CSUDH Department of Social Work
Master of Social Work program

Elementary Statistics prerequisite

(Updated 7/23/2021)

Universities and college institutions are listed in alphabetical order. Not all schools/programs/courses are indicated on this list

Azusa Pacific University (APU)

MATH 130, Introduction to Statistics
This course is an introduction to the basic concepts and practices of statistics, including frequency distributions; graphs; central tendency; variation; probability; binomial, normal, t, and chi-square distributions; confidence intervals; hypothesis testing; correlation; regression; and ANOVA.

MATH 350, Statistical Models
A study of investigative statistics emphasizing the process of data collection and data analysis relevant for science, social science, and mathematics students. The course incorporates case studies from current events and interdisciplinary research, taking a problem-based approach to learn how to determine which statistical techniques are appropriate. Topics include nonparametric tests, designing an experiment, multiple regression models, and Bayesian data analysis. Ethics in data analysis and reporting will be considered from a Christian perspective. Additionally, the course includes learning to program using a statistical software package.

MATH 361, Probability and Statistics I
This course is an introduction to probability and the theory and application of statistics. Topics include probability spaces, counting methods, discrete and continuous distributions, moments, conditional distributions, correlation, the Central Limit Theorem, estimation, and hypothesis testing.

MATH 362, Probability and Statistics II
This course develops additional applications of statistics, including estimation, hypothesis testing, and single and multiple linear regression. Nonparametric and Bayesian methods are introduced.

PCLS 551, Research Methods and Statistical Analysis
This course surveys the major social science research methods, preparing students to read, understand, and evaluate psychological research. This course will provide students with the

basic knowledge and experience of developing research proposals. Students will also learn to understand survey methods, data collection, and research analysis.

PRMA 130, Introduction to Statistics
This course is an introduction to the basic concepts and practices of statistics, including frequency distributions; graphs; central tendency; variation; probability; binomial, normal, t, and chi-square distributions; confidence intervals; hypothesis testing; correlation; regression; and ANOVA.

PRPS 250, Data Analysis in Psychology
This course introduces students to statistical analyses that are common in psychological research. Students learn to identify the appropriate analysis, how to run the statistical analysis in SPSS, and how to interpret SPSS output. Students are also introduced to writing results in APA style.

PRPS 362, Research Methods in Psychology
Students engage in a comprehensive overview of quantitative and qualitative research methods used in psychological research, and gain an understanding of the ethical considerations and other challenges involved in good research design. Students also complete a research project and learn to write utilizing the style adopted by the American Psychological Association.

PSYC 250, Data Analysis in Psychology
This course introduces students to statistical analyses that are common in psychological research. Students learn to identify the appropriate analysis, how to run the statistical analysis in SPSS, and how to interpret SPSS output. Students are also introduced to writing results in APA style.

PSYC 299, Applied Statistics
This is an elementary course in basic statistical concepts. Students are introduced to the understanding and use of necessary computational procedures to attain basic skills in the following: frequency distributions, graphs, central tendency, variability, normal curve, probabilities, correlation, hypothesis testing, and chi square. Understanding and use of the above statistics are stressed over mathematical development. Students enrolled in this course may be required to share information regarding their personal life, family, or relationships.

PSYC 362, Research Methods in Psychology
Students engage in a comprehensive overview of quantitative and qualitative research methods used in psychological research, and gain an understanding of the ethical considerations and other challenges involved in good research design. Students also complete a research project and learn to write utilizing the style adopted by the American Psychological Association.

PSYC 462, Research Methods II
The course is designed to further develop students' understanding of research design and the research process in the behavioral sciences. Students investigate at an advanced level the validity threats inherent in the research process and explore a variety of advanced research designs. Students have the opportunity to utilize various designs in their own research endeavors and learn to use SPSS for the analysis of their own research endeavors and data.

SOCW 478, Social Work Research Methods
This course prepares students for evidence-informed practice and research by introducing a range of social science research methods, skills in research evaluation and critique, and development of a social science research proposal informed by their field internship practice experience.

California Baptist University (CBU)

BEH 290 - Introduction to Research Methods
This course provides a comprehensive overview of both quantitative and qualitative research methods used in behavioral science research, along with an understanding of the ethical considerations and other challenges involved in good research design. Additional topics include measurement, sampling, and qualitative and quantitative data analysis.

BEH 350 - Statistics for the Behavioral Sciences
Introduction to descriptive statistics and probability, probability distributions, estimation, tests of hypotheses, chi-square tests, regression analysis, and correlation with applications in the behavioral sciences. Course emphasizes selection, application, and interpretation of appropriate statistical tests. Includes laboratory applications of statistical software to behavioral science data.

BEH 383 - Statistics and Research Methodology I
This course introduces the various quantitative and qualitative methodologies utilized in behavioral science research. Also included are the collection, treatment, and interpretation of data in research and testing using a statistical analysis application.

BEH 385 - Statistics and Research Methodology II
This course presents some of the more complex quantitative and qualitative methodologies utilized in behavioral science research. It builds on the various concepts of quantitative research, qualitative research, data collection, analysis, and interpretation introduced in previous courses. This course continues the development of student proficiency with basic and intermediate functions of a statistical analysis application.

BEH 391 - Intermediate Statistics with Computer Applications
Using a statistics software application, this course will examine applied statistics emphasizing correlational methods such as multiple regression and factor analysis, as well as analysis of

variance and covariance for analyzing experimental data. Laboratory activities involve selecting the appropriate statistical tests, interpreting the results, and scientific report writing.

BUS 315 - Business Statistics
This course includes the assembling and presentation of statistical data, probability distributions, sampling techniques, and statistical analysis. A project with practical problem solving is required.

CJS 481 - Statistics for Criminal Justice Law Enforcement
An introduction to elementary statistical methods commonly used in criminological and criminal justice research. Students will obtain sufficient statistical knowledge that they can use to read and understand the professional criminological literature that uses statistical methods. It will also prepare students to use elementary statistical methods in their own research in graduate school or in their professional careers, and it will help students build the statistical background necessary for the study of more advanced statistical topics.

CJS 485 - Methods of Research for Criminal Justice
The course examines scientific approaches to the study of criminal justice. Students will learn how to research and study crime using the scientific method. Students will be exposed to various research methods and designs, which will be illustrated with criminological examples and exercises. Finally, the students will calculate and interpret measures of central tendency, dispersion, and association.

HSC 480 - Research Methods
This course provides an introduction to clinical research design with statistical analysis. The emphasis will be on the student designing her or his practical research project by the end of the semester. Content would include developing the research question, choosing the (1) study design, (2) study subjects, (3) measurements (independent and dependent variables), data management (including designing the data collection form) and statistical analysis (including sample size estimation and power), ethical issues, implementation, and publication of results.

MAT 154 - Statistics for Nursing and Healthcare
An introduction to statistics for Nursing majors that includes an introduction to epidemiology and clinical trials in addition to a study of principles of statistical decision theory, descriptive measurements, probability concepts, random variables, normal distribution, inferential statistics, sampling distributions, conference intervals, hypothesis testing, chi-squared procedures, linear regression, and the use of computers in statistics.

MAT 353 - Probability and Statistics
A calculus based course covering discrete and continuous distributions, expectations, the normal distribution, the central limit theorem, the binomial distribution, and various topics in statistical theory such as point estimation, hypothesis testing, and linear regression.

POL 450 - Research Methods in Political Science

This course examines the research methods used in Political Science. Topics addressed in the course include the philosophical and theoretical foundations of social science research; ethical issues related to research; research design; descriptive and inferential statistic analysis; survey, qualitative field, unobtrusive, and evaluation research; and qualitative and quantitative data analysis with the Statistical Package for the Social Sciences (SPSS). Students will obtain the statistical knowledge necessary to read and critique scholarly articles and books. In addition, the course will prepare students to use statistical methods in their own research in graduate school or in their professional careers.

STA 144 - Introduction to Statistics

Mathematical theory and applications, development of formulae, principles of statistical decision theory, descriptive measurements, probability concepts, random variables, normal distribution, inferential statistics, sampling distributions, confidence intervals, hypothesis testing, chi-squared procedures, linear regression, and the use of computers in statistics.

STA 205 - Applied Linear Regression

This course represents a basic concepts and methodology course in regression analysis using application of general linear regression models to real-life situations. Case studies are used to give practice in diagnosing practical problems, deciding on appropriate models, and knowing which inferential technique will answer the researcher's questions for the purposes of description and prediction. Regression models and model building typical of problems used in the social and behavioral sciences, the natural and health sciences, and many other disciplines are covered.

STA 210 - Statistical Computing I

An introduction to data mining, management and statistical programming techniques using comprehensive and widely available tools like SAGE, SPSS, SAS, and R. Students learn exploratory data analysis, coding and manipulation of variables, database management applying statistical concepts. Modeling and simulation experiments on a variety of applied data sets.

STA 211 - Statistical Computing II

A continuation of Statistical Computing I using comprehensive and widely available tools like SAGE, SPSS, SAS, and R. Advanced techniques will be covered including (but not limited to) numerical linear algebra, optimization and nonlinear equations, the EM algorithm, Laplace approximations, quadrature methods, simulation methodology, sampling, Monte Carlo and bootstrap methods.

STA 303 - Research and Experimental Design

This course studies experimental designs with corresponding models and analyses critical for students in the empirical sciences. Course topics include estimation, test of hypothesis, analysis of variance and a variety of topics in experimental design. Decisions and practical

considerations which minimize experimental error and avoid confounding results are dealt with in real life contexts.

STA 305 - Sampling and Survey Methodology
Sampling theory and practice are presented in this course through a study of simple random samples, stratified random samples, cluster sampling, estimating sample size, ratio estimates, subsampling, two-state sampling and analysis of sampling error. This is a critical course for students in education and the social, medical, biological and management sciences where sampling is a fundamental step in virtually every statistical procedure and critical to meaningful survey research.

California State University, Dominguez Hills (CSUDH)

HUS 460 - Research Methods for Human Services
This course is an overview of research methods in human services, including study design, sampling data collection and analysis, statistical techniques and report writing. Also included is a critical analysis of published research and examination of relevance of data to decision making.

MAT 131 - Elementary Statistics and Probability
A practical course in probability and statistics including such topics as the binomial and normal distributions, confidence intervals, t, F, and chi-square tests, linear regression and correlation, and conditional probability.

MAT 321 - Probability and Statistics
A calculus based survey of topics in probability and statistics emphasizing applications.

SOC 220 - Analytical Statistics for Sociology
Statistical techniques for the description and analysis of sociological data. Tabular, graphic, and parametric analytical procedures.

SOC 303 - Qualitative Methods
Use and application of unstructured, structured, and participant observation methods to sociological phenomena. Unobtrusive and non-reactive procedures of research.

SOC 304 - Computer Applications in the Social Sciences
Applications of computers in the Social Sciences; data processing, modeling, simulation, data base management, bibliographic searches. On-line and batch applications.

