

**GENERAL STUDIES COURSE PROPOSAL COVER FORM**

**Course information:**

Copy and paste **current** course information from [Class Search/Course Catalog](#).

College/School College of Integrative Sciences and Arts Department/School Social Science  
 Prefix: ISS Number: 401 Title: Statistics for Integrated Social Science Units: 3

Course description: **Statistical techniques for the social sciences, including the role and rationale of statistics, descriptive measures, associational measures and inferential statistics.**

Is this a cross-listed course? No If yes, please identify course(s): \_\_\_\_\_

Is this a shared course? No If so, list all academic units offering this course: \_\_\_\_\_

*Note- For courses that are crosslisted and/or shared, a letter of support from the chair/director of **each** department that offers the course is required for **each** designation requested. By submitting this letter of support, the chair/director agrees to ensure that all faculty teaching the course are aware of the General Studies designation(s) and will teach the course in a manner that meets the criteria for each approved designation.*

Is this a permanent-numbered course with topics? No

If yes, all topics under this permanent-numbered course must be taught in a manner that meets the criteria for the approved designation(s). It is the responsibility of the chair/director to ensure that all faculty teaching the course are aware of the General Studies designation(s) and adhere to the above guidelines. \_\_\_\_\_ (Required)

**Requested designation:** Mathematical Studies–CS **Mandatory Review:** No

*Note- a **separate** proposal is required for each designation.*

**Eligibility:** Permanent numbered courses **must** have completed the university’s review and approval process. For the rules governing approval of omnibus courses, contact [Phyllis.Lucie@asu.edu](mailto:Phyllis.Lucie@asu.edu).

**Submission deadlines dates are as follow:**

For Fall 2018 Effective Date: **October 1, 2017**

For Spring 2019 Effective Date: **March 10, 2018**

**Area(s) proposed course will serve:**

A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study.

**Checklists for general studies designations:**

Complete and attach the appropriate checklist

- [Literacy and Critical Inquiry core courses \(L\)](#)
- [Mathematics core courses \(MA\)](#)
- [Computer/statistics/quantitative applications core courses \(CS\)](#)
- [Humanities, Arts and Design core courses \(HU\)](#)
- [Social-Behavioral Sciences core courses \(SB\)](#)
- [Natural Sciences core courses \(SQ/SG\)](#)
- [Cultural Diversity in the United States courses \(C\)](#)
- [Global Awareness courses \(G\)](#)
- [Historical Awareness courses \(H\)](#)

**A complete proposal should include:**

- Signed course proposal cover form
- [Criteria checklist](#) for General Studies designation being requested
- Course catalog description
- Sample syllabus for the course
- Copy of table of contents from the textbook and list of required readings/books

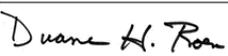
**It is respectfully requested that proposals are submitted electronically with all files compiled into one PDF.**

**Contact information:**

Name Nicholas Alozie E-mail Alozie@asu.edu Phone 480-727-1395

**Department Chair/Director approval: (Required)**

Chair/Director name (Typed): Duane Roen Date: 3/19/18

Chair/Director (Signature): 

## Arizona State University Criteria Checklist for

### **MATHEMATICAL STUDIES [CS]**

#### **Rationale and Objectives**

The **Mathematical Studies** requirement is intended to ensure that students have skill in basic mathematics, can use mathematical analysis in their chosen fields, and can understand how computers can make mathematical analysis more powerful and efficient. The **Mathematical Studies** requirement is completed by satisfying both the **Mathematics [MA]** requirement and the **Computer/Statistics/Quantitative Applications [CS]** requirement explained below.

The **Mathematics [MA]** requirement, which ensures the acquisition of essential skill in basic mathematics, requires the student to complete a course in College Mathematics, College Algebra, or Pre-calculus; or demonstrate a higher level of skill by completing a mathematics course for which a course in the above three categories is a prerequisite.

The **Computer/Statistics/Quantitative Applications [CS]** requirement, which ensures skill in real world problem solving and analysis, requires the student to complete a course that uses some combination of computers, statistics, and/or mathematics.\* Computer usage is encouraged but not required in statistics and quantitative applications courses. At a minimum, such courses should include multiple demonstrations of how computers can be used to perform the analyses more efficiently.

\*CS does *not* stand for computer science in this context; the “S” stands for statistics. Courses in computer science must meet the criteria stated for CS courses.

Revised April 2014

Proposer: Please complete the following section and attach appropriate documentation.

<b>ASU--[CS] CRITERIA</b>			
<b>A COMPUTER/STATISTICS/QUANTITATIVE APPLICATIONS [CS] COURSE MUST SATISFY ONE OF THE FOLLOWING CRITERIA: 1, 2, OR 3</b>			
YES	NO		Identify Documentation Submitted
		<b>1. Computer applications*:</b> courses must satisfy both <b>a</b> and <b>b</b> :	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>a.</b> Course involves the use of computer programming languages or software programs for quantitative analysis, algorithmic design, modeling, simulation, animation, or statistics.	Syllabus, Text Table of Contents, Course Map
		<b>b.</b> Course requires students to analyze and implement procedures that are applicable to at least one of the following problem domains ( <b>check those applicable</b> ):	Syllabus, Text Table of Contents, Course Map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	i. Spreadsheet analysis, systems analysis and design, and decision support systems.	Syllabus, Text Table of Contents, Course Map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	ii. Graphic/artistic design using computers.	Syllabus, Text Table of Contents, Course Map
<input type="checkbox"/>	<input checked="" type="checkbox"/>	iii. Music design using computer software.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	iv. Modeling, making extensive use of computer simulation.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	v. Statistics studies stressing the use of computer software.	Syllabus, Text Table of Contents, Course Map
<input type="checkbox"/>	<input checked="" type="checkbox"/>	vi. Algorithmic design and computational thinking.	
<p>*The <b>computer applications</b> requirement <b>cannot</b> be satisfied by a course, the content of which is restricted primarily to word processing or report preparation skills, the study of the social impact of computers, or methodologies to select software packages for specific applications. Courses that emphasize the use of a computer software package are acceptable only if students are required to understand, at an appropriate level, the theoretical principles embodied in the operation of the software and are required to construct, test, and implement procedures that use the software to accomplish tasks in the applicable problem domains. Courses that involve the learning of a computer programming language are acceptable only if they also include a substantial introduction to applications to one of the listed problem domains.</p>			

YES	NO		Identify Documentation Submitted
		<b>2. Statistical applications:</b> courses must satisfy <b>a, b,</b> and <b>c.</b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>a.</b> Course has a minimum mathematical prerequisite of College Mathematics, College Algebra, or Pre-calculus, or a course already approved as satisfying the MA requirement.	Syllabus: Satisfaction of the MA requirement is a prerequisite for registering in the course
		<b>b.</b> The course must be focused principally on developing knowledge in statistical inference and include coverage of all of the following:	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	i. Design of a statistical study.	Syllabus, Text Table of Contents, Course Map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	ii. Summarization and interpretation of data.	Syllabus, Text Table of Contents, Course Map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	iii. Methods of sampling.	Syllabus, Text Table of Contents, Course Map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	iv. Standard probability models.	Syllabus, Text Table of Contents, Course Map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	v. Statistical estimation	Syllabus, Text Table of Contents, Course Map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	vi. Hypothesis testing.	Syllabus, Text Table of Contents, Course Map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	vii. Regression or correlation analysis.	Syllabus, Text Table of Contents, Course Map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>c.</b> The course must include multiple demonstrations of how computers can be used to perform statistical analysis more efficiently, if use of computers to carry out the analysis is not required.	Syllabus, Text Table of Contents, Course Map

YES	NO		Identify Documentation Submitted
		<b>3. Quantitative applications:</b> courses must satisfy <b>a, b, and c:</b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>a.</b> Course has a minimum mathematical prerequisite of College Mathematics, College Algebra, or Pre-calculus, or a course already approved as satisfying the MA requirement.	Syllabus
		<b>b.</b> The course must be focused principally on the use of mathematical models in quantitative analysis and decision making. Examples of such models are:	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	i. Linear programming.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	ii. Goal programming.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	iii. Integer programming.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	iv. Inventory models.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	v. Decision theory.	Syllabus, Text Table of Contents, Course Map. Analysis of data, inference, and prediction are a major part of the course
<input type="checkbox"/>	<input checked="" type="checkbox"/>	vi. Simulation and Monte Carlo methods.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	vii. Other (explanation must be attached).	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>c.</b> The course must include multiple demonstrations of how computers can be used to perform the above applications more efficiently, if use of computers is not required by students.	Syllabus, Text Table of Contents, Course Map. SPSS is used as computer software

Course Prefix	Number	Title	General Studies Designation
ISS	401	Statistics in Integrative Social Studies	

Explain in detail which student activities correspond to the **specific** designation criteria. Please use the following organizer to explain how the criteria are being met.

