

UNIVERSITY OF CALIFORNIA

UNIVERSITY EXTENSION

403039

In cooperation with the  
University Medical  
Schools at Los Angeles  
and San Francisco

PRESENTS

A COURSE IN THE APPLICATION OF NUCLEAR PHYSICS TO THE BIOLOGICAL AND MEDICAL SCIENCES

AUGUST 2ND THROUGH AUGUST 20TH, 1948

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

General Chairman: Stafford L. Warren, MD, Professor of Biophysics and  
Dean of the School of Medicine, University of California,  
Los Angeles, California.

Director of Course: Fred A. Bryan, MD, Associate Clinical Professor of  
Medicine, School of Medicine, University of California,  
Los Angeles, California.

Tuition fee for the complete course, including laboratory training, is \$350.00.  
Tuition fee for the lecture series alone is \$100.00.

Enrollment in this course is limited and applicants must present biographical  
data for approval by an official committee.

OFFICERS OF INSTRUCTION

- BELLAMY, Albert W., Ph.D., Professor of Zoology and Divisional Dean of Life Sciences, College of Letters and Science, University of California, Los Angeles.
- BRYAN, Fred A., MD, Associate Clinical Professor of Medicine, School of Medicine, University of California, Los Angeles.
- CASSEN, Benedict, Ph.D., Chief of the Blast Section, Diversified Problems Division, Atomic Energy Project, University of California, Los Angeles.
- COFF, D. Harold, MD, Assistant Professor of Physiology, University of California, Berkeley.
- DESSAUER, Gerhard, Ph.D., Research Physicist, General Electric Company, Schenectady, New York.
- DONALDSON, Lauren R., Ph.D., Director, Applied Fisheries Laboratory, University of Washington.
- DOWDY, Andrew H., MD, Professor of Radiology, School of Medicine, University of California, Los Angeles.
- FERMI, Enrico, Ph.D., Charles H. Swift Distinguished Service Professor of Physics, University of Chicago, Chicago, Illinois.
- FINK, Robert, Ph.D., Research Biochemist in the Department of Medical Investigation, Birmingham Veterans Administration Hospital, Van Nuys, California.
- HALEY, Thomas J., Ph.D., Chief of the Pharmacology-Toxicology Division, Atomic Energy Project, University of California, Los Angeles.
- HAMILTON, Joseph G., MD, Associate Professor of Medical Physics and Associate Professor of Experimental Medicine and Radiology, University of California, Berkeley, California.
- LAWRENCE, John S., MD, Professor of Medicine, University of California, Los Angeles.
- LOW-BEER, Bertram V. A., MD, Associate Professor of Radiology, University of California, Medical School, Berkeley, California.
- LYON, George M., MD, Chief, Radioisotope Section, Research and Education Service, U. S. Veterans Administration, Washington, D. C.
- MAC KENZIE, Kenneth R., Ph.D., Associate Professor of Physics, University of California, Los Angeles.
- SILVERMAN, Louis B., AB, Health-Physicist, Atomic Energy Project, University of California, Los Angeles.
- STONE, Robert S., MD, Professor of Radiology, University of California Medical School, San Francisco, California.
- WARREN, Stafford L., MD, Professor of Biophysics and Dean of the School of Medicine, University of California, Los Angeles.
- WEST, Philip M., MD, Chief of the Tracer Synthesis Section, Biochemistry Division, Atomic Energy Project, University of California, Los Angeles.

PROGRAM

Monday, Aug. 2, 1948

8:30 - 9:30 AM  
9:30 - 10:00 AM

REGISTRATION.

Introductory Remarks

Stafford L. Warren M.D., Dean of the Medical  
School, University of California, Los Angeles.  
S. J. Weinberg, M.D., Head, Postgraduate  
Instruction, Medical Extension, Southern Area.

10:00 - 11:00 AM

UNITS OF MEASUREMENT AND TERMINOLOGY.

Dr. Bryan.

11:00 - 12:00 noon

INTRODUCTION TO ATOMIC AND NUCLEAR STRUCTURE.

Dr. Casson.

1:00 - 5:00 PM

LABORATORY

Tuesday, Aug. 3, 1948

9:00 - 10:00 AM

INTRODUCTION TO ATOMIC AND NUCLEAR STRUCTURE (Cont.)

Dr. Casson.

10:00 - 12:00 noon

THE NATURE OF RADIOACTIVITY AND PROPERTIES OF ALPHA,  
BETA, AND GAMMA RAYS.

Dr. Casson.

1:00 - 5:00 PM

LABORATORY.

Wednesday, Aug. 4, 1948

9:00 - 12:00 noon

THE CYCLOTRON, THE PILE, THE LINEAR ACCELERATOR.

Dr. Dessauer.

1:00 - 5:00 PM

LABORATORY

8:00 - 10:00 PM

RADIATION DAMAGE.

Dr. Stone.

Thursday, Aug. 5, 1948

9:00 - 11:00 AM

THE PRINCIPLES OF RADIOCHEMISTRY AND ITS APPLICATIONS  
FOR PREPARATION AND ISOLATION OF THE ARTIFICIAL  
RADIO-ELEMENTS.

