



UCIRVINE

SCHOOL OF  
MEDICINE

Life Sciences

# Clinical Research Certificate Program

*In partnership with*

UCIRVINE | EXTENSION

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# Clinical Research Certificate Program



## **The Clinical Research Certificate Program,**

developed in partnership with UC Irvine

Extension, is designed to prepare medical

students, academics, physicians, industry

and hospital-based researchers to conduct,

implement and interpret clinical research at

the intersection between basic science and

clinical medicine. It is designed to give those

interested in clinical research the basic skills

needed to understand and evaluate clinical

studies and translate clinical research into

practice.

### **For More Information**

**Julie Pai**

(949) 824-6333

[www.extension.uci.edu/clinicalresearch](http://www.extension.uci.edu/clinicalresearch)



# Curriculum

## Certificate Requirements

A Certificate is awarded upon completion of four required courses, 16 units (160 hours): Introduction to Medical Statistics, Introduction to Clinical Epidemiology and Medical Decision Making, Design and Analysis of Clinical Trials, and Research Ethics and Practice, with a grade point average of “B” or better.

## Program Benefits

- Acquire foundational skills and techniques to understand key elements of effective, high-quality clinical research, applied to a broad spectrum of clinical issues and settings
- Develop competency in study design, reflecting the breadth and complexity of clinical and translational science applications (i.e., beyond clinical trials)
- Learn skills that facilitate critical appraisal of multi-disciplinary research literature
- Understand the basic elements required to conduct and manage high-quality clinical research
- Engage in activities that develop the skills required to lead multidisciplinary research teams
- Understand the use of medical statistics, data analysis and the use of data repositories
- Develop skills in communication, problem solving, educational methods, research and management related to clinical research
- Students are linked with mentors from more than one discipline appropriate to the students’ research interest

## Introduction to Medical Statistics

MED XI209A (4 units)

This course is designed to provide sufficient understanding of the statistics commonly used in medicine to enable clinicians and those interested in clinical research to read and interpret the medical literature critically, identify appropriate statistics for basic research designs used in medicine, and discriminate between appropriate and inappropriate statistical applications of common research designs.

## Introduction to Clinical Epidemiology and Medical Decision Making

MED XI210A (4 units)

This course will introduce the principals and practice of clinical epidemiology and the epidemiologic or population-based approach to health science and disease. The course will examine the role of clinical epidemiology in clinical practice and clinical and public policy, the changing patterns of community health problems, including the changing nature of, and risk factors for, infectious diseases and chronic diseases.

## Design and Analysis of Clinical Trials

MED XI232 (4 units)

This course will present the history, organization, planning and rationale for methods (design, sampling, analysis, bias and error) limits, ethics and practical issues involved in the conduct of clinical trials. The course will draw on examples from clinical literature to illustrate each topic. The impact of clinical trials on the practices of medicine, national policy and public opinion will be discussed.

## Research Ethics and Practice

MED XI296 (4 units)

Students will develop knowledge of major frameworks of ethics and the basic ethical concepts operative in public health research; familiarity with School of Medicine of the most ethical issues facing those engaged in public health research (health promotion, disease prevention, and epidemiological and biostatistical research; the ability to identify, articulate and analyze ethical arguments; competence to participate in and to formulate critical and well-reasoned ethical arguments; and competence to participate in ethical decision making as issues arise in public health research practice and policy. This course will also provide students with the historical background and current regulations.



### Advisory Committee

**Ralph V. Clayman, M.D.**, Dean, School of Medicine; Professor, Department of Urology, UC Irvine School of Medicine

**J. Paul Curry, M.D.**, Past Chief of Staff, Hoag Memorial Hospital Presbyterian; Assistant Professor, Department of Anesthesiology and Perioperative Medicine, UCLA

**Alan Goldin, M.D., Ph.D.**, Professor, Microbiology & Molecular Genetics, Department of Anatomy and Neurobiology, UC Irvine School of Medicine

**Sheldon Greenfield, M.D.**, Donald Bren Professor of Medicine, Executive Director, Center for Health Policy Research, UC Irvine School of Medicine

**Zeev Kain, M.D.**, Associate Dean for Clinical Research Professor and Chair, Department of Anesthesiology & Perioperative Care, UC Irvine School of Medicine

**Sherrie H. Kaplan, Ph.D., MPH**, Professor of Medicine, Assistant Vice Chancellor, Healthcare, Evaluation and Measurement, Co-Director, Center for Health Policy Research, UC Irvine School of Medicine

**Marc Klau, M.D.**, Otolaryngology Head & Neck Surgery, Kaiser Permanente, OC Medical Center

**Frank Meyskens, M.D.**, Associate Vice Chancellor, College of Health Sciences, Professor of Medicine, Biological Chemistry and Public Health, Director, Chao Family Comprehensive Cancer Center, UC Irvine School of Medicine

**Eugene Spiritus, M.D.**, Chief Medical Officer, UC Irvine Medical Center

**Scott Whitcup, M.D.**, Executive Vice President, Head R & D & Chief Scientific Officer, Allergan

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