Criteria (from checklist)	How course meets spirit (contextualize specific examples in next column)	Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)
<p>1a. Course involves the use of computer programming languages or software programs for quantitative analysis, algorithmic design, modeling, simulation, animation or statistics.</p> <p>1b. Course requires students to analyze and implement procedures that are applicable to at least one of the following domains:</p> <p>i. Spreadsheet analysis, systems analysis and design, and decision support systems.</p> <p>ii. Graphic/artistic design using computers</p> <p>v. Statistics studies stressing the use of computer software.</p>	<p>ISS 401 is a basic Statistics course, including the underpinnings of research and statistics, descriptive statistics, inferential statistics, hypothesis testing. ISS 401 emphasizes the interpretation of statistics and the uses of statistics in the students' studies, professional lives, and personal lives. Use of SPSS is required.</p>	<p>Course Goals:</p> <ol style="list-style-type: none"> <li>To develop the student's statistical literacy.</li> <li>To train the student in descriptive, inferential, and applied statistics.</li> <li>To educate the student to perform statistical analysis correctly.</li> <li>To train the student to determine if a statistical analysis was performed correctly by others (i.e., is the statistical analysis credible).</li> <li>To educate the student on the correct statistical techniques to use for various research projects.</li> <li>To train the student to use the SPSS computer inter-phase (data entry, data analysis, graphs, etc).</li> <li>To develop the student's ability to communicate the implications of statistical analysis to others.</li> <li>To develop the student's ability to make recommendations based on the correct application and interpretation of statistical analysis.</li> </ol> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> <li>To integrate properly conducted and properly analyzed statistical analysis into social science, economics, political science, and philosophy studies and their related professions.</li> <li>To integrate statistical analysis of social-behavioral variables into social science, economics, political science, and philosophy studies.</li> <li>To assess the social scientific impact of findings of research on economic, political, and technological interactions.</li> <li>To understand, apply, and interpret basic descriptive, inferential, and applied statistical procedures in academic and professional contexts.</li> <li>To select appropriate basic statistical procedures for each situation and to use them correctly.</li> <li>To interpret statistical results accurately and communicate those results in terms which are meaningful to others.</li> <li>To appreciate the manner in which variables such as productivity, biodiversity, race, gender,</li> </ol>

		<p>age, educational achievement, and income inform problems and shape decisions.</p> <p>8. To model the effect of variables on each other.</p> <p>9. To apply statistical inference to predict the long range consequences of present decisions.</p> <p>10. To recommend decisions based on correct statistical procedures, analysis, and results.</p> <p>11. To interpret a computer-generated print-out of statistical results.</p> <p>12. To determine the credibility of statistical analyses performed by others and to communicate accurately the efficacy or challenges of those statistical analyses.</p> <p>13. To conduct ethical statistical research and to communicate the results ethically.</p> <p>14. To use computers for SPSS statistical manipulation, including data entry, data analysis, graphs, charts, etc.</p> <p>15. To interpret and communicate accurately SPSS computer-generated results.</p> <p>Additionally, learning goals for each section of the text are posted in the Course website.</p> <p>Each Course lecture has a "The Least You Should Know" section.</p> <p>Units covered:</p> <ol style="list-style-type: none"> <li>1. Introduction to Statistics.</li> <li>2. Examining Data: Tables and Figures.</li> <li>3. Measures of Central Tendency.</li> <li>4. Measures of Variability.</li> <li>5. Normal Distributions.</li> <li>6. Probability and Introduction to Hypothesis Testing.</li> <li>7. Testing One Sample Means.</li> <li>8. Estimating the Mean of a Population.</li> <li>9. Testing the Difference between Two Means.</li> <li>10. Errors in Hypothesis Testing, Statistical Power, and Effect Size.</li> <li>11. Correlation and Linear Regression.</li> <li>12. Chi-Square.</li> </ol> <p>Course Map:</p> <p>Orientation / Introduction.</p> <p>Introductions.</p> <p>Syllabus.</p> <p>Course website.</p> <p>Welcome information.</p> <p>Technology.</p> <p>Introduction to Statistics.</p> <p>SPSS.</p> <p>Mathematics review.</p> <p>Unit 1</p> <p>Introduction.</p> <p>Scientific Method; reasoning.</p> <p>Stages of the research process.</p> <p>Research hypothesis.</p>
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		<p>Data collection.          Sampling.          “Support” vs “prove.”          Descriptive statistics vs inferential statistics.          Variable.          Dependent and independent variables.          Unit of analysis.          Positive and negative relationship.          Nominal, ordinal, interval, ratio levels of measurement.          Unit 2          Visual and numerical approaches.          Tables and figures; charts and graphs.          Frequency distribution.          Frequency table.          n and f.          Describing distributions: modality, symmetry, and variability.          Skewness.          Normal curve.          Unit 3          Mean, median, mode.          Function of mean, median, mode.          Strengths and weaknesses of each measure of central tendency.          Measures of central tendency and level of measurement.          Skew identification.          Unit 4          Data’s dispersion or “spread.”          Range.          Interquartile range.          Variance.          Mean deviation.          Standard deviation.          Conceptual and computational formulae (variance and standard deviation).          Use of each measure of dispersion.          Strengths and weaknesses of each measure of dispersion.          Unit 5          Normal distribution.          Normal curve.          Percent of scores in various portions of normal curve.          z-scores.          Using the standard normal table.          Comparing scores using z-scores.          Standardized frequency distribution.          Use of standardized frequency distribution.          Unit 6          Probability.          Addition rule.          Probability and standard normal curve.          Sampling error.          Binomial distributions.</p>
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		<p>Steps of hypothesis testing.  Null hypothesis.  Research (alternative) hypothesis.  Test statistic.  Region of rejection; region of non-rejection.  Critical value.  Drawing conclusions.  Issues of hypothesis testing.  Factors that affect decision: sample size, alpha, directionality.  Researchers' decisions and results of research.  Reporting results.</p> <p>Unit 7  Hypothesis testing and inferential statistics.  One sample compared to a population.  Sampling distribution of the mean.  Central Limit Theorem.  Law of Large Numbers.  Statistical significance.  Critical region.  z-test.  t-test.  Steps in significance testing.  Test statistic.  Degrees of freedom.  Critical value.  Factors that affect decision: sample size, alpha, directionality.  Stating conclusions.  Errors in tests of significance.</p> <p>Unit 8  Developing and interpreting confidence intervals.  Estimation of population mean and standard deviation.  Estimation procedures.  Point estimate.  Confidence interval.  t-statistic and confidence intervals.  z-score and confidence intervals.  Level of significance.  Estimating a sample size from a confidence interval.</p> <p>Unit 9  Difference between two sample means, unrelated (independent).  Difference between two sample mean, related (paired dependent means).  Sampling distributions.  Sampling distribution of the means.  Unequal sample sizes.  Independent samples t-test.  When to use independent samples t-test.  Dependent samples t-test.  When to use dependent samples t-test.</p> <p>Unit 10  Decision errors.</p>
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		<p>Type I errors.                  Type II errors.                  Relationship between Type I and Type II errors.                  Statistical power.                  Effect size.                  Cohen's d.                  Difference between statistical significance and research significance.</p> <p>Unit 11                  Correlation.                  Variance.                  Co-variance.                  Linear vs non-linear relationships.                  Positive vs negative relationships.                  Pearson correlation coefficient (r).                  Spearman's rho.                  Correlation vs causation.                  Analytic techniques and levels of measurement.                  Regression.                  Prediction using regression.                  Difference between correlation and regression.</p> <p>Unit 12                  Chi-square test for goodness-of-fit.                  Chi-square test for independence.                  Parametric tests.                  Non-parametric tests.                  Using chi-square.                  Chi-square and the relationship between two variables.                  Limitations of chi-square.                  Percentaging in a contingency table.</p> <p>Text:                  The text is Tokunaga (2016), Fundamental Statistics for the Social and Behavioral Sciences. It is a solid social science statistics text. Two of the strengths of the text are its use of SPSS (integrated throughout) and its inclusion of graphs and figures that serve as visualizations of difficult concepts. The description of the Tokunaga (2016) text is "this thematically-based textbook places statistics within the research process, illustrating how statistics are used to answer questions and test ideas. Featuring accessible writing and well-integrated research examples, the book is designed to help readers develop an appreciation of how statistics are applied to topics and questions of interest, gain an appreciation of issues related to the use of statistics, and enhance their understanding of the research process and the role of statistics within it" (Sage Publishers September 2017 catalogue, p. 47).</p> <p>All 14 course lectures, which were written specifically for this course, are designed to explain difficult concepts of basic statistics. Twelve of the</p>
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		<p>14 lectures correspond to the chapter topics in the text; the other two lectures are a general introduction to statistics and a review of the course. Lectures also contain practical comments on using and interpreting statistics correctly. Students are encouraged to look around them for examples that will serve as case studies. Current case studies are posted during the Semester as they become available and during relevant units. Each lecture ends with “The Least You Should Know” to assist students with gauging their mastery of the concepts in each unit.</p> <p>Lecture Topics:          Lecture 0. What Is Statistics Anyway?          Lecture 1. Introduction to Statistics.          Lecture 2. Examining Data: Tables and Figures.          Lecture 3. Measures of Central Tendency.          Lecture 4. Measures of Variability.          Lecture 5. Normal Distributions.          Lecture 6. Probability and Introduction to Hypothesis Testing.          Lecture 7. Testing One Sample Means.          Lecture 8. Estimating the Mean of a Population.          Lecture 9. Testing the Difference between Two Means.          Lecture 10. Errors in Hypothesis Testing, Statistical Power, and Effect Size.          Lecture 11. Correlation and Linear Regression.          Lecture 12. Chi-Square.          Lecture 13: Review.</p> <p>SPSS Exercises:          SPSS usage is required, either as a download from ASU, or using SPSS at ASU through Citrix. General SPSS tutorials are recommended. Specific SPSS tutorials with detailed instructions are included in the Tokunaga (2016) text. Students have 12 specific SPSS assignments as noted below. The assignments include placing each exercise in its research context, choosing the correct test, entering and manipulating data, analyzing the results in terms of the research study, drawing conclusions, and reporting results and conclusions. SPSS assignments are approximately 30 percent of the course grade.</p> <p>Specific required SPSS assignments, by course unit cover:          Introductory assignment (downloading SPSS or accessing SPSS through Citrix at ASU, tutorials, downloading to data sets).          2. Creating data files: defining variables and entering data; examining data: frequency distribution: The Lottery Study.</p>
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		<p>4. Calculating measures of central tendency and variability: The Frequency Rating Study. 7. Testing one sample means: The Unique Invulnerability Study. 8. Calculating the confidence interval for the mean: The Salary Survey Study. 9. Testing the difference between two sample means: The Parking Lot Study. 9. Testing the difference between paired means: The Web-Based Intervention Study. 11. Pearson correlation: The First Impression Study. 11. Linear regression: The First Impression Study. 11. Spearman rank-order correlation: The Business Student Study. 12. Chi-square goodness-of-fit test--equal hypothesized proportions: The Personality Study. 12. Chi-square goodness-of-fit test--unequal hypothesized proportions: The Personality Study. 12. Chi-square test of independence: The Color Preference Study.</p> <p>Sage Edge: Sage Publishers has multimedia presentations geared specifically toward the Tokunaga (2016) text. The presentations offer further clarification, explanation, and enrichment of statistical concepts in the text. Some of the presentations demonstrate the use of statistics in research and everyday life.</p> <p>Case Studies: Information highlighting the use of Statistics is posted as it becomes available during the Semester. For example, a study in which one writer used Statistics to reveal what makes great writing (published in the Smithsonian Magazine in 2017) was posted for students.</p> <p>Quizzes: There are six substantive quizzes that reinforce the use of computers for calculations and interpretation. The quizzes also indicate where students have gaps in knowledge of statistics that need to be addressed individually. Covered in the quizzes, by quiz number: 1. Introduction to Statistics. Examining Data: Tables and Figures. 2. Measures of Central Tendency. Measures of Variability. 3. Normal Distributions. Probability and Introduction to Hypothesis Testing. 4. Testing One Sample Means. Estimating the Mean of a Population. 5. Testing the Difference between Two Means. Errors in Hypothesis Testing, Statistical Power, and Effect Size.</p>
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		6. Correlation and Linear Regression. Chi-Square.
<p>2a. Course has a minimum mathematical prerequisite of College Mathematics, College Algebra, or Pre-Calculus, or a course already approved as satisfying the MA requirement.</p> <p>2b. The course is focused principally on developing knowledge in statistical inference and include coverage of: design of a statistical study, summarization and interpretation of data, methods of sampling, standard probability models, statistical estimation, hypothesis testing, and regression or correlation analysis.</p> <p>2c. The course includes multiple demonstrations of how computers can be used to perform statistical analysis more efficiently, if use of computers to carry out the analysis is not required.</p>	<p>ISS 401 includes some basics of research methods, and emphasizes descriptive statistics, inferential statistics, hypothesis testing, display of data, drawing conclusions based on calculated statistics.</p>	<p>Prerequisite: MA General Studies requirement satisfied. Additionally, to ensure that students are prepared for the mathematics, the Tokunaga (2016) text includes a review of necessary mathematics; the mathematics review is required.</p> <p>Course Goals:</p> <ol style="list-style-type: none"> <li>1. To develop the student’s statistical literacy.</li> <li>2. To train the student in descriptive, inferential, and applied statistics.</li> <li>3. To educate the student to perform statistical analysis correctly.</li> <li>5. To educate the student on the correct statistical techniques to use for various research projects.</li> </ol> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> <li>1. To integrate properly conducted and properly analyzed statistical analysis into social science, economics, political science, and philosophy studies and their related professions.</li> <li>2. To integrate statistical analysis of social-behavioral variables into social science, economics, political science, and philosophy studies.</li> <li>3. To assess the social scientific impact of findings of research on economic, political, and technological interactions.</li> <li>4. To understand, apply, and interpret basic descriptive, inferential, and applied statistical procedures in academic and professional contexts.</li> <li>5. To select appropriate basic statistical procedures for each situation and to use them correctly.</li> <li>6. To interpret statistical results accurately and communicate those results in terms which are meaningful to others.</li> <li>7. To appreciate the manner in which variables such as productivity, biodiversity, race, gender, age, educational achievement, and income inform problems and shape decisions.</li> <li>8. To model the effect of variables on each other.</li> <li>9. To apply statistical inference to predict the long range consequences of present decisions.</li> <li>10. To recommend decisions based on correct statistical procedures, analysis, and results.</li> </ol>

