# **STATISTICS**

## **Contact Information**

### Division

STEM and Liberal Arts

#### Dean

Carlos Reyes (Sciences and Mathematics), Patrick Marasso (Liberal Arts)

Associate Deans Megan D'Errico (Sciences and Mathematics), Soni Verma (Liberal Arts), Maria Villasenor (Liberal Arts)

## **Overview**

Statistics course requirements vary depending on your major and transfer destination. To ensure you're selecting the best option for your academic goals, please consult with a counselor.

### Faculty

Charles Albright Professor, Mathematics B.A., California State University, Sacramento B.A., California State University, Sacramento M.A., California State University, Sacramento

#### Jacqueline M. Anderson

Professor, Mathematics B.A., Westmont College M.S., University of Nevada, Reno

Daniel J. Balaguy Professor, Mathematics B.A., California State University, Sacramento M.S., University of Montana

#### Charles T. Buchwald

**Professor, Mathematics** A.S., Palomar College B.S., California State University, San Marcos M.S., California State University, San Marcos

Vicki L. Day Professor, Mathematics B.S., Washington State University M.A.T., University of California, Davis

Claire Dodson Professor, Mathematics B.A., University of California, Santa Cruz M.A., University of Oregon

Lynn Harrison Benavidez Professor, Mathematics B.A., University of California, San Diego M.S., Washington State University

Jennifer Kattman Professor, Sociology B.A., California State University, Sacramento M.A., California State University, Sacramento Jay G. Kesler Professor, Mathematics B.A., University of California, San Diego M.A., California State University, Sacramento

#### Robert C. Lennartz

**Professor, Psychology** B.S., University of Southern California Ph.D., University of California, Irvine

### Katherine P. Lucero

Professor, Mathematics B.S., California Polytechnic State University, San Luis Obispo M.S., California Polytechnic State University, San Luis Obispo

Michele L. Morgan Professor, Mathematics B.S., California Polytechnic State University, San Luis Obispo M.A., San Francisco State University

#### Michael Murphy

**Professor, Mathematics** B.S., University of Southern Carolina M.S., Alabama State University

Sudha Parambil Professor, Mathematics B.S., University of Calicut M.S., University of Calicut

Mary Beth E. Pattengale Professor, Mathematics B.S., California Polytechnic State University, San Luis Obispo M.S., California Polytechnic State University, San Luis Obispo

#### Patricia A. Ritchie-Reese

**Professor, Mathematics** B.A., California State University, Sacramento M.A., California State University, Sacramento

Lyudmila Shved Professor, Mathematics B.A., California State University, San Bernardino M.A., California State University, San Bernardino

James M. Sullivan Professor, Mathematics B.S., University of California, Davis M.S., University of California, Davis

**Pitt Turner Professor, Mathematics** B.A., University of California, Santa Cruz M.A., University of Hawaii, Manoa

Kiet Vo Professor, Mathematics A.A., San Joaquin Delta College B.A., University of California, Berkeley M.A., California State University, Sacramento

Michael Waterson Professor, Mathematics B.S., University of California, San Diego M.S., Salem State University

#### lan Wu

#### **Professor, Mathematics**

B.S., California State University, Chico M.A., California State University, Sacramento

## MATH 0011. Data Science for All

#### Units: 4

Prerequisite: Completion of Intermediate Algebra or equivalent with grade of "C" or better, or appropriate placement

Hours: 108 (54 lecture, 54 laboratory)

Designed for students from any major, provides high-level understanding of how data, statistics, and inference are inter-related. Introduces the core concepts of data science, including statistical inference and computational thinking. Teaches critical concepts and skills in computer programming and statistical inference while working with real data, such as economic data, geographic data, and social networks. Prepares students to make more data-driven decisions, gaining experience with machine learning and with the practical application of statistical concepts like hypothesis testing, confidence intervals via bootstrapping, regression, inference for regression, and predictive modeling while considering the social issues surrounding data privacy and data ownership. (C-ID MATH 110) (CSU, UC)

#### MATH 0013S. Just in Time Support for Introduction to Statistics Units: 2

Corequisite: Concurrent enrollment in STAT C1000 Hours: 36 lecture

Just in time support option covering the core prerequisite skills, competencies, and concepts for Introduction to Statistics. Intended for students who are concurrently enrolled in STAT C1000. Topics include concepts from arithmetic, pre-algebra, elementary and intermediate algebra, and descriptive statistics that are needed to understand the basics of college-level statistics. Concepts are taught through the context of descriptive data analysis including an introduction to technologies such as Desmos, Excel, Statcrunch, Minitab, SPSS or graphing calculators. Recommended for students taking STAT C1000 with little or no recent algebra knowledge. (not transferable) (not degree applicable) (pass/no pass grading)

## MATH 0813S. Just in Time Support for Introduction to Statistics Units: 0

Corequisite: Concurrent enrollment in STAT C1000 Hours: 36 lecture

Just in time support option covering the core prerequisite skills, competencies, and concepts for Elementary Statistics. Intended for students who are concurrently enrolled in STAT C1000. Topics include concepts from arithmetic, pre-algebra, elementary and intermediate algebra, and descriptive statistics that are needed to understand the basics of college-level statistics. Concepts are taught through the context of descriptive data analysis including an introduction to technologies such as Desmos, Excel, Statcrunch, Minitab, SPSS or graphing calculators. Recommended for students taking STAT C1000 with little or no recent algebra knowledge. (pass/no pass grading) (noncredit)

#### PSYC 0142. Introduction to Psychological Statistics Units: 3

Formerly known as PSYC 42

Prerequisite: Completion of MATH D with grade of "C" or better Hours: 54 lecture

Statistical procedures used for experimental analysis in the social and behavioral sciences. Descriptive and correlational statistics, parametric and nonparametric inference tests, and current controversies in hypothesis testing. (C-ID MATH 110) (C-ID SOCI 125) (CSU, UC-with unit limitation)

### SOC 0015. Introduction to Statistics in Sociology

Units: 3

Prerequisite: Completion of intermediate algebra or appropriate placement

Advisory: Concurrent enrollment in a support course (SOC 15S or SOC 815S) is strongly recommended for those who have not recently completed intermediate algebra

Hours: 54 lecture

Introduction to the use of descriptive and inferential statistics in the analysis of sociological data, including: levels and types of measurement, measures of central tendency and variability, distributions, probability, estimation, hypothesis testing, correlation, and regression. Social science statistical software will be explored as an aid in processing and analyzing sociological data. (C-ID SOCI 125) (CSU, UC-with unit limitation)

## STAT C1000. Introduction to Statistics *Units: 4*

Formerly known as MATH 13

Prerequisite: Placement as determined by the college's multiple measures assessment process or completion of a course taught at or above the level of intermediate algebra

Hours: 72 lecture

This course is an introduction to statistical thinking and processes, including methods and concepts for discovery and decision-making using data. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance, chi-squared, and t-tests; and application of technology for statistical analysis including the interpretation of the relevance of the statistical findings. Students apply methods and processes to applications using data from a broad range of disciplines. (C-ID MATH 110) (CSU, UC-with unit limitation)