



PSYC 215 - Introduction to Statistics in Social and Behavioral Sciences

1. Discipline

PSYC Psychology

2. Catalog Description

This is an introduction to the basic statistical methods and analyses commonly used in behavioral and sociological research. Topics include: descriptive and inferential statistics including levels and types of measurement; measures of central tendency and dispersion; normal, t, and chi-square distributions; probability and hypothesis testing; measures of significance; regression and correlation; and, analysis of variance (ANOVA). Application of statistical software to social and behavioral science data required. Recommended preparation(s): VVC Psychology 101 or Sociology 101 and VVC English 101. CSU,UC

3. Schedule Description

This course is an introduction to basic univariate statistics commonly used in social and behavioral science research. Recommended preparation(s): VVC Psychology 101 or VVC Sociology 101 and VVC English 101. CSU,UC

4. Title 5 Category

- AA/AS Degree
- Distance Ed
- BA/BS Degree Applicable

CB22 Non-Credit Category

Y - Not Applicable, Credit course

5. Certificate and Degree Applicable

Athletics - Certificate of Achievement (Active)

California State University (CSU) General Education (GE) Requirements - Certificate of Achievement (Active)

Intersegmental General Education Transfer Curriculum (IGETC) - Certificate of Achievement (Active)

Kinesiology - Associate of Arts for Transfer (AA-T, ADT) (Active)
 Liberal Arts: Math/Science Emphasis (18594) - AA Associate of Arts (Active)
 Math/Science Major (4976) - AS Associate of Science (Active)
 Nutrition and Dietetics - Associate of Science for Transfer (AS-T, ADT) (Active)
 Pathway to Law - Certificate of Achievement (Active)
 Psychology - Associate of Arts for Transfer (AA-T, ADT) (Active)
 Social Justice Studies - Associate of Arts for Transfer (AA-T, ADT) (Active)
 Sociology - Associate of Arts for Transfer (AA-T, ADT) (Active)

6. Number of Units (Zero Units for non-credit courses)

3.00

7. Contact Hours per term

Hour Type	Units	Contact Hours (Total Semester Hours - Min)	Contact Hours (Total Semester Hours - Max)	Minimum Outside-Of-Class Hours	Minimum Outside-Of-Class Hours
Lecture Hours	3.0	48.0	54.0	96.0	144.0
Lab Hours	0.0	0.0	0.0	0.0	0.0
Field Work Hours	0.0	0.0	0.0	0.0	0.0
Total	3.0	48.0	54.0	96.0	144.0

8. Maximum Class Size

30

9. TOP Code

2001.00 - Psychology, General

11. Grading

Letter Grade Only (For Credit Courses Only)

12. Repeatability

This course is repeatable No

0X - No Repeats Allowed

This Course is necessary to meet the AA-T Degree mandates for the following disciplines: Anthropology, Administration of Justice, Child and Adolescent Development, Kinesiology, Nutrition and Dietetics, Political Science, Psychology, Sociology, and Social Justice.

14. Requisites

Prerequisite

Competency in intermediate algebra or completion of an intermediate algebra course with a grade of "C" or better.

Recommended Prep PSYC 101

Recommended Prep ENGL 101

Recommended Prep SOC 101

15. Instructional Objectives

1. Differentiate descriptive from inferential statistics and introduce the use of univariate statistics in research.

Requires Critical Thinking Yes

2. Define statistical terms, notation, concepts, and application of such.

Requires Critical Thinking Yes

3. Describe measures used to explain research data, central tendency, confidence intervals, and graphing strategies.

Requires Critical Thinking Yes

4. Introduce ethical considerations regarding the use and common misconceptions of statistics.

Requires Critical Thinking Yes

5. Explain sampling, compute probability, apply methods used to solve statistical problems in research, and evaluate the use of the normal curve.

Requires Critical Thinking Yes

6. Identify, introduce, explain, and evaluate hypothesis testing: Type I and II Errors, alternative and null hypothesis, tails of distribution, decision rules and alpha levels.

Requires Critical Thinking Yes

7. Introduce and explain the necessity of correlational design as related to social science research, the strengths and weaknesses of the design, and explain regression, computations, and coefficients.

Requires Critical Thinking Yes

8. Introduce and explain non-parametric, z-tests, F-tests, t-tests and explain free hand use of tables related to these tests.

Requires Critical Thinking Yes

9. Introduce and explain the data analysis software program(s) used for statistical analysis in health, behavioral, and social sciences research.