		<p>11. To interpret a computer-generated print-out of statistical results.</p> <p>12. To determine the credibility of statistical analyses performed by others and to communicate accurately the efficacy or challenges of those statistical analyses.</p> <p>13. To conduct ethical statistical research and to communicate the results ethically.</p> <p>14. To use SPSS for statistical manipulation.</p> <p>15. To interpret and communicate accurately SPSS computer-generated results.</p> <p>Topics covered:</p> <ol style="list-style-type: none"> <li>1. Introduction to Statistics.</li> <li>2. Examining Data: Tables and Figures.</li> <li>3. Measures of Central Tendency.</li> <li>4. Measures of Variability.</li> <li>5. Normal Distributions.</li> <li>6. Probability and Introduction to Hypothesis Testing.</li> <li>7. Testing One Sample Means.</li> <li>8. Estimating the Mean of a Population.</li> <li>9. Testing the Difference between Two Means.</li> <li>10. Errors in Hypothesis Testing, Statistical Power, and Effect Size.</li> <li>11. Correlation and Linear Regression.</li> <li>12. Chi-Square.</li> </ol> <p>SPSS Exercises:</p> <p>SPSS usage is required, either as a download from ASU, or using SPSS at ASU through Citrix. General SPSS tutorials are recommended. Specific SPSS tutorials with detailed instructions are included in the Tokunaga (2016) text. Students have 12 specific SPSS assignments as noted below. The assignments include placing each exercise in its research context, choosing the correct test, entering and manipulating data, analyzing the results in terms of the research study, drawing conclusions, and reporting results and conclusions.</p> <p>Specific required SPSS assignments, listed by course unit, cover:</p> <p>Introduction: downloading SPSS or accessing SPSS through Citrix at ASU, completing SPSS tutorials, downloading data sets for Tokunaga (2016) text, submitting assignments through Safe Assignments links.</p> <ol style="list-style-type: none"> <li>2. Creating data files: defining variables and entering data; examining data: frequency distribution: The Lottery Study.</li> <li>4. Calculating measures of central tendency and variability: The Frequency Rating Study.</li> <li>7. Testing one sample means: The Unique Invulnerability Study.</li> </ol>
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		<p>Lectures also contain practical comments on using and interpreting statistics correctly. Students are encouraged to look around them for examples that will serve as case studies.</p> <p>Case Studies: Information highlighting the use of Statistics is posted as it becomes available during the Semester. For example, a study in which one writer used Statistics to reveal what makes great writing (published in the Smithsonian Magazine) was posted for students to consider.</p> <p>Quizzes: There are six substantive quizzes that reinforce the use of computers for calculations and interpretation. The quizzes also indicate where students have gaps in knowledge of statistics that need to be addressed individually. Covered in the quizzes, by quiz number: 1. Introduction to Statistics. Examining Data: Tables and Figures. 2. Measures of Central Tendency. Measures of Variability. 3. Normal Distributions. Probability and Introduction to Hypothesis Testing. 4. Testing One Sample Means. Estimating the Mean of a Population. 5. Testing the Difference between Two Means. Errors in Hypothesis Testing, Statistical Power, and Effect Size. 6. Correlation and Linear Regression. Chi-Square.</p>
<p>3a. Course has a minimum mathematical prerequisite of College Mathematics, College Algebra, or Pre-Calculus, or a course already approved as satisfying the MA requirement.</p> <p>3b. The course is focused principally on the use of mathematical models in quantitative analysis and decision making. Examples of such models are: Decision theory.</p> <p>3c. The course includes multiple demonstrations of how computers can be</p>	<p>Computers are used to calculate and graph descriptive and inferential statistics. The text emphasizes the use of SPSS. Understanding and interpreting calculated statistics is encouraged; applied statistics are highlighted.</p>	<p>Prerequisite: MA General Studies requirement satisfied. Additionally, to ensure that students are prepared for the mathematics, the Tokunaga (2016) text includes a review of necessary mathematics; the mathematics review is required.</p> <p>Course Goals: 4. To train the student to determine if a statistical analysis was performed correctly by others (i.e., is the statistical analysis credible). 5. To educate the student on the correct statistical techniques to use for various research projects. 6. To train the student to use SPSS and to interpret SPSS output. 7. To develop the student's ability to communicate the implications of statistical analysis to others. 8. To develop the student's ability to make recommendations based on the correct application and interpretation of statistical analysis.</p> <p>Learning Outcomes:</p>