SOC 305 - Methods of Sociological Research
Examination of methods employed in the investigation of sociological phenomena. Consideration of the research process as a whole, including quantitative and qualitative techniques. Includes supplemental workshop.

SOC 307 - Micro Computer Data Base Applications in Social Science
Exploration of individualized data base systems for social science. Creation and management of data base files, both user generated and commercial software. Emphasis on the usefulness of the microcomputer in storing, accessing and analyzing social science data, report generation and accessing mainframe archives.

SOC 401 - Inferential Statistics for Sociology
Inferential statistical techniques as tools for analysis of sociological data. The logic of statistical inference. Parameter estimation and hypothesis testing.

SOC 402 - Multivariate Analysis in Sociology
Consideration of the integral involvement of statistics in research, with special emphasis on multivariate techniques. Criteria for selection of appropriate techniques.

PSY 230 - Elementary Statistical Analysis in Psychology
The application of descriptive and inferential statistics to the design and analysis of psychological research.

PSY 235 - Introduction to Research Methods
Examination of the design, conduct and interpretation of research studies, both experimental and non-experimental, as demonstrated in a wide range of psychological phenomena. Includes a consideration of philosophy of science and preparation of research reports.

PSY 330 - Intermediate Statistics and Research Design
The applications of statistical techniques to problems in the behavioral sciences. Discussion of problems in hypothesis formulation, sampling techniques, distribution-free statistics, multivariate data analysis, and presentation of results.

PSY 411 - Advanced Research Methods in Personality and Social Psychology
Examination of selected areas of personality and social psychology, such as interpersonal attraction, self-concept, and attitudes. Equips students to understand, evaluate and independently conduct research.

PSY 412 - Research Seminar in Personality and Social Psychology
Development of research skills in personality and social psychology including conception, design and conduct of studies, analyzing, organizing and evaluating findings and communicating results.

PSY 413 - Advanced Research Methods in Learning and Evolutionary Psychology
An examination of the scientific synthesis of evolutionary biology and modern psychology, which offers a novel approach to such issues as short-term and long-term human mating strategies, short-term sexual strategies, conflict between the sexes, parental investment, aggression, and social dominance.

PSY 414 - Research Seminar in Learning and Evolutionary Psychology
Development of research skills for studying human behavior from the perspective of evolutionary biology, behavioral adaptations, and comparisons with other species. The course includes conception, design and conduct of studies, analyzing, organizing and evaluating findings and communicating results.

PSY 415 - Advanced Research Methods in Cognitive Psychology
Survey of cognitive psychology including intelligence, cognitive development, perception, reasoning, memory, problem solving, language, comprehension and decision making. Consideration of both Piagetien and information processing perspectives.

PSY 416 - Research Seminar in Cognitive Psychology
Development of research skills in cognitive psychology, including conception, design and conduct of studies, analyzing, organizing and evaluating findings and communicating results.

PSY 417 - Advanced Research Methods in Biological Psychology
Study of biological mechanisms underlying human behavior including physiology of various systems including nervous system, sensory and motor systems, endocrine system, with attention to applications and current advances in neuroscience.

California State University, Fullerton (CSUF)

HUSR 315 - Research and Data Management in Human Services
Basic research and assessment skills appropriate to the delivery of human services. Introductory skills relating to library search techniques, evaluation of research articles, computer based data analysis, tracking of client progress and implications for human services. One or more sections may be offered in any online format.

MATH 120 - Introduction to Probability and Statistics
Set algebra, finite probability models, sampling, binomial trials, conditional probability and expectation. Recommended for students of economics, business, and biological, geological and social sciences.

MATH 338 - Statistics Applied to Natural Sciences
Introduction to the theory and application of statistics. Elementary probability, estimation, hypothesis testing, regression, variance analysis, non-parametric tests. Computer-aided analysis of real data. Graphical techniques, generating and interpreting statistical output, presentation of analysis.

PSYC 201 - Introduction to Statistics in Psychology
Descriptive statistics, probability, hypothesis testing (t, chi-square, analysis of variance), sampling distributions of mean and variance, correlation, factorial designs, interpreting data. Laboratory applications of statistical software to psychological data.

PSYC 202 - Research Methods in Psychology
Fundamentals of psychological research methods. Participation in conducting experiments, analyzing data, interpreting results, and writing research reports.

PSYC 300 - Intermediate Research Methods and Statistics
General introduction to the use of computers in psychology. Selection and use of application programs in research, statistics and testing will be emphasized. One or more sections may be offered in any online format.

PSYC 467 - Multivariate Statistics for Psychology
Multivariate analysis of variance, profile analysis, discriminate analysis, factor analysis, cluster analysis, multidimensional scaling, introduction to structural equations and hierarchical linear models, and applications to psychological research.

SOCI 302 - Social Research Methods
Qualitative and quantitative perspectives on social research. Purpose and components of qualitative and quantitative research design, including the role of theory in research, sampling, reflexivity, the practice of mixed methods of data collection, analysis and writing results. One or more sections may be offered in any online format.

SOCI 303 - Statistics for the Social Sciences
Techniques for the elementary statistical analysis of social data. Description and inferential measures include tests, chi-square, analysis of variance, contingency table analysis and linear regression. One or more sections may be offered in any online format.

California State University, Long Beach (CSULB)

HDEV 190 - Elementary Statistics in Social and Behavioral Sciences
Introduction to descriptive and inferential statistics and their applications in social and behavioral science research; performance of statistical exercises by interactive computer. Emphasis upon knowledge of which statistical tests to use and how to interpret their results.

MATH 380. Probability and Statistics
Frequency interpretation of probability. Axioms of probability theory. Discrete probability and combinatorics. Random variables. Distribution and density functions. Moment generating functions and moments. Sampling theory and limit theorems.

PSY 110. Introductory Statistics
Introduction to descriptive and inferential statistics and applications in psychological research; performance of statistical exercises by interactive computer. Emphasis upon knowledge of which statistical tests to use and how to interpret their results.

PSY 220. Research Methods
Introduction to basic research methods in Psychology. Principles of experimentation, naturalistic observation, correlational studies.

PSY 310. Intermediate Statistics
Basic theoretical concepts of statistics and use of these concepts in selection and development of model testing, hypothesis testing and parameter estimation procedures. Both single measure (univariate) and correlation (bivariate) concepts are included.

PSY 329A. Advanced Research Methods in Mental Health
Introduction to fundamental and advanced methods relevant to mental health research as well as current directions and cutting edge research in the field of mental health. Development and execution of an independent research project on topics related to mental health.

PSY 329B. Advanced Research Methods in Mental Health
Introduction to fundamental and advanced methods relevant to mental health research as well as current directions and cutting edge research in the field of mental health. Development and execution of an independent research project on related topics.

SOC 170. Elementary Statistics
Introduction to descriptive and inferential statistics and applications in sociological research; performance of statistical exercises by interactive computer. Emphasis on selection of appropriate statistical methods and proper interpretation.

SOC 270. Introduction to Research Methods
Introduction to conducting original sociological research with a focus on techniques used to collect and analyze quantitative and qualitative data. Students learn how to apply these methods given research ideas and practice implementing various methods.

SOC 354. Qualitative Methods of Social Research
Review and critique of principles and essential features of classical and contemporary qualitative studies. Topics include research design, modes of participant observation, sampling and interview techniques, analysis and interpretation of data. Field assignments and individual research projects are required.

SOC 355. Quantitative Methods of Social Research
Review of social research methods with emphasis on research design, including operationalization, measurement, scaling, reliability, validity and sampling; techniques of data collection and analysis. Individual student research projects are required.

STAT 108 - Statistics for Everyday Life
Exploratory data analysis, methods of visualizing data, descriptive statistics, misuse and manipulation of data in statistical analysis, probability, binomial and normal distributions, hypothesis testing, correlation and regression, contingency tables.

STAT 118 - Introductory Business Statistics
Sampling methods, data collection, organizing and visualizing, descriptive statistics, random variables, probability distributions, point and interval estimation, hypothesis testing, correlation, regression, contingency tables, applications in business, finance, econometrics, and marketing research.

STAT 381. Mathematical Statistics
Estimation and hypothesis testing. Maximum likelihood and method of moments estimation. Efficiency, unbiasedness, and asymptotic distribution of estimators. Neyman-Pearson Lemma. Goodness-of-fit tests. Correlation and regression. Experimental design and analysis of variance. Nonparametric methods.

STAT 410./510. Regression Analysis
Simple linear regression: estimation and inference, prediction, analysis of residuals, detection of outliers, use of transformations. Multiple linear regression: influence diagnostics, multi-collinearity, selection of variables, simultaneous estimation and inference, validation techniques. Statistical software for data analysis used.

STAT 450./550. Multivariate Statistical Analysis
Discriminate analysis, principal components, factor analysis, cluster analysis, logistic regression, canonical correlation, multidimensional scaling, and some nonlinear techniques. Statistical software used.

STAT 475. Data Analysis with SAS
Topics include: Statistical analysis including extraction, presentation of data in graphical form, creation, modification of datasets, interpretation of output, writing of reports. Provides SAS programming techniques for aforementioned topics preparation for SAS base certification.

SW 465. Research Methods in Social Work
Introduction to research methods in social work with an emphasis on the evaluation of social work interventions and agency programs.

California State University, Los Angeles (CSULA)

COUN 4001 - Measurement and Analysis in Applied Behavior Analysis
Behavioral measurement and analysis. Emphasis is on common measurement procedures, development of valid and reliable measures, use of visual inspection and single-case research design to analyze behavioral change.

COUN 4002 - Introduction to Applied Behavior Analysis
Introduction to applied behavior analysis; emphasis on fundamental behavioral processes and applications of behavioral principles toward socially significant behavior change.

PSY 202 - Descriptive Statistics in Psychology
Basic numerical and graphical methods in psychology; statistical notation, data presentation, measures of central tendency, dispersion and covariation, probability; utilization of personal computers in statistics.

ECON 1090 - Quantitative Reasoning with Statistics
Principles of quantitative reasoning, data presentation, descriptive statistics, correlation, probability, distributions of random variables, sampling distributions, interval estimation, and statistical inference, with multi-disciplinary applications.

ECON 3060 - Statistics for Business Analysis and Decision Making
Prerequisites: Satisfactory completion of GE Block B4. Data collection methods; descriptive statistics; sampling analysis; hypothesis testing; multiple regression; qualitative data analysis; seasonality, trend and time-series forecasting; moving average and exponential smoothing. Use of Excel is required.

ECON 3090 - Applied Business and Economic Statistics II
Data analysis using spreadsheet software: sampling, testing and statistical inference; study of relationships between variables within business contexts; regression, correlation and time-series analyses with business applications including forecasting. Some sections may be technologically mediated.

ECON 4910 - Data Analysis, Reporting and Presentation
Use of a major statistical software package for data analysis; introduction to widely used economic databases; data presentation; research report writing and oral presentation.

HHS 4000 - Statistics in Health and Human Services
Basic statistical concepts, as applied to research in Health and Human Services; practical application of statistics using computer based data analysis.