Requires Critical Thinking Yes

16. Student Learning Outcomes

1. **Organize and analyze health, behavioral, and social science data using univariate statistics.**
2. **Make a statistical inference by applying knowledge of hypothesis testing, correlation, regression, and estimation to health, behavioral science, and social science research.**
3. **Demonstrate an understanding of statistical software applied to health, behavioral, and social science data sets.**

17. Course Content

Introduction to Statistics
Scientific Method
Research Methodology and Designs (Experimental, Longitudinal, etc.)
Descriptive and Inferential Statistics
Organizing Data
measures of central tendency
measures of dispersion
estimation of parameters
hypothesis testing
Variables and Distribution
Distributions with Graphs
Distributions with Numbers
Normal Distributions
Relationships
Scatterplots and Correlation
Regression
Inference
Producing Data
Sampling
Experiments
Data Ethics
Probability and Sampling Distributions
Introduce Probability
Sampling Distributions
General Rules of Probability
Binomial Distributions
Introducing Inference
Basic Confidence Intervals
Basic Tests of significance
Inference About Variables
Quantitative Response Variable
Population Mean
Two-Sample Problems
Categorical Response Variables
Inference about population proportion
Comparing two proportions
Inference About Relationships (Correlations)
Chi-Square Test
Regression
Analysis of Variance (ANOVA)
Summation of Key Content (C-ID SOC 125 Descriptor)
Research design and role of statistics
Organizing data and measures of central tendency
Descriptive statistics for uni-variate distributions
Descriptive statistics for joint distributions
Statistical inference
Statistical Tests: one-way and factorial analysis of variances
Analysis of variance (ANOVA)
Correlation, regression, and nonparametric statistical analysis

18. Course Lab/Activity Content

NONE

19. Assignments

1. Required Reading Assignment

Sample

Reading assignments:

Textbook: Chapters that address Research Design and Methods, Organizing Data, Measures of Central Tendency, Descriptive Statistics for Uni-variate Distributions and joint Distributions, Statistical Inference, Statistical Tests and Analysis of Variance (ANOVA). Student Learning Outcomes 1,2
Scholarly Journal Articles: Research, read, interpret and report statistical findings of health, behavioral, and social science research studies.

When executing the above using computer technology the

Student Learning Outcomes are: 1,2,3

2. Required Writing or Performance Assignment

Sample

There will be a 2-3 page final project due at the end of the semester. This assignment will provide an opportunity for you to put into practice the statistical skills you learned over the course of the semester. You will analyze survey data collected outside of class and write up the results.

3. Required Out of Class Assignment

Sample

Tests, homework assignments, and papers involve either essays or problem solving exercises that require students to demonstrate their knowledge by explaining the process of the solution to a particular data acquisition problem or data analysis problem using appropriate terminology, methodology and techniques.

Student Learning Outcomes: 1,2

When Executing the above using statistical software the

Student Learning Outcome are: 1,2,3

20. Methods of Instruction

- Web Enhanced-full classroom w/online components
- Lecture
- Distance Education

Other No

21. Methods of Evaluation

Methods of Evaluation

- Exams/Tests/Quizzes
- Research Projects
- Written Assignments
- Oral Presentation
- Projects
- Simulation
- Class Participation
- Class Work
- Home Work

Other No

22. Text and Other Materials

Representative Textbook

1. **Author(s)** Leon-Guerrero, A. & Frankfort-Nachmias, C.

Title Essentials of Social Statistics for a Diverse Society

Edition Second (2e)

Publisher Sage

ISBN-13 9781483359

Year 2014

This textbook has no equivalent substitution. No

2. **Author(s)** Frankfort-Nachmias, C. & Leon-Guerrero, A.

Title Social Statistics for a Diverse Society

Edition seventh (7e)

Publisher Sage

Year 2014

This textbook has no equivalent substitution. No

3. **Author(s)** Nolan, S., Heinzein T.

Title Statistics for the Behavioral Sciences

Edition 3rd

Publisher Worth Publishers

Year 2014

This textbook has no equivalent substitution. No

4. **Author(s)** Heiman, G.W.

Title Behavioral Sciences STAT

Edition 2nd

Publisher Thomson Wadsworth

Year 2015

This textbook has no equivalent substitution. No

5. **Author(s)** Gravetter, F. & Wallnau, L

Title Statistics for The Behavioral Sciences

Edition 10th

Publisher Thomson Wadsworth

Year 2017

This textbook has no equivalent substitution. No

6. **Author(s)** Howell, D.,

Title Fundamental Statistics for the Behavioral Sciences

Edition 9th

Publisher Thomson Wadsworth

Year 2017

This textbook has no equivalent substitution. No

OER / Other Learning Materials

1. **Other**

Statistics Package for Social Sciences (SPSS) or Excel online tutorials.