<p>used to perform the applications more efficiently, if use of computers is not required by students.</p>		<ol style="list-style-type: none"> <li>1. To integrate properly conducted and properly analyzed statistical analysis into social science, economics, political science, and philosophy studies and their related professions.</li> <li>2. To integrate statistical analysis of social-behavioral variables into social science, economics, political science, and philosophy studies.</li> <li>3. To assess the social scientific impact of findings of research on economic, political, and technological interactions.</li> <li>4. To understand, apply, and interpret basic descriptive, inferential, and applied statistical procedures in academic and professional contexts.</li> <li>5. To select appropriate basic statistical procedures for each situation and to use them correctly.</li> <li>6. To interpret statistical results accurately and communicate those results in terms which are meaningful to others.</li> <li>7. To appreciate the manner in which variables such as productivity, biodiversity, race, gender, age, educational achievement, and income inform problems and shape decisions.</li> <li>8. To model the effect of variables on each other.</li> <li>9. To apply statistical inference to predict the long range consequences of present decisions.</li> <li>10. To recommend decisions based on correct statistical procedures, analysis, and results.</li> <li>11. To interpret a computer-generated print-out of statistical results.</li> <li>12. To determine the credibility of statistical analyses performed by others and to communicate accurately the efficacy or challenges of those statistical analyses.</li> <li>13. To conduct ethical statistical research and to communicate the results ethically.</li> <li>14. To use SPSS for statistical manipulation.</li> <li>15. To interpret and communicate accurately SPSS computer-generated results.</li> </ol> <p>Units:</p> <ol style="list-style-type: none"> <li>1. How We Reason; Levels of Measurement; Forms of Data.</li> <li>5. Constructing and Interpreting Contingency Tables.</li> <li>6. Introduction to Statistical Inference.</li> <li>7. Probability Distribution and the "Normal Curve."</li> <li>8. Tests of Significance: z Test.</li> <li>9. Tests of Significance: t Test.</li> <li>10. Measuring Association in Contingency Tables.</li> <li>11. Chi Square.</li> <li>12. Correlation and Regression Analysis.</li> </ol> <p>Text:</p>
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		<p>The text is Tokunaga (2016), Fundamental Statistics for the Social and Behavioral Sciences. It is designed to be a solid social science statistics text. Two of the strengths of the text are its use of SPSS (integrated throughout) and its inclusion of graphs and figures that serve as visualizations of difficult concepts.</p> <p>The description of the Tokunaga (2016) text is "this thematically-based textbook places statistics within the research process, illustrating how statistics are used to answer questions and test ideas. Featuring accessible writing and well-integrated research examples, the book is designed to help readers develop an appreciation of how statistics are applied to topics and questions of interest, gain an appreciation of issues related to the use of statistics, and enhance their understanding of the research process and the role of statistics within it" (Sage Publishers September 2017 catalogue, p. 47).</p> <p>SPSS Exercises:          SPSS usage is required, either as a download from ASU, or using SPSS at ASU through Citrix. General SPSS tutorials are recommended. Specific SPSS tutorials with detailed instructions are included in the Tokunaga (2016) text. Students have 12 specific SPSS assignments as noted below. The assignments include placing each exercise in its research context, choosing the correct test, entering and manipulating data, analyzing the results in terms of the research study, drawing conclusions, and reporting results and conclusions. Specific required SPSS assignments, listed by course unit, cover:</p> <p>Introduction: downloading SPSS or accessing SPSS through Citrix at ASU, completing SPSS tutorials, downloading data sets for Tokunaga (2016) text, submitting assignments through Safe Assignments links.</p> <p>2. Creating data files: defining variables and entering data; examining data: frequency distribution: The Lottery Study.</p> <p>4. Calculating measures of central tendency and variability: The Frequency Rating Study.</p> <p>7. Testing one sample means: The Unique Invulnerability Study.</p> <p>8. Calculating the confidence interval for the mean: The Salary Survey Study.</p> <p>9. Testing the difference between two sample means: The Parking Lot Study.</p> <p>9. Testing the difference between paired means: The Web-Based Intervention Study.</p> <p>11. Pearson correlation: The First Impression Study.</p> <p>11. Linear regression: The First Impression Study.</p>
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		<p>11. Spearman rank-order correlation: The Business Student Study.</p> <p>12. Chi-square goodness-of-fit test--equal hypothesized proportions: The Personality Study.</p> <p>12. Chi-square goodness-of-fit test--unequal hypothesized proportions: The Personality Study.</p> <p>12. Chi-square test of independence: The Color Preference Study.</p> <p>Quizzes:</p> <p>There are six substantive quizzes that reinforce the use of computers for calculations and interpretation. The quizzes also indicate where students have gaps in knowledge of statistics that need to be addressed individually. Covered in the quizzes, by quiz number:</p> <ol style="list-style-type: none"> <li>1. Introduction to Statistics. Examining Data: Tables and Figures.</li> <li>2. Measures of Central Tendency. Measures of Variability.</li> <li>3. Normal Distributions. Probability and Introduction to Hypothesis Testing.</li> <li>4. Testing One Sample Means. Estimating the Mean of a Population.</li> <li>5. Testing the Difference between Two Means. Errors in Hypothesis Testing, Statistical Power, and Effect Size.</li> <li>6. Correlation and Linear Regression. Chi-Square.</li> </ol>

# Syllabus

Arizona State University at the Polytechnic Campus  
College of Integrative Sciences and Arts  
Faculty of Social Science

## ISS 401 STATISTICS

Spring 2018 – A Session  
Schedule Line Number:  
General Studies Sought: CS

Venue: Online  
Meeting Dates: 1/8/2018 – 2/27/2018  
Class Format: Lecture  
Prerequisite: MA general studies requirement satisfied

**Professor: Dr. Sara Moya**  
Tel.: (480) 991-1906 home  
E-Mail: sdmoya@asu.edu  
Office Hours: Telephonic. 480-991-1906  
Between 7 AM and 5 PM MST, please  
Arranged through email

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**This course is offered by the College of Integrative Sciences and Arts. For more information about the College, visit our website: <https://cisa.asu.edu/>. If you have questions or concerns, please send your inquiry to [cisa@asu.edu](mailto:cisa@asu.edu).**

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### Introduction

This online course is designed to provide students with a working set of basic statistical tools, focusing on description, inference, applied statistical techniques, and the use of computers in performing analyses more efficiently. It is practically impossible to perform any form of statistical operation today without the use of computers. Thus, a major aspect of the course is the use of computers in data manipulation. The course deals primarily with (1) descriptive statistics (summarizing and describing the major characteristics of collected data); (2) inferential statistics (making predictions or drawing inferences about the likelihood that relationships between variables within the data set also exist beyond the data actually collected); (3) applied statistical techniques (using analytic tools); and computer applications. The course is designed to help students appreciate, interpret, use, and integrate statistics within their academic disciplines and professional activities.

### Catalogue Description

Introduces statistical techniques for the social sciences, including the role and rationale of statistics, descriptive measures, associational measures and inferential statistics.

### **Pre-requisite**

MA General Studies requirement satisfied.

### **Online Course**

This is an online course. There are no face-to-face meetings.