MATH 1090 - Quantitative Reasoning with Statistics
Principles of quantitative reasoning, data presentation, descriptive statistics, correlation, probability, distributions of random variables, sampling distributions, interval estimation, and statistical inference, with multi-disciplinary applications.

MATH 2740 - Introduction to Statistics
Graphical display of data, measures of variation, correlation, least-squares regression, design of samples and experiments, basic rules of probability, normal distribution, central limit theorem, sampling distributions, confidence intervals, hypothesis tests.

PSY 3020 - Statistics in Psychology
Provides an introduction to statistics. Topics include statistical notation, descriptive procedures (tables, central tendency, variability), hypothesis testing, probability, inferential parametric and nonparametric procedures, written

PSY 3040 - Research Methods in Psychology
Successful completion of the GWAR. Experimental and non-experimental research design and methods. Introduces the scientific method, measurement and survey design, reliability and validity, and sampling. Students develop research projects and prepare APA-style scientific manuscripts. Use of statistical analysis software.

PSY 4110 - Advanced Research Methods in Psychology
Logic of research methodology and statistical analysis; evaluation of adequacy of research strategies; interpretation of results.

PSY 4310 - Statistical Methods in Psychological Assessment
Prerequisite: MATH 1020. Theoretical issues in individual differences; introduction to a variety of group and individual psychological tests and assessment techniques; role of tests in clinical evaluation; problems of reliability, validity, and interpretation.

PSY 4910 - Multivariate Statistics
Prerequisite: PSY 3020. Introduction to multivariate procedures focusing on degree of relationship, group differences, prediction of group membership, and latent structure. Emphasis on written presentation of results and use of statistical software.

SW 3910 - Social Work Research Methods
Prerequisite: Upper Division Status. Scientific, analytic approach to knowledge building and practice in social work; experimental, quasi-experimental, and single subject research designs; sampling, survey methods, case studies, exploratory-descriptive studies, and evaluation research.

SOC 2100 - Elementary Statistics
Prerequisite: Recommend basic college mathematics course. Introduction to social statistics, covering univariate descriptive statistics, level of measurement, hypothesis testing for mean

differences, using Excel and SPSS for data management and analysis, tables and charts. Some course sections may be offered as online or hybrid format.

SOC 3100 - Intermediate Statistics
Intermediate level social statistics, covering causal hypothesis, hypothesis testing, and bivariate associational statistics such as cross-table analysis, gamma, pearson correlation, and Analysis of Variance (ANOVA). Some course sections may be offered as online or hybrid format.

SOC 3900 - Quantitative Research and Writing
Application of scientific method to quantitative sociological data; research design, data collection, elementary analysis procedures; survey and experimental designs, measurement, scale, and index construction; prediction models; and writing quantitative papers.

SOC 3910 - Qualitative Research and Writing
Prerequisite: Satisfactory completion of the Graduation Writing Assessment Requirement (GWAR). Exploration of qualitative research epistemologies, research questions, and design; methods of data generation, analysis, and interpretation; issues of ethics, representation and qualitative sociological writing.

California State University, Northridge (CSUN)

MATH 140. Introductory Statistics
Methods for displaying, describing and producing data. Normal distribution. Correlation and regression. Sampling distributions and probability. Statistical inference for means and proportions.

MATH 341. Applied Statistics I
Introduction to the practice of statistics, emphasizing the role of probability. Includes basic probability, discrete and continuous probability distributions, expectation and variance, sample surveys and experiments, displaying and summarizing data, sampling distributions, central limit theorem, inference for proportions, chi-square test and least squares regression.

PSY 321 Research Methods in Psychology
Study of principles and techniques used to design and evaluate psychological research using simple and advanced research designs. Lab: Includes use of various research methods in psychology research projects.

PSY 420/L. Advanced Statistical Methods and Lab
Explores the relationships between advanced statistical methods and psychological research methods. Advanced techniques of analysis of variance and regression analysis are emphasized. Lab: Considers problem-solving techniques and advanced computational

methods needed to analyze data obtained in complex psychological experiments. Consideration given to an individual's particular research interest.

SOC 202 Sociological Analysis
Discussion of the logic and procedures of scientific analysis of social phenomena. Practice in conceptualizing and operationalizing social variables, and in formulating testable hypotheses. Examination of the role of quantitative techniques and data reduction in current sociological analysis.

SOC 364/L. Social Statistics and Lab
Methods of organizing and analyzing quantitative sociological data. Satisfies the statistics requirement for the major. Lab: Problem solving, exercises, projects and data analysis.

California State University, San Bernardino (CSUSB)

SW 301. Social Work Research
Social Work approaches to qualitative and quantitative research that builds knowledge for social work practice. Interpreting and applying social work practice research to students own practice. Skills needed to implement a social work research project in a social work setting.

PSYC 210. Psychological Statistics
Introduction to statistical reasoning and application of basic statistical procedures in psychology. Includes both descriptive and inferential statistics with emphasis on parametric techniques.

PSYC 310. Applied Research Methods
Overview of applied research methods in psychology and the behavioral sciences. Emphasis on the use of applied methods, their analyses, and scientific writing. Topics may include quasi-experimental design, correlational design, behavioral observation, archival analysis, single-case methodology, survey methodology, research ethics, library research strategies, and writing research reports.

PSYC 410. Advanced Psychological Statistics
Coverage of advanced statistical reasoning and application of statistical procedures in psychology. Includes both parametric and nonparametric techniques with an introduction to multivariate statistics. Statistical computer packages will be introduced.

SOC 301. Qualitative Research
Examines social problems and issues using various qualitative research methods such as focus groups, participant observation and in-depth interviews.

SOC 307. Social Research I
Basic concepts and techniques used by sociologists in conducting research.

SOC 309. Social Research II
Application of social measurement techniques, including data collection, data entry and the use and interpretation of the methods of data presentation with the utilization of statistical routines. Involves the use of computers and statistical software in the development of research reports, sociological analysis and modeling. Four hours lecture and two hours laboratory.

MATH 165. Introductory Statistics and Hypothesis Testing
Introductory statistics with applications to a variety of disciplines. Topics will include descriptive statistics, correlation, distribution or random variables, sampling distributions, interval estimation, hypothesis testing, and elementary Bayesian theory.

MATH 262. Applied Statistics
Basic concepts of probability and statistics. Important probability models such as the binomial, Poisson and normal. Statistical procedures, particularly in relation to estimation, hypothesis testing and modeling. Computer simulations and computations.

Cerritos College

MATH 112 ELEMENTARY STATISTICS
This course provides an introduction to descriptive and inferential statistics. Topics included are mean, standard deviation, variance, probability, random variables, binomial probability distribution, normal probability distribution, the central limit theorem, hypothesis testing, confidence intervals, t-distribution, chi-square distribution, F-distribution, linear regression, and linear correlation. This course is a beginning statistics course designed for all majors. A graphing calculator is required.

PSYC 210 ELEMENTARY STATISTICS
This course emphasizes the calculation and interpretation of the basic statistical measures, with major emphasis upon the meaning, limitations, and applicability of statistical procedures. It is intended for majors and minors in the behavioral sciences, especially in psychology and sociology. The course will include the theory of parametric and non-parametric statistical methods and its application to psychological data. Topics will include descriptive statistics, probability and sampling distributions, statistical inference and power, linear correlation and regression, chi-square, t-test, and one-way analysis of variance. Application of statistical software to psychological data is required.

Chapman University

MGSC 209 - Introductory Business Statistics
Emphasis on the use of statistics as an aid in reaching business decisions. Central tendency and dispersion, probability theory; discrete and normal distributions, sampling theory, sampling distributions, and statistical inference in business-related problems. Testing hypothesis in large and small samples. Correlation and regression analyses.

MATH 203 - Introduction to Statistics
This course provides a progressive, detailed, and practical introduction to essential topics in classical statistics. The main concepts covered in this class include the following: design of experiments and sampling, descriptive statistics methods, correlation and regression analysis, probability and probability distribution, sampling distributions, and inferential statistics methods. This course is intended for students in a wide variety of areas of study so a variety of examples from different fields are used to illustrate the concepts. The course is taught in an interactive setting where students will learn how to use statistical software while learning introductory statistics concepts.

MATH 303 – Biostatistics
This course will provide a comprehensive introduction to various statistical methods with emphasis on applications in biology, medicine, and public health. Main concepts such as sampling distributions, contingency tables, linear, logistic and survival analysis will be studied with a mathematically rigorous approach.

MATH 361 - Mathematical Statistics
This course introduces the fundamental concepts in statistics. Topics include models of convergence, maximum likelihood, UMVUE, Rao-Kramer theorem, sufficiency and completeness, Lehman-Scheffe theorem, confidence intervals, hypothesis testing, generalized likelihood ratio test, tests for genetic association, contingency tables, linear models.

PSY 203 - Statistics for Behavioral Sciences
The course covers descriptive and inferential statistics, the rationale of hypothesis testing, a survey of the common parametric and nonparametric statistics tests, and the calculation and interpretation of statistical indices and applications.

PSY 204 - Research Methods in the Behavioral Science, Lecture and Laboratory
An introduction to the principles and procedures involved in behavioral sciences research emphasizing the scientific method and its application to psychological inquiry. This course includes a lecture and required laboratory component held at different times.

PSY 304 - Advanced Research Design

This course will provide a comprehensive and systematic examination of advanced research methods and statistical procedures applied to the empirical evaluation of human behavior. Students will evaluate quantitative vs qualitative designs, within-participant vs between participant designs, and single-variable vs factorial designs, as well as non-experimental designs, such as surveys. The course goal is to support the development of a precise and complete research proposal commensurate with professional standards and suitable to support a Capstone Senior Thesis.

SOC 201 - Introduction to Research Methods

Students will learn how to conduct research using a variety of different methodologies. Topics covered include research design, analysis and reporting. Attention will also be given to the needs of students as practitioners of social research i.e., trying to make sense out of daily reports on sociological findings in various forms of media.

SOC 307 - Survey Research

The class provides students with the skills necessary to accomplish quantitative research methods used in Sociology. Students who take this class will learn quantitative data collection, analysis and reporting and the use of SPSS (Statistical Package for the Social Sciences). Students will also develop an expanded understanding of statistics and its central connection to understanding and interpreting data. Specifically, students will learn when and how to apply correlation, Z-test, T-test, multiple regression, one-way and two-way analysis of variance, and chi-square. This class provides an in-depth focus on survey research, particularly focused on mail, internet and face-to-face surveys. Survey creation, sampling and analysis will also be provided.

SOC 318 - Quantitative Data Analysis

Introduction to descriptive and inferential statistics, and applications in real-world, social science research. Focus on understanding and selecting appropriate statistical methods, data analysis, and proper interpretation. Students will translate research questions into statistical analyses to address research questions. Students will compete statistical analyses using statistical software on a computer.

