Medical Entomology (16 hours)

Introduction; field and laboratory methods in medical entomology; current military arthropod-borne disease problems; transmission of vector-borne diseases with special emphasis upon malaria, arboviruses, trypanosomiasis, leishmaniasis, and scrub typhus; principles of arthropod control. A number of laboratory demonstrations will be given to illustrate special topics.

f. Miscellaneous (26 hours)

Nutrition, including sprue, kwashiorkor and vitamin deficiencies; non-infectious diseases; clinical pathologic or differential diagnostic conferences, special topics, and library.

Annex C

Block III - ECOLOGY AND DISEASE

Hours: 132

1. Purpose: To provide Army Medical Department officers with training in (1) environmental factors of medical and potential military importance, (2) the examination and evaluation of all disease problems using the ecological approach, and (3) the appropriate use of public health and preventive medicine principles in varying environmental and cultural situations. Also, to provide an insight into group and individual behavior of soldiers under various conditions and offer some possibly useful ways to influence behavior.
2. Academic hours: 123
3. Method of Instruction: Lecture, conference, seminar.
4. Scope of Instruction:
 - a. Environmental Medicine (39 hours): Physiological changes in response to heat, cold, and terrestrial high altitude; adaptation to heat, cold, and high altitude; heat and cold injury and high altitude disease; military operations in hot, cold, and high altitude environments, circadian rhythm, toxic agents of potential military importance, and diseases of the recruit environment (ARD and meningococcal disease).
 - b. Medical Ecology (37 hours): Introduction to ecology, measurement and differential diagnosis of health, sociocultural aspects

of disease, health data and area studies - surveys, planning and development of preventive and clinical medical programs in underdeveloped countries, military civic action programs.

c. Military Psychiatry and Behavior (18 hours): Introduction to and organization of Army psychiatry, preventive psychiatry with emphasis on the mental hygiene service, psychiatric experience in SE Asia, comparative psychocultural aspects of a number of areas in the world, introduction to operant psychology, group behavior, analysis of the behavioral factors in preventive medicine control programs, and stress and disease.

d. Principles of Public Health (23 hours): Philosophy of public health and preventive medicine, basic administration of preventive medicine programs, concepts of control and eradication of disease, International Sanitary Regulations, and special topics.

e. Miscellaneous (6 hours): Seminars and special topics.

Basic PM Course MFSS 4 Sep - 16 Oct 70

| <u>Global Med Crse</u> #9 | <u>Block</u> | <u>Starting Date</u> | <u>Finish</u> | <u>Class No. Days</u> | <u>Comment</u> |
|------------------------------|--------------|----------------------|---------------|-----------------------|----------------------------|
| | I | Mon, 26 Oct 70 | 25 Nov 70 | 22 | 1 holiday |
| | II | Tues, 1 Dec 70 | 20 Jan 71 | 27 | X-mas holiday (2 weeks) |
| | III | Tues, 26 Jan 71 | 17 Feb 71 | 17 | |

Basic PM Course MFSS 12 Feb 71 - 26 Mar 71

| <u>Global Med Crse</u> #10 | <u>Block</u> | <u>Starting Date</u> | <u>Finish</u> | <u>Class No. Days</u> | <u>Comment</u> |
|-------------------------------|--------------|----------------------|----------------|-----------------------|----------------|
| | I | Mon, 5 Apr 71 | Tues, 4 May 71 | 22 | |
| | II | Mon, 10 May 71 | Wed, 16 Jun 71 | 27 | 1 holiday |
| | III | Mon, 21 Jun 71 | Wed, 14 Jul 71 | 17 | 1 holiday |