### **Course Goals**

1. To develop the student's statistical literacy.
2. To train the student in descriptive, inferential, and applied statistics.
3. To educate the student to perform statistical analysis correctly.
4. To train the student to determine if a statistical analysis was performed correctly by others (i.e., is the statistical analysis credible).
5. To educate the student on the correct statistical techniques to use for various research projects.
6. To train the student to use the SPSS computer interface and interpret SPSS computer outputs.
7. To develop the student's ability to communicate the implications of statistical analysis to others.
8. To develop the student's ability to make recommendations based on the correct application and interpretation of statistical analysis.

### **Learning Outcomes**

By the end of this course, each student will have demonstrated that they are able to:

1. To integrate properly conducted and properly analyzed statistical analysis into social science, economics, political science, and philosophy studies and their related professions.
2. To integrate statistical analysis of social-behavioral variables into social science, economics, political science, and philosophy studies.
3. To assess the social scientific impact of findings of research on economic, political, and technological interactions.
4. To understand, apply, and interpret basic descriptive, inferential, and applied statistical procedures in academic and professional contexts.
5. To select appropriate basic statistical procedures for each situation and to use them correctly.

6. To interpret statistical results accurately and communicate those results in terms which are meaningful to others.
7. To appreciate the manner in which variables such as productivity, biodiversity, race, gender, age, educational achievement, and income inform problems and shape decisions.
8. To model the effect of variables on each other.
9. To apply statistical inference to predict the long range consequences of present decisions.
10. To recommend decisions based on correct statistical procedures, analysis, and results.
11. To interpret a computer-generated print-out of statistical results.
12. To determine the credibility of statistical analyses performed by others and to communicate accurately the efficacy or challenges of those statistical analyses.
13. To conduct ethical statistical research and to communicate the results ethically.
14. To use SPSS for statistical manipulation.
15. To interpret and communicate accurately an SPSS computer-generated results.

### **Required Materials**

#### **Required Text and Lecture**

Howard T. Tokunaga (2016), *Fundamental Statistics for the Social and Behavioral Sciences*, Thousand Oaks: Sage. ISBN: 978-1-4833-1879-0. Available from the ASU Polytechnic Bookstore, Sage Publishers, or your favorite online bookseller.

SPSS (Statistical Package for the Social Sciences), Version 23 or 24. Available for PCs or MACs, free, from ASU. To download SPSS, click on the SPSS tab in the left-hand menu of the course website and follow the directions there. You also can run SPSS without downloading the program, through ASU using Citrix. To run SPSS through ASU, click on the SPSS tab and follow the directions there.

SPSS Data Files for Tokunaga (2016). Available free through Sage Edge. Go to [sagepub.com](http://sagepub.com), search for your Tokunaga (2016) text, click experience with Sage Edge, click student resources, click SPSS Data Files at the top of the left-hand menu, and download the files.

Sara D. Moya (2018), Lectures for *Statistics*. Available in PowerPoint on Course website.

Your required online class lectures are supplemental to your required text. The online class lectures clarify your text, explain material, and present some statistical concepts. Please ensure that you read your text *and* the online class lecture for each unit. Both your text and the online lectures are required.

Please note that Sage Edge provides supplemental enrichment for the Tokunaga (2016) text. If you have difficulty with a statistical concept after reading your text and lecture, you should check Sage Edge for additional information. You also can email questions to me.

Please note that you do not need calculus to be successful in *Statistics*. You do need basic mathematics. Your course focuses on concepts, interpretations, and implications of statistical results rather than on mathematics; we will use SPSS for many of our calculations. However, you are responsible for understanding the concepts in the computations and the inputs to the computations. You will do some calculations.

### **Recommended Calculator**

A calculator will help with your calculations. A relatively simple calculator should be sufficient.

### **Required Technology**

This course requires a computer with Internet access and the following:

- Web browsers ([Chrome](#), [Internet Explorer](#), [Mozilla Firefox](#), or [Safari](#)).
- [Adobe Acrobat Reader](#) (free).
- [Adobe Flash Player](#) (free).
- Microphone (optional) and speaker.
- PowerPoint or PowerPoint-compatible software.
- Word or Word-compatible software.
- SPSS.

ASU recommends using Firefox or Chrome as browsers. Both are available free online.

- <https://www.mozilla.org/en-US/firefox/new/>
- [www.google.com/chrome](http://www.google.com/chrome)

### **Blackboard Software**

*Statistics* uses ASU's version of Blackboard to deliver content. Blackboard can be accessed through MyASU at <http://my.asu.edu> or the Blackboard home page at <https://myasucourses.asu.edu>.

Blackboard was last upgraded in May 2017. It is imperative to your success in *Statistics* that you are familiar with the current version of Blackboard. Please log into Blackboard at <http://myasucourses.asu.edu> and take the Blackboard tutorials at

<https://en-us.help.blackboard.com/learn/student>

Part of your responsibilities in *Statistics* are facility with the ASU computing system (myASU and Blackboard, among others) and software used in the Course (SPSS, PowerPoint, Word, and Excel,

among others) as well as the functioning of your computer hardware, software, connectivity, and internet reliability. Therefore, it is to your advantage that you take the tutorials listed above.

To be successful in *Statistics*, you must be able to open and read course materials; access, complete, and submit coursework; review feedback on your graded assignments; and monitor your grades.

To monitor the status of campus networks and services, visit the System Health Portal at <http://syshealth.asu.edu/>.

To view information about online security at ASU, go to <http://getprotected.asu.edu> .

To contact the help desk call toll-free at 1-855-278-5080 or locally 480-965-6500. Alternatively you can use the "help" tabs or Technical Support tab in the Course Home website.

Additional information on ASU's computing resources is available in the Appendices and on the course website.

## **Course Requirements and Grading**

This is an upper-division Statistics course. You will complete the full curriculum of a traditional 15-week semester in seven-and-a-half weeks. The pace of the Course is accelerated.

Your assignments are summarized immediately below and detailed in the Weekly Schedule section below. You also will find details of your assignments under the Syllabus, Course Calendar, and Weekly Schedule tabs on the Course website.

1. Orientation Assignments - due on **Friday**, January 12, 2018. Your orientation assignments are designed to familiarize you with the course syllabus, ensure email communication, and detail expectations of you and of your instructor. Read your syllabus. Refer to the Welcome and Start Here tab, the Assignments tab, or the Weekly Schedule section below.
2. Text and lecture assignments – due each week. Your text and lecture assignments are detailed in the Weekly Schedule section below, and under the Syllabus, Course Calendar, and Weekly Schedule tabs in the Course website. You will have access to most lectures and assignments at the beginning of the Semester. Your lectures will remain posted for the rest of the Semester.
3. Weekly quizzes - due each week, by 11:59 PM MST on **Wednesday**. Your quizzes are available now and will remain available until their due date and time, when access to the quiz will close. The quiz schedule is detailed below in the Weekly Schedule section and under the Syllabus, Course Calendar, and Weekly Schedule tabs in the Course website. Quizzes are timed; you will have two hours to complete the quiz from the time you begin. Please allow yourself sufficient time to complete each quiz before its due date.
4. SPSS assignments – due by 11:59 PM MST on the same **Wednesday** as the unit to which each SPSS assignment relates. Not all units have SPSS assignments; some units have more than one SPSS assignment. Your SPSS assignments are available now. SPSS assignments are detailed below in the

Weekly Schedule section and under the Syllabus, Course Calendar, and Weekly Schedule tabs in the Course website. The SPSS tab in the Course website contains details on acquiring and using SPSS. Please note that the last two units in *Statistics* have a total of six required SPSS assignments; please plan your time accordingly.

5. Final examination - due **Tuesday**, February 27, 2018 at 11:59 PM MST. The final is a two-part, full-length examination that covers the entire course. Each part of the final is timed; you will have three hours to complete each part of the final from the time you begin each part of the finals. Please allow yourself sufficient time to complete final before its due date. Your final is posted in two parts, allowing you to take a break during your final. Please be sure to complete both parts of your final. You may complete either part of the final first; both parts cover the entire semester. Because grades are due shortly after the end of the Semester, there is no extension on the final examination. Please plan your schedule accordingly.

6. General assignments - due at the beginning and end of the Semester. The first assignment is designed to orient you to the Course and Statistics. The second assignment is designed to ensure that you have mastered the statistical concepts covered in the Course and to provide a review guide for your final. The orientation assignments are awarded points toward your grade. The review assignment is not awarded points toward your grade. You can find the assignments referenced in the Weekly Schedule section, referenced under the Course Calendar tab in the left-hand menu of the Course home page, listed under the Weekly Schedule tab, and under the Assignments, Syllabus, Course Calendar, and Weekly Schedule tabs in the Course website. Additional assignments may be added during the Semester, depending on the educational needs of students. If additional assignments are required, you will be notified through a Course Announcement; you will have at least a week to complete any added assignments.