Coastline Community College

MATHEMATICS C046 5.0 Units Statistics Pathway 1

MATH C046 is the first semester of two in the Statway sequence. MATH C046 includes topics from descriptive statistics (experimental design and descriptive statistics) and beginning algebra (linear and quadratic algebraic phenomena) and is a prerequisite for MATH C146, the second course in the Statway sequence.

MATHEMATICS C146 5.0 Units Statistics Pathway 2
The Statway path is a two-semester sequence recommended for majors that require no mathematics beyond freshman level statistics. MATH C146 is the second semester of the Statway sequence. MATH C146 includes topics from intermediate algebra (radical, exponential, and logarithmic algebraic phenomena) and inferential statistics.

MATHEMATICS C160 4.0 Units Introduction to Statistics
Topics covered include collecting of data, sampling, probability, hypothesis testing, analyzing of variance, nonparametric testing, and correlating for application in the natural sciences, social sciences, business, and management. Use of statistical technology will be introduced.

PSYCHOLOGY C280 4.0 Units Introduction to Research Methods in Psychology
This course introduces to students psychological research methods and critical analysis techniques that may be applied to diverse research studies and issues.

Cypress College

MATH 120 C Introduction to Probability and Statistics
This course is an introduction to the elements of statistical analysis which includes an intuitive approach to the study of probability and probability distributions, measures of central tendency and dispersion, sampling techniques, parametric and non-parametric tests of hypotheses, point and interval estimation, linear regression and correlation. Applications to business, biological sciences, and social sciences are emphasized. Students will use computer software and/or graphing calculators for statistical analysis of various topics.

PSY 161 C Probability and Statistics - Social Sciences
This course provides an introduction to fundamental statistical concepts relevant to the social sciences but applicable to all disciplines. A conceptual approach is used to introduce students to topics of descriptive and inferential statistics including sampling, probability, central tendency, variability, correlation, regression, point estimation, interval estimation, and hypothesis testing. Also introduced are non-parametric statistics, such as chi-square, and parametric statistics, such as t-tests and ANOVA. Computers and calculators will be utilized. The use of current statistical software is emphasized. Data sets and problems will be from psychology, sociology, anthropology, economics, geography, and political science.

PSY 161HC Honors Probability and Statistics - Social Sciences
This honors course provides an introduction to fundamental statistical concepts relevant to the social sciences but applicable to all disciplines. A conceptual approach is used to introduce students to topics of descriptive and inferential statistics including sampling, probability, central tendency, variability, correlation, regression, point estimation, interval estimation, and hypothesis testing. Also introduced are non- parametric statistics, such as chi-square, and parametric statistics, such as t-tests and ANOVA. Computers and calculators will be utilized. The use of current statistical software is emphasized. Data sets and problems

will be from psychology, sociology, anthropology, economics, geography, and political science.

East Los Angeles College (ELAC)

Math 227 Statistics
This course is an introduction to probability, measures of central tendency and dispersion, descriptive and inferential statistics including sampling, estimation, hypothesis testing. Analysis of variance, chi-square and student t-distributions; linear correlation, and regression analysis are also presented as topics.

Psychology 91 Statistics for Psychology
This course introduces psychology and behavioral science majors to descriptive and inferential statistical techniques. These methods are essential to the understanding, interpretation, and performance of scientific research. Topics include central tendency, variability, the normal curve, correlation and regression, sampling distributions, probability, and hypothesis testing.

El Camino College (ECC)

Mathematics 150 - Elementary Statistics with Probability
The focus of this course is the basic practice of statistics, including descriptive statistics, inferential statistics, and the role probability plays in statistical analysis. Students calculate and interpret various descriptive statistics using graphing calculators with statistical testing capabilities and statistical software, as well as by hand. Major topics include methods of data collection and simulation; measures of central tendency, variability, and relative position; graphical summaries of data; linear regression and correlation; distributions, including normal and binomial distributions; probability theory; and inferential statistical methods. Students choose, justify, use, and interpret the results of inferential techniques, such as confidence intervals, hypothesis tests, goodness of fit, analysis of variance, and nonparametric tests.

Glendale Community College (GCC)

MATH 136 Statistics
MATH 136 is a one-semester course designed for students whose major requires a course in statistics. Topics in this course include: the nature of statistical methods, types of data, introductory probability, sampling theory, experimental design, confidence intervals, hypothesis testing, regression analysis, and decision making. Emphasis will be placed on the application of statistical concepts to real world data, development of statistical reasoning, and the interpretation of results.

Golden West College (GWC)

MATHEMATICS G160 – Introduction to Statistics
Topics include concepts and procedures of descriptive and inferential statistics; collecting, classifying, tabulating, graphing univariate and bivariate data; measures of central tendencies, variation, percentiles, probability, binomial, normal, T, Chi-square and F distributions; making inferences, decisions and predictions. This course develops statistical thinking through the study of and applications to data sets in the social and behavioral sciences, business, and other disciplines. The use of a graphing calculator and/or statistical analysis computer programs is integrated into the course.

Irvine Valley College (IVC)

ECON 10 STATISTICS FOR BUSINESS AND ECONOMICS
This introductory course presents statistical concepts and methods used extensively in economics, business, social sciences, psychology, life and health sciences, and education including computer-based statistical analysis. Students study descriptive and inferential statistics and perform statistical analysis. Emphasis is on problem solving and interpretation.

ECON 10H STATISTICS FOR BUSINESS AND ECONOMICS
This introductory honors course presents statistical concepts and methods used extensively in economics, business, social sciences, psychology, life and health sciences, and education including computer-based statistical analysis. Students study descriptive and inferential statistics and perform statistical analysis. Emphasis is on problem solving and interpretation. This honors course is enriched through a course project that applies statistical analysis to a case study and is shared through a class presentation.

MATH 10 INTRODUCTION TO STATISTICS
This course teaches students to collect, organize and describe data using graphical and numerical techniques. Students study the measures of central tendency, dispersion, and correlation; laws of probability; and laws of statistical estimation, including the use of z-, t-, Chisquare-, and F-distributions to perform confidence intervals and hypothesis testing. Students use a calculator and/or computer to make measurements on a set of data. The course stresses the application of statistical analysis to the natural, social, and business sciences and to the understanding and use of numerical data by the general public.

PSYC 2 RESEARCH METHODS IN PSYCHOLOGY
This course introduces students to the fundamentals of psychological research methods. Students will apply the scientific method in conducting research, analyzing data, interpreting results and writing a research report using current American Psychological Association formatting.

PSYC 10 STATISTICAL METHODS IN THE BEHAVIORAL SCIENCES

This course presents the statistical concepts and methods most widely used in behavioral and social science research. Students study the principles of descriptive and inferential statistics, concentrating on the correct analysis of data relating to practical behavioral problems, and the assumptions underlying statistical inferences.

PSYC 10H STATISTICAL METHODS IN THE BEHAVIORAL SCIENCES HONORS

This honors course presents the statistical concepts and methods most widely used in behavioral and social science research. Students study the principles of descriptive and inferential statistics, concentrating on the correct analysis of data relating to practical behavioral problems, and the assumptions underlying statistical inferences. Honors students use SPSS to analyze a real-life data set, and then present research results in A.P.A. formatting and presentation style.

Long Beach City College (LBCC)

MATH 125 – Stat Path

Topics include solving linear and quadratic equations and inequalities; polynomial, exponential and logarithmic functions; graphing linear and quadratic functions; polynomial, rational, and radical arithmetic; solving basic rational, and radical equations; graphing lines and parabolas; basic geometric and trigonometric concepts and applications, and basic statistics, counting and probability concepts. Application problems are solved throughout the course.

PSYCH 2 - Research Methods For Psychology

The course provides a basic understanding of the scientific method, research designs, and statistical tests used in psychological investigation. Students perform a literature review, design an original research study, collect and analyze data, and write an APA-style research report.

Los Angeles City College (LACC)

MATHEMATICS 227 Statistics

This course is an introduction to probability, descriptive and inferential statistics including measures of central tendency and dispersion, sampling, and estimation. Hypothesis testing, analysis of variance, test of independence, linear correlation and regression analysis also are covered.

Los Angeles Harbor College (LAHC)

MATH 227 – Introductory Statistics
Topics covered include frequency distributions, measures of central tendency and variations, probability and probability distributions, sampling, analysis of measurements, count data, hypothesis testing, correlation, and regression.

Los Angeles Mission College (LAMC)

MATH 227 Statistics
Course covers descriptive statistics, basic probability theory and inferential statistics with emphasis on understanding statistics methods. Topics include summarizing data; descriptive statistics; probability; discrete distributions; continuous distributions; sampling distributions; estimation and confidence intervals; hypothesis testing and inference; correlation and linear regression; analysis of variance (ANOVA), chi-square and t-tests; applications using data from disciplines including business, social sciences, psychology, life science, health science, and education. The use of technology such as Excel, Minitab, or StatCrunch is integrated into the course to perform statistical analysis and the relevance of the statistical findings is interpreted.

PSYCHOLOGY 74 RESEARCH METHODS IN THE BEHAVIORAL SCIENCES
Students are introduced to basic research concepts, designs, and statistical techniques used in the behavioral and social sciences. Covers literature reviews, critical evaluations of articles in professional journals, the design of research studies, and use of computer-based statistical packages to analyze data ('Statistical Package for the Social Sciences-SPSS). Independent research focuses on the procedures involved in conducting studies and writing APA-style research reports.

SOCIOLOGY 4 SOCIOLOGICAL ANALYSIS
An introduction to the scientific study of social research: topics include research design, conceptualization, measurement, sampling methodology, qualitative and quantitative data analysis. Students will analyze specific data collected in the field.

Los Angeles Pierce College (LAPC)

MATH 227 Statistics
learn about averages, variability, graphical techniques, probability, hypothesis testing, sampling, estimation, correlation, prediction, and linear regression. The emphasis of Math 227 is on the collection and analysis of data and how inferences about a population are made from a sample.

MATH 228A Statistics Pathway Part I

As part 1 of the two part Statway curriculum, students will study: experiment and observational study design, sample methods, data measures such as mean, median, mode, standard deviation, percentiles, data displays and graphical techniques such as histograms, boxplots, and dotplots. Also, students will study: scatter plots, correlation and regression, probability, sampling, exponential functions - exponential growth and decay, residual plots, two-way tables, probability, the normal distribution and z-scores, and probability distributions. Students will engage with real-world topical data for each lesson. Emphasis is on the collection and analysis of data. Algebraic skills and techniques are integrated into the presentation of statistical methods; these include numeracy (calculation with rational numbers, signed numbers, and percents, estimating and rounding, converting units), proportional reasoning, writing and evaluating algebraic expressions, solving equations and inequalities, modeling situations with functions (evaluating and interpreting function values, representing functions graphically and algebraically, recognizing families of functions), with particular attention to linear and exponential functions.

