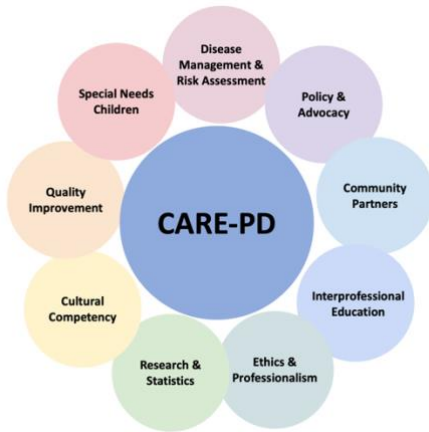


Community, Access, Reach, & Education in Pediatric Dentistry

APPLIED STATISTICS & RESEARCH METHODS



Statistics & Research Methods Course Syllabus

Course Title: Applied Statistics & Research Design – DS307.30

Course Enrollment: Pediatric Dental Residents & Advanced Clinical Trainees (ACTs)

Course Co-Chairs



Francisco Ramos-Gomez, DDS, MS, MPH

Francisco J. Ramos-Gomez is a Professor of Pediatric Dentistry at UCLA, Executive Director for the UCLA Center for Children’s Oral Health, and Director of the Community Access Reach Education in Pediatric Dentistry (CARE-PD) Program. In over thirty years as a pediatric dentist, his research has focused on Early Childhood Caries (ECC) prevention, oral disease risk assessment, and community health with an emphasis on underserved populations. In addition to clinically based interventions, Dr. Ramos-Gomez has pioneered protocols in early detection, intervention and prevention of ECC. He co-founded the Center to Address Disparities in Children’s Oral Health to identify the cultural, environmental, workforce, behavioral, and biologic factors associated with health disparities among ethnic/racial groups in order to enhance health professionals’ ability to target children likely to be at risk for dental caries. Currently, Dr. Ramos-Gomez is a Diplomate of the American Board of Pediatric Dentistry and a board member of the AAPD Government Council, the Perinatal and Infant Oral Health Council, the Oral Health Action Coalition (OHAC), and the California State Dental Health Alliance.

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Chi-Hong Tseng, PhD, MS

Dr. Tseng received his PhD in Biostatistics from UCLA in 2004. His research interests include design of clinical trials, survival analysis, multiple comparisons problem, and statistical genetics. He has extensive collaborative experience in cardiology, infectious disease, pulmonary, nephrology cancer, and health services studies. Dr. Tseng will be providing the pediatric dental residents continuous one-on-one feedback on their research projects. He is the CARE Information Systems Expert and data coordinator.

Email: ctseng@mednet.ucla.edu



Myung-Shun Sim, DrPH, MS

Myung Shin Sim, DrPH received her DrPH in Biostatistics from UCLA in 2005. Her research interest includes sample size calculations for various study designs, survival analysis, longitudinal data analysis and analysis methods for diagnostics. She has over 20 years of collaborative experience in various fields in pediatrics such as infectious disease, cancer, pulmonary, neurology, cardiology, nephrology and various biomarker studies. Dr. Sim will teach biostatistics courses for pediatric dental research providing the pediatric dental residents one-on-one feedback on their research projects.

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Course Description

Residents will be provided with the necessary scientific foundation of knowledge and skills required to practice effective “Evidence- based dentistry”. Residents will gain knowledge to form critical questions, locate information, judge the quality of available information, and apply evidence to clinical decision making and ongoing evaluation on both patient care at the individual level and community level.

Knowledge of basic research design and statistics is important in order to understand the scientific literature that will be read throughout one’s professional career as well as to give one the ability to conduct their own research project. This course surveys basic research design and research methods along with basic descriptive and inferential statistics.

Course Competency

Residents are expected to become knowledgeable in research design, basic statistics and to gain the skills necessary to interpret the results of statistical analyses.

Course Objectives

On successful completion of this course, residents will be able to:

- Critique, synthesize, and apply information from scientific and lay sources to improve oral health.
- Understand basic statistical and research design terms and procedures including IRB processes.
- Formulate appropriate research question and conduct an approved research project
- Complete a research paper/poster write-up and present to audience.

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Instructional Method(s) used in this course (Check all that apply)

- | | |
|-------------------------|--------------------|
| ✓ Lecture | Clinical Rotations |
| Seminar | ✓ Projects |
| ✓ Literature Review | Grand Rounds |
| ✓ Resident Presentation | Other: _____ |

GME Competencies addressed by this course (Check all that apply)

- | | |
|---|--------------------------------------|
| Patient Care | Interpersonal & Communication Skills |
| Medical Knowledge | Professionalism |
| Practice-based learning and improvement | Systems-based practice |

CODA Standards addressed by this course (Check all that apply)

- | | |
|---|--|
| ✓ Biomedical sciences | Management of a contemporary dental practice |
| Behavior guidance | Patients with special health care needs |
| Growth and development | Hospital dentistry |
| Oral facial injury and emergency care | Pulp therapy |
| Oral diagnosis, oral pathology, & oral medicine | Pediatric Medicine |
| Prevention and health promotion | Advocacy |
| Comprehensive dental care | Teaching |

Evaluation Criteria/Methods

- Produce written research proposal and completed research poster and present at various professional conferences.

Remediation Policies

- Students who fail can meet individually with the professor to develop their proposal

Learning Resources & Readings:

All available online at UCLA MedHub prior to each class.

Course Schedule

Part A

Offered yearly to 1st year residents during the fall quarter.

Title	Lecturer	Hours
Introduction to Research & Statistics	Dr. Myung Shin Sim	2
Sampling & Measurement	Dr. Myung Shin Sim	2
Descriptive Statistics	Dr. Myung Shin Sim	2
Research Design	Dr. Chi-Hong Tseng	2
Estimation & Significance Tests	Dr. Chi-Hong Tseng	2
How to Enter an IRB Application	ORA OHRPP Staff	2
Independent Research – Time to Work on Projects	Dr. Chi-Hong Tseng & Dr. Myung Shin Sim	

Part B

Offered yearly to 2nd year residents during the fall quarter, with presentations taking place in the spring.

Title	Lecturer	Hours
Scientific Writing	Dr. Chi-Hong Tseng	2
Research Project Updates	Dr. Francisco Ramos-Gomez	2
Research Project Presentations	Dr. Francisco Ramos-Gomez	2
Independent Research – Time to Work on Projects	Dr. Chi-Hong Tseng & Dr. Myung Shin Sim	

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