### **Course Time Commitment**

This upper-division, three-credit course requires approximately 135 hours of work. Please expect to spend around 18 hours each week preparing for and actively participating in this course.

### **Distribution of Points**

Assignment	Points
Orientation Assignments	100
Syllabus Quiz = 25 points	
Introductory Email = 25 points	
Get SPSS = 25 points	
Math Review = 25 points	
Weekly Quizzes	600
Each Quiz = approximately 100 points	
SPSS Assignments	600
Each Assignment = approximately 50 points	
Final	600
Each Part = approximately 300 points	
<b>Total</b>	<b>1900</b>

Grades demonstrate that you have mastered the course material. If you are having problems in *Statistics*, please do not let them slide until the end of class. The cumulative nature of our *Statistics* course means that if you are unclear about a concept, you likely will be unclear about the follow-on concepts.

There are no extra credit opportunities.

### **Anticipated Grading Scale**

A+ = 98-100%	B+ = 85-89.9	C+ = 70-74.9	D = 60-64.9
A = 95-97.9	B = 80-84.9	C = 65-69.9	E = 0-59.9
A- = 90-94.9	B- = 75-79.9		

Please note that to pass *Statistics*, you must demonstrate **competency in both statistical concepts and SPSS**. To pass *Statistics*, you must earn at least 65 percent on (1) the substantive quizzes and the final; **and** (2) the SPSS assignments. Calculation of your Course grade will be based on your combined overall scores earned on quizzes, final, SPSS assignments, and orientation assignments; however, you will receive a C or better only if you earn at least 65 percent on quizzes/final and SPSS assignments.

### **Late or Missed Assignments**

Notify the instructor BEFORE an assignment is due if an urgent situation arises and the assignment will not be submitted on time. Published assignment due dates (Arizona Mountain Standard time) are firm. Please follow the appropriate University policies to request an [accommodation for religious practices](#) or to accommodate a missed assignment [due to University-sanctioned activities](#).

You have your assignments and course materials before the start of class; you have at least a week for completing your coursework. Consequently, late coursework is not accepted.

### **Technical Issues**

Your responsibilities in the Course include, but are not limited to, adequate computer skills, and a reliable computer and internet access. Nonetheless, technical issues can happen. You may complete coursework two times if you experience technical difficulties with Blackboard, your computer, or your computer connection *if* you contact technical support to get a ticket number *and* also email me immediately describing your difficulty, including your ticket number. Coursework related to technical problems must be requested *and* submitted within 48 hours of the original due date and time. There will be no penalty for two technical issues. A third technical issue will have 10 percent deducted from your score earned on that work. Chronic technical issues are not acceptable.

Please note that technical-issue finals must be requested *and* submitted within one day of the original due date and time of the final. Because grades are due shortly after the due date and time of your finals, there can be no extension beyond the 24-hour period.

## **Grading Procedure**

Grades reflect your performance on assignments and adherence to deadlines. Graded assignments should be available for review under the My Grades tab within 48 hours of the due date. At the beginning and end of the Semester, grades may take more than 48 hours because of the large volume of material to be graded.

## **Criteria for Grading**

Your Course grade will be based on the points you earn on quizzes, on the final, on SPSS assignments, and on the introductory assignments, less any point deductions. To pass *Statistics*, you must demonstrate competency in both statistical concepts and SPSS; in other words, you must earn at least 65 percent on (1) the substantive quizzes and the final, *and* (2) the SPSS assignments.

The quizzes and final are composed of questions that test your understanding of statistical concepts, calculations, and explanations. Most quiz and final questions are multiple-choice; some quiz and final questions are true-false. Your responses to multiple-choice and true-false questions are either correct or incorrect. If you disagree with the correct response to a multiple-choice or true-false question, please *email me directly* and include your reasoning. On quizzes, questions generally are worth five points each. On the final, questions generally are worth eight points each.

SPSS assignments are graded on four components: (1) SPSS use; (2) analysis of results; (3) context; and (4) complete and timely submission. SPSS assignments are worth 50 points each; partial credit is possible. Details on grading criteria and examples of responses are included with each SPSS assignment.

Your score on introductory assignments depends upon timely, accurate, and full completion of each assignment. Introductory assignments are worth 25 points each; partial credit is possible.

Point reductions for excessive technical issues reduce your raw score earned.

## **Reviewing Graded Materials**

You will be able to review your quizzes, final, and assignments approximately *two days after their due dates*. To review a graded item, go to your My Grades tab and click on the item you wish to review. Feedback on each of your responses is provided.

## **Submitting Assignments**

All assignments, unless otherwise announced, **MUST** be submitted to the designated area of Blackboard. Do not submit an assignment via email.

You will have access to each quiz and final website once. If you experience computer or connectivity difficulties, please contact ASU technical support and obtain a ticket number. Then please email me immediately at [sdmoya@asu.edu](mailto:sdmoya@asu.edu), including your ticket number in your email to me.

Please allow sufficient time to complete each quiz and final *before* its due date and time. A timer will be set for each quiz and for your final. You have two hours from the time you begin for each weekly quiz and three hours for each part of the final.

### **Sensitivity Warning**

Please note that some individuals may consider some of the content of this Course to be “sensitive.” Sensitive subjects may include, but are not limited to, demographic variables; individual opinions; discussion comments; war; death; health; disabilities; criminal justice; reproduction; religion; ethics; political research; cultural and ethnic traditions; social, economic, and environmental equity; and various forms of diversity.

The classroom environment must create the kind of civility required to treat these subjects. Please feel free to discuss these matters as they come up. We are constantly aware of the line between excessive political correctness and the kind of sanitization that makes it difficult to confront sensitive subjects adequately in a learning environment.

If, at any time, you are uncomfortable with any aspect of the course, please bring that information to the attention of the instructor. We are an online learning community of adults. If you have concerns about the appropriateness of Course content or discussion board postings, please email me directly at [sdmoya@asu.edu](mailto:sdmoya@asu.edu) .

### **Syllabus Disclaimer**

The syllabus is a statement of intent and serves as an agreement among the instructor, the student, and Arizona State University. If you disagree with any of the content of the syllabus, please notify your instructor immediately giving the part(s) of the syllabus with which you do not agree and your reason(s).

Every effort will be made to avoid changing the Course schedule, but the possibility exists that unforeseen events will make syllabus changes necessary. Please remember to check your ASU email and the Course website often. If changes are made to the Course schedule, you will be notified through a Course announcement posted on the Course website.

## Weekly Schedule

**PLEASE NOTE:** Course units (units) and chapters in your Tokunaga (2016) text (chapters) *generally* correspond directly. We move through the text in order. Two chapters are not assigned (chapters 11 and 12); you are not responsible for the material in those two chapters.

Each lecture corresponds directly to each unit, by number and title.

You are responsible for the information in the text *and* in the lectures.

Substantive quizzes cover two units each quiz. Each part of the final covers the entire Semester. You will have access to each quiz and to each part of the final one time; please plan accordingly.

SPSS assignments fall disproportionately into the last weeks of the Semester. Please plan accordingly.

### **Course Contract**

Please be aware that your professor views the Syllabus, including the Course Calendar, as an educational contract among the instructor, student, and ASU. Every effort will be made to avoid changing the course schedule, but the possibility exists that unforeseen events will make Syllabus changes necessary. The professor reserves the right to make changes to the Syllabus as deemed necessary. Students will be notified in a timely manner of any Syllabus changes through Blackboard's Course Announcements. Please check your Course Announcements at least daily during the Semester.

Please confirm in your introductory email that you have read and understood the Syllabus. Your introductory email and the Syllabus Quiz provide you opportunities to ask your questions about the Course, its requirements, or the Syllabus. Also, in your email, please indicate whether you accept the Syllabus; if you do not accept the Syllabus, include your reason(s). Your introductory assignments are due by 11:59 PM MST January 12, 2018.

**All times in the Syllabus are Mountain Standard Time (MST).**

**Friday, January 5, 2018: Access to Course Website**

**CLASS DATES:**

**Beginning Monday, January 8, 2018; graded coursework due FRIDAY, January 12, 2018 at 11:59 PM MST**

### **Course Orientation: Course Organization**

- Ensure that you have access to the course website; familiarize yourself with its contents; and confirm your ability to open and read course materials (lectures are posted in PowerPoint).
- Check your computer hardware, computer software, connectivity, and your knowledge of the ASU computing systems, including Blackboard, to ensure readiness for an online course.

- Review the ASU Academic Success and Tutorials by 11:59 PM MST, January 12, 2018; the corresponding quizzes are optional. This Course complies with the policies contained in the ASU Academic Success Tutorials.
- Complete the Syllabus Quiz (Quiz 0-Orientation) by 11:59 PM MST, January 12, 2018.
- Complete Assignment 1 (introductory email) by 11:59 PM MST, January 12, 2018. Assignment 1 covers the introductory email.