MATH 228B Statistics Pathway Part II

Students examine averages, variability, graphical techniques, probability, probability distributions including the Normal distribution and the Chi-Square distributions, hypothesis testing, sampling, estimation and confidence intervals, correlation, prediction, and linear regression. Students also perform ANOVA analysis. Emphasis is on the collection and analysis of data and how inferences about a population are made from a sample. Algebraic skills and techniques from both Elementary and Intermediate Algebra are integrated into the presentation of statistical methods; these include numeracy (calculation with rational numbers, signed numbers, and percents, estimating and rounding, converting units), proportional reasoning, writing and evaluating algebraic expressions, solving equations and inequalities, modeling situations with functions (evaluating and interpreting function values, representing functions graphically and algebraically, recognizing families of functions), with particular attention to linear and exponential functions.

PSYCHOLOGY 74 Research Methods in the Behavioral Sciences

Students are introduced to research concepts, designs, and statistical techniques used in the behavioral and social sciences. Knowledge of descriptive and inferential statistics and its application to data is applied for both non-experimental and experimental studies. Understanding of ethics in research for animals and humans is addressed. Critiquing of current published research articles and disseminating of experimental and non-experimental research is discussed. Researching published articles through the use of personal computers is demonstrated. Report writing of APA-style manuscripts and presentation of a group project from data collected are required. Use of personal computers and the software 'Statistical Package for the Social Sciences (SPSS)' are applied throughout the course.

SOCIOLOGY 4 Sociological Analysis

Students examine the fundamental principles and methods of sociological research design and implementation. Students analyze the key types of evidence— including qualitative and

quantitative data, data gathering and sampling methods, logic of comparison, and causal reasoning. The work of several scholars is evaluated and students create their own research design related to a sociological issue.

STATISTICS 1 Elementary Statistics I for the Social Sciences
This course covers both descriptive and inferential statistics. Topics include methods used to collect and describe data, central tendency, variability, the normal curve, correlation, prediction, sampling distributions, probability, and hypothesis testing. The course utilizes hand calculators, personal computers, and a statistical software package (SPSS). Emphasis is on conceptualization as well as data analysis.

Los Angeles Southwest College (LASC)

Math 227 - Statistics
This course is an introduction to statistics and probability, measures of central tendency and dispersion, descriptive and inferential statistics including sampling, estimation, hypothesis testing, analysis of variance, normal curve, Chi-square and student's t distributions. Linear correlation and regression analysis and applications in diverse disciplines are also presented as topics.

Psychology 91 Statistics for Psychology
This course introduces students to the use of statistical procedures in describing, summarizing, analyzing, interpreting and making inferences about psychological data. Topics covered include: frequency distributions, measures of central tendencies, measures of variability, the standard normal curve, probability, hypothesis testing, correlation and regression, analysis of variance, chi-square and non-parametric procedures.

Los Angeles Trade-Technical College (LATTC)

MATH 225 INTRODUCTORY STATISTICS
The course discusses basic concepts and techniques of descriptive and inferential statistics including sampling, probability, statistical distributions, tables and graphs, central limit theory, hypothesis testing, confidence interval estimation, correlation and regression. Student Learning Outcome: Test hypothesis for sample proportion, mean and standard deviation. Given a distribution, determine the probability of an event. Perform correlation and linear regression analysis.

MATH 227 STATISTICS
Discusses basic concepts and techniques of descriptive and inferential statistics including sampling, probability, statistical distributions, tables and graphs, central limit theory, hypothesis testing, confidence interval estimation, correlation and regression. Most analysis will be done using Excel spreadsheet program. Student Learning Outcome: Test hypothesis

for sample proportion, mean and standard deviation. Given a distribution, determine the probability of an event. Perform correlation and linear regression analysis.

Los Angeles Valley College (LAVC)

MATH 227 Statistics
This course uses technology to analyze data. Probability techniques, hypothesis testing, and predictive techniques are employed to facilitate decision-making by inferring population-level conclusions based on samples. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance (ANOVA), chi-square and t-tests; and application of technology for statistical analysis including the interpretation of the relevance of the statistical findings. Applications using data from disciplines including business, social sciences, psychology, life science, health science, and education.

PSYCHOLOGY 74 Research Methods in The Behavioral Sciences
This course surveys various psychological research methods with an emphasis on research design, experimental procedures, descriptive methods, instrumentation, and the collection, analysis, interpretation, and reporting of research data. Research design and methodology will be examined through a review of research in a variety of the subdisciplines of psychology.

SOCIOLOGY 4 Sociological Analysis
This course considers the logic of the scientific analysis of society and social institutions. We will analyze the various methodological tools utilized in social science research and clarify basic social science issues. Topics include research design, conceptualization, measurement, sampling methodology, and both qualitative and quantitative data analysis. Students will analyze specific data collected in the field.

STATS 101 Statistics for the Social Sciences
This course focuses on data collection, hypothesis testing and predictive techniques to facilitate decision-making. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance, chi-square and t-tests; and application of technology for statistical analysis including the interpretation of the relevance of the statistical findings. Applications using data from disciplines including business, social sciences, psychology, life science, health science, and education.

Loyola Marymount University (LMU)

MATH 104 Elementary Statistics
Introduction to methods of inferential statistics, histograms, elementary probability, and random variables and distributions.

MATH 204 Applied Statistics
This course provides an introduction to statistics emphasizing data analysis and applications to life sciences. Topics include: descriptive statistics, elementary probability, various discrete and continuous distributions, confidence intervals and hypothesis tests for means and proportions, correlation and linear regression, as well as analysis of variance. This course will also include the use of computer programs to analyze data sets.

PSYC 2001 Statistical Methods for Psychology
Statistical concepts and methods related to psychological testing and research, including measures of central tendency, variability, hypothesis testing, analysis of variance, correlation, regression, non-parametric tests, and use of statistical software programs.

SOCL 2100 Quantitative Research Methods
An introduction to basic inferential and descriptive statistics commonly used in the social sciences. Among the topics covered are: table construction; central tendency; variation; probability, sampling distributions, and the normal curve; hypothesis testing; and measures of association.

Mount Saint Mary's University – Los Angeles (MSMU)

HCP 15 Introduction to Research Methods
This course introduces students to the methods of social science research. Students learn to think like a researcher, frame a research question, and conduct a literature review. Students also gain an introduction to qualitative and quantitative methodologies.

MTH 38 Elements of Probability and Statistics
Elementary probability theory, properties of distributions, sampling, estimation, hypothesis testing, correlation.

MTH 113 Probability and Statistics
Probability as a mathematical system, random variables and their distributions, limit theorems, statistical applications, hypotheses testing.

POL 15 Introduction to Research Methods
This course introduces students to the methods of social science research. Students learn to think like a researcher, frame a research question, and conduct a literature review. Students also gain an introduction to qualitative and quantitative methodologies.

POL 101 Research Methods
Examination of research and writing methods with an emphasis on skills in conducting political science research and preparing research papers working with statistical techniques and databases and evaluating, citing and presenting evidence.

PSY 40 Basic Statistical Methods
Focus on applied descriptive and inferential statistical techniques as used in behavioral science research. Topics covered include properties of distributions, measures of central tendency, elementary probability theory hypothesis testing, correlation, and analysis of variance.

PSY 106 Basic Research Methods
Introduction to the scientific method and its use in answering questions about psychological phenomena. Covers each of the major steps in the research process, including formulation of hypotheses, choice of appropriate research designs, empirical testing of hypotheses with proper controls and regard for ethical issues systematic analysis of data, and reporting of results in a scientific format.

PSY 141 Applied Research Methods & Statistics
Introduction to the scientific method and its use in answering questions about psychological phenomena. Covers each of the major steps in the research process, including formulation of hypotheses, choice of appropriate research designs, empirical testing of hypotheses with proper controls and regard for ethical issues systematic analysis of data, and reporting of results in a scientific format. Emphasis will be on reading, understanding, and critiquing research.

PSY 162 Applied Qualitative Research Methods
Introduction to qualitative designs and methods such as ethnography, life histories, case study, grounded theory, action research, data collection and interpretation. Research ethics and human participant protection are covered.

SOC 38 Statistics for Social Science
Focus on applied descriptive and inferential statistical techniques as used in the social sciences. Topics to be covered include elementary probability theory, properties of distributions analysis of variance, measures of central tendency, correlation and hypothesis testing.

SOC 117 Quantitative Research Methods
An introduction to and application of quantitative methods used in social science research. A research project will be undertaken. Current computer applications used in research will be applied. A human rights course.

SW 38 Social Statistics and Data Analysis for Social Workers
This course introduces you to the basics of social statistics—techniques that social scientists use to summarize numeric data obtained from censuses, surveys, and experiments. The course will familiarize students with the basic concepts of descriptive and inferential statistics. Students will be exposed to elementary data analysis techniques, which use statistics in order to interpret findings reported in the social work research literature. The topics include frequency distribution, central tendency, variability, probability theory, and estimation.

SW 117 Quantitative Research Methods in Social Work
This research course equips students with the knowledge and competence in quantitative research methods needed to conduct independent research in social work practice or social welfare policy. The purpose of this course is to prepare students to select and implement research designs that are appropriate and adequate for answering contemporary social work practice and social welfare policy research questions.

SW 118 Qualitative Research Methods
An introduction to qualitative methods used in social science research. Ethnographic methods such as observation, case studies, and interviewing techniques will be studied.

Mt. San Antonio College (Mt. SAC)

PSYC 10 Statistics for the Behavioral Sciences
Statistical principles of the behavioral sciences emphasizing research design, scales of measurement, distributions, graphing, descriptive statistics, measures of central tendency, measures of variability, z-test, independent and dependent t-tests, inferential statistics, confidence intervals, linear correlations and regression, and analysis of variance, including multivariate factorial designs and chi square analyses. Statistical analyses through the use of computerized statistical packages are interpreted through lab experience.

MATH 110 Elementary Statistics
Descriptive and inferential statistics and probability with emphasis on understanding statistical methods. Descriptive analysis of sample statistics, distribution of discrete and continuous random variables, estimation theory, tests of hypotheses, regression, correlation, and analysis of variance.

MATH 110H Elementary Statistics - Honors
Descriptive and inferential statistics and probability with an emphasis on understanding statistical methods. Descriptive analysis of sample statistics, distribution of discrete and continuous random variables, estimation theory, tests of hypotheses, regression, correlation, and analysis of variance. An honors course designed to provide an enriched experience.

MATH 110S Integrated Statistics

MATH 110S is an elementary course in descriptive and inferential statistics. Observational and experimental studies, design of experiments, descriptive statistics, probability, discrete and continuous probability distributions, estimates, and hypothesis tests. For categorical data, inferences include one or two sample proportions, one- and two-way tables (chi-square goodness of fit). For quantitative data, inferences for one or two sample means, one-way ANOVA. Inferences in linear correlation and regression are included.

Orange Coast College (OCC)

Mathematics A160 — Introduction to Statistics

A general education course covering descriptive statistics, probability, binomial and normal distributions, variation, linear regression, correlation and hypothesis testing. Applications taken from natural sciences, social sciences, business, and everyday life.