Dr. Hamilton.

11:00 - 12:00 noon

PRODUCTION OF RADIO-ELEMENTS BY THE PILE.

Dr. Deasauer.

1:00 - 5:00 PM

LABORATORY.

Friday, Aug. 6, 1948

9:00 - 11:00 AM

THE PRINCIPLES OF THE APPLICATIONS OF RADIOACTIVE  
TRACERS AND A DETAILED DISCUSSION OF THE THREE MAJOR  
TRACER TECHNIQUES.

Dr. Hamilton.

11:00 - 12:00 noon

HEALTH PROTECTION AND SAFETY.

Mr. Silverman.

1:00 - 5:00 PM

LABORATORY.

Monday, Aug. 9, 1948

9:00 - 11:00 AM

RADIATION DETECTING AND MEASURING INSTRUMENTS.

Dr. Cassen.

11:00 - 12:00 noon

FILM BADGE MEASUREMENT TECHNIQUE.

Dr. Bryan.

1:00 - 5:00 PM

LABORATORY.

Tuesday, Aug. 10, 1948

9:00 - 11:00 AM

BIOLOGICAL EFFECTS OF RADIATION.

Dr. Dowdy.

11:00 - 12:00 noon

METHODS OF DOSAGE CALCULATION; AVAILABILITY, COST, RESTRICTIONS IN THE USE OF RADIO-ELEMENTS.

Dr. Bryan.

1:00 - 5:00 PM

LABORATORY.

Wednesday, Aug. 11, 1948

9:00 - 11:00 AM

THERAPEUTIC APPLICATIONS OF RADIATION.

Dr. Dowdy.

11:00 - 12:00 noon

USE OF RADIOACTIVE MATERIAL IN MARINE BIOLOGY.

Dr. Donaldson.

1:00 - 5:00 PM

LABORATORY.

8:00 - 10:00 PM

THE USE OF RADIOACTIVE ISOTOPES IN CLINICAL DIAGNOSIS.

Dr. Low-Beer.

Thursday, Aug. 12, 1948

9:00 - 11:00 AM

THE GENETIC EFFECTS OF RADIATION.

Dr. Bellamy.

11:00 - 12:00 noon

TECHNIQUES AND STUDIES IN THE USE OF IODINE 131.

Dr. Fink.

1:00 - 5:00 PM

LABORATORY.

Friday, Aug. 13, 1948

9:00 - 11:00 AM

EFFECTS OF RADIATION ON THE HEMATOPOIETIC SYSTEM.

Dr. Lawrence.

11:00 - 12:00 noon

METHODS AND TECHNIQUES IN THE USE OF IONIZING RADIATION IN GENETIC STUDIES.

Dr. Bellamy.

1:00 - 5:00 PM

LABORATORY

Monday, Aug. 16, 1948

9:00 - 11:00 AM

STUDIES USING CARBON 14; PROBLEMS AND DIFFICULTIES  
IN ITS USE.

Dr. MacKenzie.

11:00 - 12:00 noon

PHARMACOLOGICAL APPLICATIONS OF RADIO ISOTOPES.

Dr. Haley.

1:00 - 5:00 PM

LABORATORY.

Tuesday, Aug. 17, 1948

9:00 - 11:00 AM

RADIOIRON AS A TOOL FOR STUDYING THE FORMATION OF  
HEMOGLOBIN AND RELATED PROBLEMS.

Dr. Copp.

11:00 - 12:00 noon

REVIEW OF THE USE OF TRACERS IN THE STUDY OF AMINO  
ACIDS.

Dr. West.

1:00 - 5:00 PM

LABORATORY.

Wednesday, Aug. 18, 1948

9:00 - 11:00 AM

RADIOACTIVE TRACERS IN THE STUDY OF THE PHYSIOLOGICAL  
CHEMISTRY OF BONE.

Dr. Copp.

11:00 - 12:00 noon

REVIEW OF METHODS AND TECHNIQUES OF AUTORADIOGRAPHY.

Dr. Cassen.

1:00 - 5:00 PM

LABORATORY.

Thursday, Aug. 19, 1948

9:00 - 11:00 AM

METABOLISM OF IODINE 131.

Dr. Winzler.

11:00 - 12:00 noon

SUBJECT TO BE ANNOUNCED.

Dr. Warren.

1:00 - 5:00 PM

LABORATORY.

Friday, Aug. 20, 1948

9:00 - 11:00 AM

THE FUTURE FIELD FOR THE BIOLOGIST, BIOCHEMIST AND  
MEDICAL MAN IN THE VETERAN'S ADMINISTRATION AND  
RELATED SERVICES WITH RESPECT TO RADIOACTIVITY.

Dr. Lyon.

11:00 - 12:00 noon

GENERAL DISCUSSION AND QUESTION BOX.

Under direction of Dr. Bryan.

1:00 - 5:00 PM

LABORATORY.

8:00 - 10:00 PM

SUBJECT TO BE ANNOUNCED.

Dr. Fermi.