### **Course Orientation: Introduction to Statistics**

- Read the Introduction to Statistics lecture by 11:59 PM MST January 12, 2018.
- Complete the mathematics review (Tokunaga, 2016:A-1 through A-18) by 11:59 PM MST, January 12, 2018.
- Download SPSS Version 23 and review the instructions for using SPSS by 11:59 PM MST January 12, 2018.
  - Basic SPSS Tutorials  
<https://www.spss-tutorials.com/basics/>
  - Ultimate SPSS Tutorials (basic and more advanced)  
<https://www.spss-tutorials.com/>
- Ensure that you have access to the data files at Sage Edge.
  - Sage Edge Website  
<https://edge.sagepub.com/tokunaga>

**Beginning January 10, 2018; graded coursework due January 17, 2018 at 11:59 PM MST**

### **Unit 1: Introduction to Statistics**

- Read Chapter 1 in Tokunaga (2016).
- Read Lecture 1.
- Complete Quiz 1 by 11:59 PM MST, January 17, 2018. Quiz 1 covers Units 1 and 2.

### **Unit 2: Examining Data: Tables and Figures**

- Read Chapter 2 in Tokunaga (2016).
- Read Lecture 2.
- Complete SPSS homework for Unit 2 by 11:59 PM MST, January 17, 2018.
- Complete Quiz 1 by 11:59 PM MST, January 17, 2018. Quiz 1 covers Units 1 and 2.

**Beginning January 17, 2018; graded coursework due January 24, 2018 at 11:59 PM MST**

### **Unit 3: Measures of Central Tendency**

- Read Chapter 3 in Tokunaga (2016).

- Read Lecture 3.
- Complete Quiz 2 by 11:59 PM MST, January 24, 2018. Quiz 2 covers Units 3 and 4.

**Unit 4: Measures of Variability (Dispersion)**

- Read Chapter 4 in Tokunaga (2016).
- Read Lecture 4.
- Complete SPSS homework for Unit 4 by 11:59 PM MST, January 24, 2018.
- Complete Quiz 2 by 11:59 PM MST, January 24, 2018. Quiz 2 covers Units 3 and 4.

**Beginning January 24, 2018; graded coursework due January 31, 2018 at 11:59 PM MST**

**Unit 5: Normal Distributions**

- Read Chapter 5 in Tokunaga (2016).
- Read Lecture 5.
- Complete Quiz 3 by 11:59 PM MST, January 31, 2018. Quiz 3 covers Units 5 and 6.

**Unit 6: Probability and Introduction to Hypothesis Testing**

- Read Chapter 6 in Tokunaga (2016).
- Read Lecture 6.
- Complete Quiz 3 by 11:59 PM MST, January 31, 2018. Quiz 3 covers Units 5 and 6.

**Beginning January 31, 2018; graded coursework due February 7, 2018 at 11:59 PM MST**

**Unit 7: Testing One-Sample Means**

- Read Chapter 7 in Tokunaga (2016).
- Read Lecture 7.
- Complete Quiz 4 by 11:59 PM MST, February 7, 2018. Quiz 4 covers Units 7 and 8.

**Unit 8: Estimating the Mean of a Population**

- Read Chapter 8 in Tokunaga (2016).
- Read Lecture 8.
- Complete SPSS homework for Unit 8 by 11:59 PM MST, February 7, 2018.
- Complete Quiz 4 by February 7, 2018. Quiz 4 covers Units 7 and 8.

**Beginning February 7, 2018; graded coursework due February 14, 2018 at 11:59 PM MST**

**Unit 9: Testing the Difference between Two Means**

- Read Chapter 9 in Tokunaga (2016).
- Read Lecture 9.

- Complete both SPSS homework assignments for Unit 9 by 11:59 PM MST, February 14, 2018.
- Complete Quiz 5 by 11:59 PM MST, February 14, 2018. Quiz 5 covers Units 9 and 10.

**Unit 10: Errors in Hypothesis Testing, Statistical Power, and Effect Size**

- Read Chapter 10 in Tokunaga (2016).
- Read Lecture 10.
- Complete Quiz 5 by 11:59 PM MST, February 14, 2018. Quiz 5 covers Units 9 and 10.

**Beginning February 14, 2018; graded coursework due February 21, 2018 at 11:59 PM MST**

**Unit 11: Correlation and Linear Regression**

- Read Chapter 13 in Tokunaga (2016).
- Read Lecture 11.
- Complete both SPSS homework assignments for Unit 11 by 11:59 PM MST, February 21, 2018.
- Complete Quiz 6 by 11:59 PM MST, February 21, 2018. Quiz 6 covers Units 11 and 12.

**Unit 12: Chi-Square**

- Read Chapter 14 in Tokunaga (2016).
- Read Lecture 12.
- Complete all three SPSS homework assignments for Unit 12 by 11:59 PM MST, February 21, 2018.
- Complete Quiz 6 by 11:59 PM MST, February 21, 2018. Quiz 6 covers Units 11 and 12.

**Beginning February 21, 2018; graded coursework due TUESDAY, February 27, 2018 at 11:59 PM MST**

**Unit 13: Review**

- Read Lecture 13.
- Review for your Final.
- Complete homework for your Final by 11:59 PM MST, TUESDAY, February 27, 2018.
- Complete *both* parts of your Final Exam by 11:59 PM MST, TUESDAY, February 27, 2018. The final covers the entire course. Your Final has two parts. Please be sure to complete both parts.
- Complete Assignment 2 by 11:59 PM MST, TUESDAY, February 27, 2018. Assignment 2 relates to Unit 13, Review.

**COURSE MAP**  
**ISS 401, STATISTICS IN INTEGRATIVE SOCIAL SCIENCE**  
**TEXT: HOWARD T. TONKUNAGA (2016)**

<p><b>Week 1</b> Begin Monday, Jan 8, 2018</p>	<p>Due Friday, Jan 12, 2018</p>	
<p>Assign first day of class; due Friday or Monday after class starts</p> <p><b>Syllabus Quiz</b>  <b>Introductory Email</b>  <b>Get SPSS and Files</b>  Math Review  Sage Edge SPSS Files  Academic Success Tutorials</p>	<p>Organization and Introduction</p>	<p><b>Orientation / Introduction</b>  Introductions  Syllabus  Course website  Welcome information  Technology  Introduction to Statistics  SPSS  Mathematics review</p>
<p><b>Week 2</b> Begin Wed, Jan 10</p>	<p>Due Wed, Jan 17</p>	
<p>Assign first Wednesday; due second Wednesday</p> <p><b>Quiz 1 (Units 1 &amp; 2)</b>  <b>SPSS:</b> Chapter 2:  Examining Data: Tables and Figures: Lottery Study</p>	<p><b>Unit 1:</b>  Introduction to Statistics (Chapter 1)</p> <p><b>Unit 2:</b>  Examining Data: Tables and Figures (Chapter 2)</p>	<p><b>Unit 1</b>  Introduction  Scientific Method  Stages of the research process  Research hypothesis  Data collection  Sampling  “Support” vs “prove”  Descriptive statistics vs inferential statistics  Variable  Dependent and independent variables  Unit of analysis  Positive and negative relationship  Nominal, ordinal, interval, ratio levels of measurement</p> <p><b>Unit 2</b>  Visual and numerical approaches  Tables and figures; charts and graphs  Frequency distribution  Frequency table  n and f  Describing distributions: modality, symmetry, and variability</p>

		Skewness Normal curve
<b>Week 3</b> Begin Wed, Jan 17	Due Wed, Jan 24	
Assign second Wednesday; due third Wednesday  <b>Quiz 2 (Units 3 &amp; 4)</b> <b>SPSS:</b> Chapter 4: Measures of Variability: Frequency Rating Study	<b>Unit 3:</b> Measures of Central Tendency (Chapter 3)  <b>Unit 4:</b> Measures of Variability (Chapter 4)	<b>Unit 3</b> Mean, median, mode Function of mean, median, mode Strengths and weaknesses of each measure of central tendency Measures of central tendency and level of measurement Skew identification  <b>Unit 4</b> Data's dispersion or "spread" Range Interquartile range Variance Mean deviation Standard deviation Conceptual and computational formulae (variance and standard deviation) Use of each measure of dispersion Strengths and weaknesses of each measure of dispersion
<b>Week 4</b> Begin Wed, Jan 24	Due Wed, Jan 31	
Assign third Wednesday; due fourth Wednesday  <b>Quiz 3 (Units 5 &amp; 6)</b>	<b>Unit 5:</b> Normal Distributions (Chapter 5)  <b>Unit 6:</b> Probability and Introduction to Hypothesis Testing (Chapter 6)	<b>Unit 5</b> Normal distribution Normal curve Percent of scores in various portions of normal curve z-scores Using the standard normal table Comparing scores using z- scores Standardized frequency distribution Use of standardized frequency distribution  <b>Unit 6</b>