Psychology A160 — Statistics for the Behavioral Sciences

This course emphasizes the calculation, interpretation, and application of descriptive and inferential statistics in the behavioral sciences. Topics include research methods, mathematical concepts, distributions, estimation, correlation, regression, sampling and probability, hypothesis testing, z and t Tests, ANOVA, nonparametric tests, and statistical analysis and interpretation using technology such as SPSS and Excel. Application of statistical concepts will incorporate data from social and behavioral sciences, business, life science, health science, and education.

Pasadena City College (PCC)

STAT 018 STATISTICS FOR BEHAVIORAL AND SOCIAL SCIENCES

Basic statistics for majors in anthropology, economics, psychology and sociology; tables, charts, summary measures, regression and correlation, statistical inference, sampling, variance, nonparametric and parametric tests, simple multivariate analysis; ANOVA; use of calculators and EXCEL.

STAT 050 ELEMENTARY STATISTICS

Analysis of data relative to social and natural processes. Collecting, grouping and presenting numerical data by means of: frequency distributions, measures of central tendency and deviation, probability and sampling, measures of prediction and correlation, linear regression, hypothesis testing, including analysis of variance.

Pepperdine University

ECON 212 Statistics for Economists
This course develops the basic concepts of statistical theory and their applications to economic analysis. Parameter estimation techniques involved in postulated economic relationships between variables and the methods of testing propositions will be developed. Topics include: descriptive vs. inferential statistics, probability distributions, sampling and estimation, hypothesis testing, analysis of variance, simple regression and correlations, time series and forecasting, and index numbers.

ECON 310 Introduction to Statistics and Econometrics
Develops basic concepts of statistical theory and their applications to statistical inference. Parameter estimation techniques involved in postulated economic relationships between variables and the methods of testing propositions will be developed. The multiple regression model will be covered and students will be required to complete an individual course project involving the application of multiple regression.

POSC 250 Introductory Statistics
A systematic introduction to descriptive and inferential statistics, including both parametrics and nonparametrics.

POSC 310 Introduction to Research Methodology
A survey of basic scientific methodology with attention given to philosophy of science, research design, data collection and analysis, report writing, application, and research ethics.

PSYC 250 Introductory Statistics
A systematic introduction to descriptive and inferential statistics, including both parametric and nonparametric methods.

PSYC 290 Directed Research in Psychology
Practical research skills gained from involvement with a collaborative research team. Depending upon the student's role within the collaborative team, emphasis will be placed on the development of a research topic, a literature search and review, development of a viable research design, data collection, statistical analysis, or composition of a paper and/or presentation.

PSYC 310 Research Methods in Psychology
A comprehensive introduction to research methods in psychology. Students learn how to define research problems, state hypotheses, select appropriate samples, design experimental and nonexperimental procedures, collect and analyze data, and communicate research findings orally and in writing. Research methods and results in a variety of substantive areas of psychology will be considered.

SOC 250 Introductory Statistics
A systematic introduction to descriptive and inferential statistics, including both parametrics and nonparametrics.

SOC 310 Introduction to Research Methodology
A survey of basic scientific methodology with attention given to philosophy of science, research design, data collection and analysis, report writing, application, and research ethics.

SOC 475 Intermediate Statistics and Computer Applications
A survey of advanced inferential statistics, including partial and multiple correlations, regression, and advanced analysis of variance procedures. Also included is an introduction to computer statistical packages used in the social sciences with emphasis upon SPSS (Statistical Package for the Social Sciences).

Rio Hondo College (RHC)

MATH 130 Statistics
This course is designed for students majoring in business, social sciences, and life sciences. This course provides an overview of descriptive and inferential statistics. The students learn to read, interpret and present data in a well-organized way. This includes frequency distributions, graphs, measures of central tendency and variability, correlation and linear regression. While discussing inferential statistics, the students learn to make generalizations about populations. This includes probability, sampling techniques, confidence intervals, and hypothesis tests.

PSY 190 (C-ID MATH 110, SOCI 125) Statistics for the Behavioral Sciences
This course provides an overview of the types of statistics that are important in the behavioral sciences. The main focus of this course is on hypothesis testing and the statistics that are used to analyze it. Students will learn to present and interpret experimental data from the behavioral sciences. Topics covered include basic probability, measures of central tendency, measures of variance, sampling, and inferential statistics. This course is designed for students majoring in psychology, sociology, political science, and anthropology.

Santa Monica College (SMC)

Math 54: Elementary Statistics
This course covers concepts and procedures of descriptive statistics, elementary probability theory and inferential statistics. Course content includes: summarizing data; computation and interpretation of descriptive statistics; classical probability theory; probability distributions; binomial, normal, T, Chi-square and F distributions; making inferences; decisions and predictions. This course develops, analyzes, and interprets confidence intervals for population parameters, hypothesis testing for both one and two populations, correlation and regression, ANOVA, and test for independence. This course develops statistical thinking

through the study of applications in variety of disciplines. The use of a statistical/graphing calculator and/or statistical analysis software (Stat Crunch, Excel) is integrated into the course.

Santiago Canyon College (SCC)

Mathematics 219 Statistics and Probability
First course in statistical reasoning. Includes descriptive statistics, graphical displays of data, probability and sampling distributions, confidence intervals, hypothesis testing, regression, contingency tables, ANOVA, and non-parametric statistics. Includes use of technology.

Mathematics 219H Honors Statistics and Probability
This course is an enhanced format for the first course in statistics and probability by using a seminar approach, applying statistical software and presenting individual research. This course includes descriptive statistics, graphical displays of data, probability and sampling distributions, confidence intervals, hypothesis testing, regression, contingency tables, ANOVA and non-parametric statistics, with applications designed around the individual interests of students.

Social Science 219 Statistics and Probability
First course in statistical reasoning. Includes descriptive statistics, graphical displays of data, probability, confidence intervals, hypothesis testing, regression, contingency tables, ANOVA, and non-parametric statistics. Includes use of technology.

Social Science 219H Honors Statistics and Probability
This course is an enhanced format for the beginning course in statistics and probability by using a seminar approach, applying statistical software and presenting individual research. This course includes descriptive statistics, graphical displays of data, probability, confidence intervals, hypothesis testing, regression, contingency tables, ANOVA and non-parametric statistics, with applications designed around the individual interests of students.

University of California, Irvine (UCI)

POL SCI 10A. Probability and Statistics in Political Science I
Introduction to the variety of statistical applications in the social sciences. Descriptive statistics. Measures of central tendency and dispersion. Percentile ranks. Standardization and normal approximation. Basic probability theory focuses on application to statistical inference and binomial distribution. Laboratory required.

POL SCI 10B. Probability and Statistics in Political Science II
Introduction to statistical inference, sampling distribution, standard error. Hypothesis tests for proportions and means. Inferential techniques for nominal variables including chi-square,

study measures of strengths, significance of relationships between variables, assumptions, data requirements, and types of error in significance tests.

POL SCI 10C. Probability and Statistics in Political Science III
Focus on correlation, regression, and control for effects of variables. One-way and two-way factorial analysis of variance. A priori and a posteriori comparisons. Introduction to repeated measures design and non-parametric statistics. Discusses use of statistics in newspapers and popular magazines.

PSYCH 10A. Probability and Statistics in Psychology I
An introduction to probability and statistics. Emphasis on thorough understanding of the probabilistic basis of statistical inference. Examples drawn primarily from psychology.

PSYCH 10B. Probability and Statistics in Psychology II
An introduction to probability and statistics. Emphasis on thorough understanding of the probabilistic basis of statistical inference. Examples drawn primarily from psychology.

PSYCH 10C. Probability and Statistics in Psychology III
An introduction to probability and statistics. Emphasis on thorough understanding of the probabilistic basis of statistical inference. Examples drawn primarily from psychology.

SOC SCI 10A. Probability and Statistics in Social Sciences I
Introduction to the variety of statistical applications in the social sciences. Descriptive statistics. Measures of central tendency and dispersion. Percentile ranks. Standardization and normal approximation. Basic probability theory focuses on application to statistical inference and binomial distribution. Laboratory required.

SOC SCI 10B. Probability & Statistics in Social Sciences II
Introduction to statistical inference, sampling distribution, standard error. Hypothesis tests for proportions and means. Inferential techniques for nominal variables including chi-square, study measures of strengths, significance of relationships between variables, assumptions, data requirements, and types of error in significance tests.

SOC SCI 10C. Probability & Statistics in Social Sciences III
Focus on correlation, regression, and control for effects of variables. One-way and two-way factorial analysis of variance. A priori and a posteriori comparisons. Introduction to repeated measures design and non-parametric statistics. Discuss use of statistics in newspapers and popular magazines.

SOCIOL 10A. Probability and Statistics
An introduction to probability and statistics. Emphasis on a thorough understanding of the probabilistic basis of statistical inference. Emphasizes examples from sociology, anthropology, and related social science disciplines.

SOCIOL 10B. Probability and Statistics
An introduction to probability and statistics. Emphasis on a thorough understanding of the probabilistic basis of statistical inference. Emphasizes examples from sociology, anthropology, and related social science disciplines.

SOCIOL 10C. Probability and Statistics
An introduction to probability and statistics. Emphasis on a thorough understanding of the probabilistic basis of statistical inference. Emphasizes examples from sociology, anthropology, and related social science disciplines.

STATS 7. Basic Statistics
Introduces basic inferential statistics including confidence intervals and hypothesis testing on means and proportions, t-distribution, Chi Square, regression and correlation. F-distribution and nonparametric statistics included if time permits.

STATS 68. Statistical Computing and Exploratory Data Analysis
Introduces key concepts in statistical computing. Techniques such as exploratory data analysis, data visualization, simulation, and optimization methods, will be presented in the context of data analysis within a statistical computing environment.

STATS 110. Statistical Methods for Data Analysis I
Introduction to statistical methods for analyzing data from experiments and surveys. Methods covered include two-sample procedures, analysis of variance, simple and multiple linear regression.

STATS 111. Statistical Methods for Data Analysis II
Introduction to statistical methods for analyzing data from surveys or experiments. Emphasizes application and understanding of methods for categorical data including contingency tables, logistic and Poisson regression, loglinear models.

STATS 112. Statistical Methods for Data Analysis III
Introduction to statistical methods for analyzing longitudinal data from experiments and cohort studies. Topics covered include survival methods for censored time-to-event data, linear mixed models, non-linear mixed effects models, and generalized estimating equations.

STATS 115. Introduction to Bayesian Data Analysis
Basic Bayesian concepts and methods with emphasis on data analysis. Special emphasis on specification of prior distributions. Development for one-two samples and on to binary, Poisson, and linear regression. Analyses performed using free OpenBugs software.

STATS 120A. Introduction to Probability and Statistics
Introduction to basic principles of probability and statistical inference. Axiomatic definition of probability, random variables, probability distributions, expectation.

STATS 120B. Introduction to Probability and Statistics
Introduction to basic principles of probability and statistical inference. Point estimation, interval estimating, and testing hypotheses, Bayesian approaches to inference.

STATS 120C. Introduction to Probability and Statistics
Introduction to basic principles of probability and statistical inference. Linear regression, analysis or variance, model checking.