23. Correspondence Education Addendum

Does (or will) this course have a Correspondence Education component? Yes

Course Prefix PSYC

Course Number 215

Course Name Introduction to Statistics in Social and Behavioral Sciences

2. Describe how the Methods of Instruction will be modified and/or replaced in the correspondence course.

- Instructors will have at least one (1) touchpoint with their students for every 10 "in-class" hours as detailed in the Course Outline of Record (COR)
- A "touchpoint" is a dissemination of instructional materials
- For each "touchpoint", instructors will send the Inmate Education Instruction Coordinator instructional materials for dissemination at least one week in advance
- Instructional Materials will include lecture materials to cover course content and assignments/assessments to check for understanding
- The Inmate Education Instruction Coordinator produces printed versions of the instructional materials for distribution
- Instructional materials are distributed to the facilities housing the enrolled student-inmates within one week of receipt from the instructor
- The Inmate Education Instruction Coordinator collects completed coursework for each "touchpoint"
- For courses with only one touchpoint, an acceptable interval between distribution and collection will be determined by the instructor
- The Onsite Program Supervisor distributes and collects work by course section and student inmate
- OTHER:

Regarding "The Inmate Education Instruction Coordinator produces printed versions of the instructional materials for distribution":

Dr. Wes Wilson has indicated to us that student-inmates WILL have access to computers. Therefore, the instructional materials may also be provided in electronic formats on DVDs, CDs, or USB drives. This is ESSENTIAL for PSYC-215, which REQUIRES that students analyze data using software. The student-inmates will need access to computers with statistical software (SPSS or jamovi) already installed. We have attached a document titled "Correspondence Ed PSYC QandA 09.22.22_WW" as evidence that the program DOES allow student-inmates to use computers and that instructors may provide instructional materials on DVD, CD, or USB drive as necessary.

5. List any special texts, equipment, or supplies needed for this course or sections of this course being offered through correspondence education:

- Correspondence courses in the Inmate Education Program utilize a paper/pencil packet format in lieu of technology
- Instructional materials packets are created by instructors and delivered to and picked up from the Onsite Program Supervisor for each touchpoint in the course
- OTHER:

Students taking PSYC-215 MUST have access to technology, including computing resources with word processing software AND statistical software such as jamovi or SPSS. It is also essential that student-inmates are allowed to access instructional materials on DVD, CD, or USB drive as necessary. Student-inmates may need to submit assignments using DVDs, CDs, or USB drives, too. We have attached a document titled "Correspondence Ed PSYC QandA 09.22.22_WW" as evidence that the program DOES allow student-inmates to use computers and that instructors may provide instructional materials on DVD, CD, or USB drive as necessary.

Technology, including Reprographics (please describe):

All instructors teaching for VVC should have equal access to technology, including Reprographics. Additionally, the Inmate Education Program should provide FREE envelopes, boxes, and postage to

instructors so that they can carry out the duties of this position. The Psychology Department recruits and hires instructors who live locally as well as instructors who live outside of the area (more than 2 hours away by car). If an instructor is unable to utilize the resources on the VVC campus because they live too far away, adjustments will have to be made by the Inmate Education Program to enable the instructor to prepare and receive assignment packets. Instructor safety and privacy needs to be secured with access to a mailbox on the VVC campus. Instructors who live outside of the area may need alternatives to protect their safety and privacy.

Student Support Services (please describe):

Students should have access to library resources, counseling, tutoring services, and wellness services if needed.

24. Distance Education

Does (or will) this course have a DE component? Yes

Delivery Method(s) - Check all that apply

FULLY ONLINE (FO) (also known as "100% online") – Instruction involving regular and effective online interaction that takes place synchronously or asynchronously and is supported by online materials and activities delivered through the college's learning management system, and through the use of other required materials. All approved instructional contact hours are delivered through these online interactions. Fully online classes do not require in-person assessments or activities. If synchronous online activities are required, the schedule of classes indicates dates and times.

Yes

PARTIALLY ONLINE (PO) (also known "hybrid") – Instruction involving regular and effective online interaction for -any portion of the approved contact hours that takes place synchronously or asynchronously and is supported by materials and activities delivered in person and online through the college's learning management system, and through the use of other required materials. Any portion of a class that is delivered online must follow a separate approval process. The approved online portion must meet the regular and effective contact regulation. The schedule of classes indicates dates, times and locations of the required in-person components.

Yes

25. Library Resources

The Library has sufficient resources presently available to support this course. Yes

The Library resources are sufficient to offer this course but new materials should be added to improve and update the holdings in this subject area.

No

The Library's resources are not presently adequate to support the teaching of this course.

Accordingly, it is recommended that the items listed below be purchased prior to the first offering of this course.

No

26. Dates

Board of Trustees: 01/11/2023

Effective: 01/24/2023

CC Approval: 11/12/2022

27. Proposed Start Date

Summer 2023

30. Attached Files

Correspondence Ed PSYC QandA 09.22.22_WW.pdf (/Form/Course/_DownloadFile/7617/4415?fileId=1075)