CSUDH MSW PROGRAM
ELEMENTARY STATISTICS PREREQUISITE:
UNIVERSITIES & COMMUNITY COLLEGES
*Not all schools/programs/courses are indicated on this list*
(updated 5/31/2017)

CSU Dominguez Hills

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 Piagetian and information processing perspectives.
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<tr>
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<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>PSY 416</td>
<td>Research Seminar in Cognitive Psychology</td>
<td>Development of research skills in cognitive psychology, including conception, design and conduct of studies, analyzing, organizing and evaluating findings and communicating results.</td>
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<tr>
<td>PSY 417</td>
<td>Advanced Research Methods in Biological Psychology</td>
<td>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.</td>
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**CSU Long Beach**

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<tr>
<td>HDEV 190</td>
<td>Elementary Statistics in Social and Behavioral Sciences</td>
<td>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.</td>
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<tr>
<td>PSY 110</td>
<td>Introductory Statistics</td>
<td>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.</td>
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<tr>
<td>PSY 220</td>
<td>Research Methods</td>
<td>Introduction to basic research methods in Psychology. Principles of experimentation, naturalistic observation, correlational studies.</td>
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<tr>
<td>PSY 310</td>
<td>Intermediate Statistics</td>
<td>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.</td>
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<tr>
<td>PSY 329A</td>
<td>Advanced Research Methods in Mental Health</td>
<td>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.</td>
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<tr>
<td>PSY 329B</td>
<td>Advanced Research Methods in Mental Health</td>
<td>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.</td>
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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 (3)

STAT 410./510. Regression Analysis

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.

CSU Los Angeles

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 (Also listed as ECON 1090)
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.

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**CSU Northridge**

**MATH 140. Introductory Statistics**

**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.

CSU Fullerton

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.

**CSU San Bernardino**

**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. Formerly MATH 305.
MATH 262. Applied Statistics. 4 Units.
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.

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. Metropolis 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.

UC Irvine

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

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. Course may be offered online.
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. Course may be offered online.

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.

### UC Riverside

#### 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

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.

UC San Diego

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

MATH 181B. Introduction to Mathematical Statistics II

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

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 (4)**
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.

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**USC**

**MATH 114x 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 116 Mathematics for the Social Sciences**
Finite mathematics with application to the social sciences; elementary set theory and logic; counting techniques; probability; statistics; matrices and systems of linear equations. Selected topics.

**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, p-values, likelihood ratio, nonparametrics, descriptive statistics, regression, multiple linear regression, experimental design, analysis of variance, categorical data, chi-squared tests, Bayesian statistics.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPD 303</td>
<td>Statistics for Policy, Planning, and Development</td>
<td>Statistical applications applied to the real world; techniques including probability, sampling; hypothesis formation and testing; correlation, and linear regression.</td>
</tr>
<tr>
<td>PSYC 240gx</td>
<td>Scientific Inquiry and Reasoning in Health Care</td>
<td>Critical analysis and reasoning skills required to solve scientific problems in human behavior, including presentation of data, logic of research design, statistics, and research ethics.</td>
</tr>
<tr>
<td>PSYC 274Lg</td>
<td>Statistics</td>
<td>Introduction to the use of statistics in psychology: basic ideas in measurement; frequency distributions; descriptive statistics; concepts and procedures in statistical inference.</td>
</tr>
<tr>
<td>PSYC 314L</td>
<td>Research Methods</td>
<td>Experimental research methods in psychology; nature and concepts of scientific method.</td>
</tr>
<tr>
<td>PSYC 421L</td>
<td>Data Analysis for Psychological Research</td>
<td>Multivariate analysis emphasizing model estimation and testing; topics vary, e.g., multiple regression, logistic regression, factor analysis, multilevel linear modeling, structural equation modeling, multiway frequency analysis.</td>
</tr>
<tr>
<td>SOCI 313</td>
<td>Sociological Research Methods</td>
<td>Logic of theory construction, research design, elementary data collection and analysis.</td>
</tr>
<tr>
<td>SOCI 314</td>
<td>Analyzing Social Statistics</td>
<td>Sociological measurement, univariate description, elementary correlation, introduction to statistical inference.</td>
</tr>
</tbody>
</table>

**Loyola Marymount University**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>MATH 104</td>
<td>Elementary Statistics</td>
<td>Introduction to methods of inferential statistics, histograms, elementary probability, and random variables and distributions.</td>
</tr>
<tr>
<td>MATH 204</td>
<td>Applied Statistics</td>
<td>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.</td>
</tr>
<tr>
<td>PSYC 2001</td>
<td>Statistical Methods for Psychology</td>
<td>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.</td>
</tr>
</tbody>
</table>
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.

El Camino College

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.

Los Angeles Harbor College

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 Southwest College

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.
<table>
<thead>
<tr>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>West Los Angeles College</td>
<td>MATH 227</td>
<td>Statistics</td>
<td>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.</td>
</tr>
<tr>
<td>East Los Angeles College</td>
<td>Math 227</td>
<td>Statistics</td>
<td>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.</td>
</tr>
<tr>
<td>Psychology 91 Statistics for Psychology</td>
<td></td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Los Angeles City College</td>
<td>MATHEMATICS 227</td>
<td>Statistics</td>
<td>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.</td>
</tr>
<tr>
<td>Los Angeles Trade Tech</td>
<td>MATH 225</td>
<td>INTRODUCTORY STATISTICS</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>MATH 227</td>
<td>STATISTICS</td>
<td>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.</td>
</tr>
</tbody>
</table>
standard deviation. Given a distribution, determine the probability of an event. Perform correlation and linear regression analysis Quiz or test

### Long Beach City College

**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.

### 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.

### Santa Monica College

**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.

Glendale Community College

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.

Pasadena City College

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.

Rio Hondo College

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.
Mt. San Antonio College

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.

Golden West College

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.

Orange Coast College

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.

Santiago Canyon College

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.

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. Both courses in the sequence, MATH C046 and C146, must be taken to receive credit for college level statistics.
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.
Irvine Valley College

**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.
Los Angeles Pierce College

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.
### SOCIOLGY 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.

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### Los Angeles Mission College

**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.

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### Los Angeles Valley College

**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.

**SOCIOMETRY 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.