STATS 140. Multivariate Statistical Methods
Theory and application of multivariate statistical methods. Topics include statistical inference for the multivariate normal model and its extensions to multiple samples and regression, use of statistical packages for data visualization and reduction, discriminant analysis, cluster analysis, and factor analysis.

University of California, Los Angeles (UCLA)

PSYCH 100A. Psychological Statistics
Basic statistical procedures and their application to research and practice in various areas of psychology.

PSYCH 100B. Research Methods in Psychology
Introduction to research methods and critical analysis in psychology. Lecture and laboratory topics include experimental and nonexperimental research methods, statistical design and analysis as applied to a broad range of basic and applied research issues.

PSYCH 125B. Research Methods in Developmental Psychopathology
Research approaches utilized by psychologists to conduct research in developmental psychopathology.

PSYCH 125C. Advanced Research Methods in Developmental Psychopathology
Advanced research approaches utilized by psychologists to conduct research in developmental psychopathology.

PSYCH 131. Research in Developmental Psychology
Forms of scientific writing; ethics of research, especially with minors; special advantages and problems of asking developmental research questions; relevant methodologies for experimental and observational work; data analyses and data presentation options.

PSYCH 136B. Nonexperimental Methods in Social Psychology
Research experience with nonexperimental methods for study of social attitudes or behavior, including fieldwork with survey research, naturalistic observation, or questionnaires

PSYCH 136C. Survey Methods in Psychology
Survey research in psychology, with particular emphasis on surveys of social and political attitudes. Actual experience in systematic survey research such as that done by media polling agencies, market research companies, and academic survey research centers. Topics include survey design, sampling, interviewing techniques, response rates, questionnaire design, data coding, and analysis. Training in telephone interviewing techniques in laboratories.

PSYCH 142H. Advanced Statistical Methods in Psychology (Honors)
Survey of statistical techniques commonly used in psychology, education, and behavioral and social sciences: correlational techniques, analysis variance, and multiple regression.

PSYCH 151. Research Methods in Health Psychology
Research methods used in health psychology, including experimental, quasi-experimental, and nonexperimental methods. Examples and projects from health psychology.

PUB PLC 187. Research Seminar: Public Policy
Production of research project that examines in depth one particular policy issue in its social context, including political pressures involved and problems of implementation. Emphasis on skills of data acquisition and analysis, conceptualization, and written analysis and presentation.

SOCIOL 113. Statistical and Computer Methods for Social Research
Continuation of Statistics 10, covering more advanced statistical techniques such as multiple regression, analysis of variance, or factor analysis. Content varies. Students learn how to use computer and write papers analyzing prepared data sets.

STATS 10. Introduction to Statistical Reasoning
Introduction to statistical thinking and understanding, including strengths and limitations of basic experimental designs, graphical and numerical summaries of data, inference, regression as descriptive tool.

STATS 13. Introduction to Statistical Methods for Life and Health Sciences
Presentation and interpretation of data, descriptive statistics, introduction to correlation and regression and to basic statistical inference (estimation, testing of means and proportions, ANOVA) using both bootstrap methods and parametric models.

STATS 20. Introduction to Statistical Programming with R
Designed to prepare students for upper division work in statistics. Introduction to use of R, including data management, simple programming, and statistical graphics in R.

STATS 100A. Introduction to Probability
Probability distributions, random variables, vectors, and expectation.

STATS 100B. Introduction to Mathematical Statistics
Survey sampling, estimation, testing, data summary, one- and two-sample problems.

STATS 100C. Linear Models
Theory of linear models, with emphasis on matrix approach to linear regression. Topics include model fitting, extra sums of squares principle, testing general linear hypothesis in regression, inference procedures, Gauss/Markov theorem, examination of residuals, principle component regression, stepwise procedures.

STATS 101A. Introduction to Data Analysis and Regression
Applied regression analysis, with emphasis on general linear model (e.g., multiple regression) and generalized linear model (e.g., logistic regression). Special attention to modern extensions of regression, including regression diagnostics, graphical procedures, and bootstrapping for statistical influence.

STATS 101B. Introduction to Design and Analysis of Experiment
(Formerly numbered 101A.) Fundamentals of collecting data, including components of experiments, randomization and blocking, completely randomized design and ANOVA, multiple comparisons, power and sample size, and block designs.

STATS 101C. Introduction to Statistical Models and Data Mining
Applied regression analysis, with emphasis on general linear model (e.g., multiple regression) and generalized linear model (e.g., logistic regression). Special attention to modern extensions of regression, including regression diagnostics, graphical procedures, and bootstrapping for statistical influence.

STATS 102A. Introduction to Computational Statistics with R
Introduction to computational statistics through numerical methods and computationally intensive methods for statistical problems. Topics include statistical graphics, root finding, simulation, randomization testing, and bootstrapping. Covers intermediate to advanced programming with R.

STATS 102B. Introduction to Computation and Optimization for Statistics
Introduction to computational methods and optimization useful for statisticians. Use of computer programming to solve statistical problems. Topics include vector/matrix computation, multivariate normal distribution, principal component analysis, clustering analysis, gradient-based optimization, EM algorithm for missing data, and dynamic programming.

STATS 102C. Introduction to Monte Carlo Methods
Generation of random numbers from specific distribution. Rejection and importance sampling and its role in MCMC. Markov chain theory and convergence properties. Metropolois and Gibbs sampling algorithms. Extensions as simulated tempering.

Theoretical understanding of methods and their implementation in concrete computational problems.

STATS 105. Statistics for Engineers
Foundation of basic concepts and techniques of statistics. Topics include sampling distributions, statistical estimation (including maximum likelihood estimation), statistical intervals, and hypothesis testing, with emphasis on application of these concepts. Discussion of methods for checking whether assumptions required for mathematical foundations are appropriate for given set of data.

STATS 112. Statistics: Window to Understanding Diversity
Statistical methods in social sciences, including regression, multivariate techniques, logistic regression, and data-handling and analysis. Applications to social sciences, using professional statistical analysis software package for data analysis.

STATS C116. Social Statistics
Designed for social sciences graduate students and advanced undergraduate students seeking training in data issues and methods employed in social sciences.

STATS 130. Getting Up to Speed with SPSS, Stata, SAS, and R
Preparation: basic statistics, basic computer literacy. Study of four commonly employed solutions -- SPSS (Statistical Package for Social Sciences), Stata, SAS (Statistical Analysis System), and R -- for data analytic and statistical issues in health sciences, engineering, economics, and government. Emphasis on applied problem solving, measurement issues in data analysis, use of computer for analysis of large-scale data.

MATH 170A. Probability Theory
Probability distributions, random variables and vectors, expectation.

MATH 170B. Probability Theory
Convergence in distribution, normal approximation, laws of large numbers, Poisson processes, random walks.

University of California, Riverside (UCR)

PSYC 011 Psychological Methods: Statistical Procedures
Covers descriptive and inferential statistics, measures of central tendency, variability, and correlation. Introduces sampling distributions, statistical inference, and hypothesis testing.

PSYC 012 Psychological Methods: Research Procedures
A systematic survey of research methodologies in psychology. Laboratory assignments include evaluating and testing psychological theories; assessing methodologies and research

designs; designing and implementing research; collecting data and analyzing statistics; writing research reports; and discussing ethical issues in science

SOC 004 Methods of Sociological Inquiry
Applies the fundamentals of science to social research. Investigates problems of research design, sampling, measurement of social phenomena, conduct of field studies, and interpretation of qualitative and quantitative social data.

SOC 005 Statistical Analysis
Covers logical and procedural aspects of the application of statistical methods for data reduction and hypothesis testing in sociology. Includes distributions, tabulations, central tendency, variability, independence, contrasts, correlation and regression, and nonparametrics.

SOC 006 Introduction to Social Science Data Processing
Covers principles of the design of data objects and structures commonly used in social science research. Includes consideration of coding of qualitative and quantitative data, index and scale construction, data object design (documentation, identification, storage structure), and use of common scientific software.

STAT 040 Elements of Statistics
A Bayesian introduction to statistics. Advocates that estimates, hypothesis tests, and decisions be made from information developed from a formal combination of current and prior data. Topics include summarizing and displaying data; designing experiments; probability; Bayes' rule; inferences from proportions and normal populations; sampling; and regression analysis.

STAT 048 Statistics for Business
An introduction to statistics using business applications. Topics include descriptive statistics, probability, discrete and continuous distributions, Bayes' theorem, random variables, estimation and confidence intervals, hypothesis testing, analysis of variance, and simple linear regression.

STAT 100A Introduction to Statistics
A general introduction to descriptive and inferential statistics. Topics include histograms; descriptive statistics; probability; normal, binomial, and Poisson distributions; sampling distributions; hypothesis testing; and confidence intervals.

STAT 100B Introduction to Statistics
A survey of deterministic and probabilistic models for decision making. Topics include linear programming and extensions, networks, dynamic programming, decision trees, queuing models, and simulation. Explores the application of these models in decision making. Emphasizes use of the computer.

STAT 110 Biostatistical Methods in Life Sciences
Provides undergraduate students majoring or interested in life sciences with statistical tools for analyzing different types of data frequently encountered in life sciences. Emphasizes applications of methodology, including contingency table analysis, linear regression and ANOVA, maximum likelihood method and the estimation-maximization algorithm, logistic regression, Poisson regression, and survival analysis.

STAT 127 Introduction to Quality Improvements
Explores Deming's 14 points for management, graphical methods, fishbone diagram, Pareto analysis, control charts for attributes and variables, cusum and moving average charts, process-capability, economic design, acceptance sampling, Taguchi method, parameter design, tolerance design, reliability, hazard rate, censoring, and accelerated life testing.

STAT 130 Sampling Surveys
Covers simple random sampling, addresses stratified sampling, cluster sampling, and ratio and regression estimates. Explores random response, capture-recapture, and jack-knife techniques.

STAT 140 Nonparametric Techniques
Covers randomization tests, rank tests, methods of association, and distribution-free tests.

STAT 146 Statistical Forecasting Techniques
Topics include exponential smoothing, simple and multiple regression analysis, time series, trend analysis, and seasonal analysis.

STAT 147 Introduction to Statistical Computing
Introduction to computer-assisted data analysis and statistical inference using both the R and SAS packages. Topics include input, output, and editing of data; graphical procedures; descriptive statistics; cross-tabulation; inferential statistical techniques including estimation and testing; and analysis of variance.

STAT 155 Probability and Statistics for Science and Engineering
Covers sample spaces and probability; random variables and probability distributions; elements of statistical inference; and testing and estimation. Also addresses selected topics in multivariate distributions and introduces stochastic processes.

STAT 157 Statistical Computer Packages
A study of major statistical packages including SAS with the emphasizing advanced SAS programming. Topics include advanced graphical procedures, linear models (regression and analysis of variance), multivariate techniques, and SAS macros.

STAT 160A Elements of Probability and Statistical Theory
Topics include statistical regularity, probability spaces, fundamental theorems in discrete probability, Bayes' theorem, random variables, densities and distribution functions, and continuous distributions.

STAT 160B Elements of Probability and Statistical Theory
Topics include transformations of random variables and central limit theorem, distributions of sample statistics, statistical inference, and estimation.

STAT 160C Elements of Probability and Statistical Theory
Topics include hypothesis testing, chi-square tests, and nonparametric methods.

STAT 161 Introduction to Probability Models
Covers Compound distributions, branching processes. and random walk. Explores continuous time models such as Poisson process and queuing models. Examines the Markov property and introduces Markov chains. Also, covers simple time series models.

STAT 170A Regression Analysis
Topics include simple and multiple linear regression, scatter-plots, and point and interval estimation. Addresses prediction, testing, calibration, interpretation, and practical applications of multiple regression. Explores simple, partial, and multiple correlation; variable selection methods; diagnostic procedures; and regression for longitudinal data.

STAT 170B Design of Experiments
Topics include principles of design; completely randomized designs; and one-way analysis of variance. Covers complete block designs and two-way analysis of variance; multiple comparisons; and complete factorial experiments. Explores fixed, random, and mixed models; split-plot designs; nested designs; analysis of covariance; sample size determination; and power analysis.

STAT 171 General Statistical Models
Generalized linear models and least squares. Analysis of covariance, nonlinear regression, nonlinear least squares. Regression methods for discrete data: loglinear models, logistic regression, discriminant analysis. Regression methods for life data. Cox survival model, Kaplan-Meier estimation, Mantel-Haenszel test.

STAT 183 Statistical Consulting
Promotes consulting skills including developing effective communication skills, applying statistical methodology to client projects, and learning how to manage time and resources in a consulting environment.

University of California, San Diego (UCSD)

MATH 11. Calculus-Based Introductory Probability and Statistics
Events and probabilities, conditional probability, Bayes' formula. Discrete and continuous random variables: mean, variance; binomial, Poisson distributions, normal, uniform, exponential distributions, central limit theorem. Sample statistics, confidence intervals, hypothesis testing, regression. Applications. Introduction to software for probabilistic and statistical analysis. Emphasis on connections between probability and statistics, numerical results of real data, and techniques of data analysis.

MATH 181A. Introduction to Mathematical Statistics I
Multivariate distribution, functions of random variables, distributions related to normal. Parameter estimation, method of moments, maximum likelihood. Estimator accuracy and confidence intervals.

MATH 181B. Introduction to Mathematical Statistics II
Hypothesis testing. Linear models, regression, and analysis of variance. Goodness of fit tests. Nonparametric statistics.

MATH 181C. Mathematical Statistics—Nonparametric Statistics
Topics covered may include the following: classical rank test, rank correlations, permutation tests, distribution free testing, efficiency, confidence intervals, nonparametric regression and density estimation, resampling techniques (bootstrap, jackknife, etc.) and cross validations.

MATH 181E. Mathematical Statistics—Time Series
Analysis of trends and seasonal effects, autoregressive and moving averages models, forecasting, informal introduction to spectral analysis.

MATH 183. Statistical Methods
Introduction to probability. Discrete and continuous random variables–binomial, Poisson and Gaussian distributions. Central limit theorem. Data analysis and inferential statistics: graphical techniques, confidence intervals, hypothesis tests, curve fitting.

MATH 185. Introduction to Computational Statistics
Statistical analysis of data by means of package programs. Regression, analysis of variance, discriminant analysis, principal components, Monte Carlo simulation, and graphical methods. Emphasis will be on understanding the connections between statistical theory, numerical results, and analysis of real data.

PSYCH 60. Introduction to Statistics
This course provides an introduction to both descriptive and inferential statistics, core tools in the process of scientific discovery and the interpretation of research.

PSYCH 70. Research Methods in Psychology
This course provides an overview of how to choose appropriate research methods for experimental and non-experimental studies. Topics may include classic experimental design and counterbalancing, statistical power, and causal inference in experimental and non-experimental settings.

PSYCH 111A. Research Methods I
This course provides training in applying advanced statistical methods to experimental design. Emphasis will be placed on the developing skills in statistical problem-solving, using computer applications, and writing scientific reports.

PSYCH 111B. Research Methods II
This course builds upon the material of Psychology 111A. Students will participate in data collection, data organization, statistical analysis and graphical analysis, with emphasis placed on developing scientific report writing, presentations and critical thinking about experimental methods.

SOCI 60. The Practice of Social Research
This course introduces students to the fundamental principles of the design of social research. It examines the key varieties of evidence, sampling methods, logic of comparison, and causal reasoning researchers use in their study of social issues.

SOCI 102. Network Data and Methods
Social network analysts view society as a web of relationships rather than a mere aggregation of individuals. In this course, students will learn how to collect, analyze, and visualize social network data, as well as utilize these techniques to answer an original sociological research question.

SOCI 103M. Computer Applications to Data Management in Sociology
Develop skills in computer management and analysis of sociological data. Practical experience with data produced by sociological research. Students will develop competency in the analysis of sociological data, by extensive acquaintance with computer software used for data analysis and management (e.g., SPSS).

SOCI 104Q. Qualitative Interviewing
This course provides students with tools to conduct original research using qualitative interviews. Students will learn how to prepare, conduct, and analyze qualitative interviews. Special emphasis will be placed on the presentation of research in written form.

SOCI 108. Survey Research Design
Translation of research goals into a research design, including probability sampling, questionnaire construction, data collection (including interviewing techniques), data processing, coding, and preliminary tabulation of data. Statistical methods of analysis will be limited primarily to percentaging.

SOCI 109. Analysis of Sociological Data
Students test their own sociological research hypotheses using data from recent American and international social surveys and state-of-the-art computer software. Application of classical scientific method, interpretation of statistical results, and clear presentation of research findings.

USP 125. The Design of Social Research
Research methods are tools for improving knowledge. Beginning with a research question, students will learn to select appropriate methods for sampling, collecting, and analyzing data to improve their research activities and research results.

USP 129. Research Methods: Studying Racial and Ethnic Communities
(Same as ETHN 190.) The course offers students the basic research methods with which to study ethnic and racial communities. The various topics to be explored include human and physical geography, transportation, employment, economic structure, cultural values, housing, health, education, and intergroup relations.

USP 146. Research Methods for Built Environment and Active Living
This course examines urban design's effects on physical activity. In field experience settings, students will learn about survey, accelerometer, observation, and GIS methods. Quality control, use of protocols, relevance to all ages, and international applications will also be emphasized.

University of Southern California (USC)

ECON 317 Introduction to Statistics for Economists
Introduction to statistical methods appropriate for analyzing economic data: probability theory, random variables and probability distributions, sampling, estimation, statistical inference.

MATH 114gx Foundations of Statistics
An introduction to the basic tools of statistics. Descriptive statistics; probability; expected value; normal approximation sampling; chance models; tests of significance.

MATH 208x Elementary Probability and Statistics
Descriptive statistics, probability, discrete and continuous random variables, expectation and variance, sampling, Central Limit Theorem, estimation, hypothesis testing, correlation and regression. Emphasis on health science.

MATH 307 Statistical Inference and Data Analysis I
Probability, counting, independence, distributions, random variables, simulation, expectation, variance, covariance, transformations, law of large numbers, Central limit theorem, estimation, efficiency, maximum likelihood, Cramer-Rao bound, bootstrap.

MATH 308 Statistical Inference and Data Analysis II
Confidence intervals, hypothesis testing, pvalues, likelihood ratio, nonparametrics, descriptive statistics, regression, multiple linear regression, experimental design, analysis of variance, categorical data, chi-squared tests, Bayesian statistics.

MATH 408 Mathematical Statistics
Principles for testing hypotheses and estimation, confidence intervals, methods of moments, maximum likelihood, information inequality, likelihood ratio tests, goodness of fit and nonparametric methods.

PPD 303 Statistics for Policy, Planning, and Development
Statistical applications applied to the real world; techniques including probability, sampling; hypothesis formation and testing; correlation, and linear regression.

PSYC 274Lg Statistics
Introduction to the use of statistics in psychology: basic ideas in measurement; frequency distributions; descriptive statistics, concepts and procedures in statistical inference.

PSYC 314L Experimental Research Methods
Experimental research methods in psychology; nature and concepts of scientific method.

SOCI 314Lg Analyzing Social Statistics
Sociological measurement, univariate description, elementary correlation, introduction to statistical inference.

SOCI 313L Sociological Research Methods
Logic of theory construction, research design, elementary data collection and analysis.

SOCI 325 Applied Social Research Methods
Use quantitative or qualitative analysis skills to study major social issues using large existing survey data sets or qualitative methods. Become conversant in describing data to a variety of audiences.

West Los Angeles College (WLAC)

MATH 227 Statistics
This course discusses averages, variability, graphical techniques, probability, hypothesis testing, sampling, estimation, correlation, prediction, and linear regression. Topics include

collection and analysis of data and how inferences about a population are made from that sample.

Whittier College

CHDV 225 - Research Methods
This course will explore research methods used to study children and/or development. Students will learn experimental, quasi-experimental, ethnographic, observational, survey and single-subject methods. Students will write a research paper based on a study they conduct at Broadoaks.

ECON 205 - Intro to Quantitative Methods
This is a course in quantitative methods for economics. It covers basic mathematical, quantitative, computing and statistical tools for the study of economics. The emphasis in on economic applications. Successful completion of this course will provide you with an understanding of mathematical/statistical topics and techniques such as algebraic manipulation, simultaneous equations, optimization, descriptive statistics, probability theory, and regression analysis. This understanding will allow you to better apply mathematical and statistical techniques to economic problems.

MATH 080 - Elementary Statistics
Descriptive Statistics: descriptive measures, probability concepts, discrete random variables, normal distribution. Inferential Statistics: sampling distributions, confidence intervals, hypothesis testing, Chi-square procedures, linear regression. Emphasis on methodology rather than theory.

MATH 315 - Probability and Statistics
Continuous random variables and their probability distributions; marginal and conditional probability distributions; functions of random variables; the Central Limit theorem; estimations; the method of maximum likelihood hypothesis testing; power of tests; The Neyman-Pearson lemma regression; linear statistical models; method of least squares.

PSYC 212 - Research Methods
A qualitative and quantitative overview of psychological research including non-experimental and experimental methodology. Lecture and laboratory.

PSYC 214 – Statistics
Data analysis in the social sciences; analysis of distributions, central tendency, variability, correlation, and parametric and non-parametric statistical tests; use of SPSS program for statistical analysis.

SOC 214 – Statistics

Data analysis in the social sciences; analysis of distributions, central tendency, variability, correlation, and parametric and non-parametric statistical tests; use of computer packages including SPSS.

SOWK 310 - Approaches to Social Research

Techniques for basic and applied social research. Research skills will be developed in the complementary use of informant interviews, observations, surveys, and documents in addressing theoretical issues in the social sciences and practical applications in fields such as social work, health care delivery, law, and business.