		Probability Addition rule Probability and standard normal curve Sampling error Binomial distributions Steps of hypothesis testing Null hypothesis Research (alternative) hypothesis Test statistic Region of rejection; region of non-rejection Critical value Drawing conclusions Issues of hypothesis testing Factors that affect decision: sample size, alpha, directionality Researchers' decisions and results of research Reporting results
<b>Week 5</b> Begin Wed, Jan 31	Due Wed, Feb 7	
Assign fourth Wednesday; due fifth Wednesday  <b>Quiz 4 (Units 7 &amp; 8)</b> <b>SPSS:</b> Chapter 7: Testing One Sample Mean ( $\sigma$ Not Known): The Unique <b>Invulnerability Study</b> <b>SPSS:</b> Chapter 8: Calculating the Confidence Interval for the Mean: The Salary Survey Study	<b>Unit 7:</b> Testing One-Sample Means (Chapter 7)  <b>Unit 8:</b> Estimating the Mean of a Population (Chapter 8)	<b>Unit 7</b> Hypothesis testing and inferential statistics One sample compared to a population Sampling distribution of the mean Central Limit Theorem Law of Large Numbers Statistical significance Critical region z-test t-test Steps in significance testing Test statistic Degrees of freedom Critical value Factors that affect decision: sample size, alpha, directionality Stating conclusions Errors in tests of significance  <b>Unit 8</b>

		Developing and interpreting confidence intervals Estimation of population mean and standard deviation Estimation procedures Point estimate Confidence interval t-statistic and confidence intervals z-score and confidence intervals Level of significance Estimating a sample size from a confidence interval
<b>Week 6</b> Begin Wed, Feb 7	Due Wed, Feb 14	
Assign fifth Wednesday; due sixth Wednesday  <b>Quiz 5 (Units 9 &amp; 10)</b> <b>SPSS:</b> Chapter 9: Testing the Difference between Two Sample Means: The Parking Lot Study <b>SPSS:</b> Chapter 9: Testing the Difference between Paired Means: The Web-Based Intervention Study	<b>Unit 9:</b> Testing the Difference between Two Means (Chapter 9)  <b>Unit 10:</b> Errors in Hypothesis Testing, Statistical Power, and Effect Size (Chapter 10)	<b>Unit 9</b> Difference between two sample means, unrelated (independent) Difference between two sample mean, related (paired dependent means) Sampling distributions Sampling distribution of the means Unequal sample sizes Independent samples t-test When to use independent samples t-test Dependent samples t-test When to use dependent samples t-test  <b>Unit 10</b> Decision errors Type I errors Type II errors Relationship between Type I and Type II errors Statistical power Effect size Cohen's d Difference between statistical significance and research significance

<b>Week 7</b> Begin Wed, Feb 14	Due Wed, Feb 21	
Assign sixth Wednesday; due seventh Wednesday  <b>Quiz 6 (Units 11 &amp; 12)</b> <b>SPSS:</b> Chapter 13: Spearman Rank-Order Correlation: The Business Student Study <b>SPSS:</b> Chapter 13: Pearson Correlation: The First Impression Study <b>SPSS:</b> Chapter 13: Linear Regression: The First Impression Study <b>SPSS:</b> Chapter 14: Chi-Square Test of Independence: The Color Preference Study <b>SPSS:</b> Chapter 14: Chi-Square Goodness-of-Fit Test – Equal Hypothesized Proportions: The Personality Study <b>SPSS:</b> Chapter 14: Chi-Square Goodness-of-Fit Test – Unequal Hypothesized Proportions: The Personality Study	<b>Unit 11:</b> Correlation and Linear Regression (Chapter 13)  <b>Unit 12:</b> Chi-Square (Chapter 14)	<b>Unit 11</b> Correlation Variance Co-variance Linear vs non-linear relationships Positive vs negative relationships Pearson correlation coefficient (r) Spearman's rho Correlation vs causation Analytic techniques and levels of measurement Regression Prediction using regression Difference between correlation and regression  <b>Unit 12</b> Chi-square test for goodness-of-fit Chi-square test for independence Parametric tests Non-parametric tests Using chi-square Chi-square and the relationship between two variables Limitations of chi-square Percentaging in a contingency table
<b>Week 7-1/2</b> Begin Wed, Feb 21	Due Tues, Feb 27	
<b>FINAL</b> Due the last day of class		Review

**ASU Calendar for Spring 2018**

Please note that the ASU Academic Calendar is located in the Appendices. The most up-to-date ASU Academic Calendar is available at <http://students.asu.edu/academic-calendar> .

## **Course Policies**

### **Email and Internet**

ASU email is an [official means of communication](#) among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

***All instructor correspondence will be sent to your ASU email account.***

To comply with the Family Educational Rights and Privacy Act (FERPA) and ASU policies developed to comply with FERPA, *ONLY* our ASU email addresses will be used for *Statistics*. Please check your ASU email daily for the duration of the class.

***All email communication for this class will be done through your ASU email account.*** You should be in the habit of checking your ASU email regularly as you will not only receive important information about your class(es), but other important university updates and information. You are solely responsible for reading and responding if necessary to any information communicated via email. For help with your email go to: [http://help.asu.edu/sims/selfhelp/SelfHelpHome.seam?dept\\_pk=822](http://help.asu.edu/sims/selfhelp/SelfHelpHome.seam?dept_pk=822) and file a help desk ticket by clicking on “My Help Center.”

You can expect a response to an email within 48 hours, and usually within 24 hours. If you have not received an email response within 48 hours, please resend your email, including your original email. At the beginning and end of the Semester, responses to email may take more than 48 hours because of the large volume of emails at the start of the Semester.

Each time you email me, please include your name. It is sometimes difficult to identify a student by email address.

Please add my email addresses to your list of accepted email addresses. Communication problems result from an inability to receive email messages from each other.

If you experience personal issues, please email me. Communication is important in an internet course.

Student access to the course “Send Email” feature may be limited or removed if an instructor feels that the students are sending inappropriate electronic messages to other students in the course.

### **Communicating with the Instructor**

This course uses a discussion board called "Hallway Conversations / Ask Dr. Moya" for general questions about the course. Prior to posting a question, please check the syllabus, announcements, and existing posts in “Hallway Conversations / Ask Dr. Moya.” If you do not find an answer already available, post your question. You are encouraged to respond to the questions of your classmates.

For general questions about class, you will find two discussion threads particularly useful. The discussion threads will be updated during the Semester, based on questions raised.

(1) At “FAQs” you will find responses to questions of general interest to class members. By visiting the “FAQs” discussion thread, you are likely to receive an immediate response to your question or comment about class. If a response to your question or comment is not available on the “FAQs” discussion thread, you can use the “Ask Dr. Moya” discussion thread IF the question is of a general nature (i.e., not personal).

(2) At “Ask Dr. Moya” you can ask about, or comment on, anything of a general nature related to the class. Please note that issues of a personal nature or about a quiz or final question should be emailed directly to me at [sdmoya@asu.edu](mailto:sdmoya@asu.edu) .

Please note that issues of a personal nature or issues concerning a quiz or final question should be emailed directly to me at [sdmoya@asu.edu](mailto:sdmoya@asu.edu). You can expect a response within 48 hours, and usually within 24 hours.

### **Copyright Protection**

In accordance with US copyright law and Arizona State University policy ACD 304-06, the contents of your text, lectures, and other Course materials, including but not limited to written materials distributed to the class, are protected under copyright protection.

### **Religious Accommodations for Students**

In accordance with ACD 304-04 students who need to be absent from class due to the observance of a religious holiday or participate in required religious functions must notify the faculty member in writing as far in advance of the holiday/obligation as possible. Students will need to identify the specific holiday or obligatory function to the faculty member. Students will not be penalized for missing class due to religious obligations/holiday observance. The student should contact the class instructor to make arrangements for making up tests/assignments within a reasonable time.

### **Missed Classes Due to University-Sanctioned Activities**

In compliance with ACD 304-02 students who participate in university-sanctioned activities that require classes to be missed, should be given opportunities to make up examinations and other graded in-class work. However, absence from class or examinations due to university-sanctioned activities does not relieve students from responsibility for any part of the course work required during the period of the absence.

The provost of the university or designee shall determine, for the purposes of this policy, whether a particular event qualifies as a university-sanctioned activity.

In each college, a specific individual (e.g., dean’s designee) should be responsible for facilitating adherence to this policy. In particular, students who participate in university-sanctioned activities should be given the opportunity to make up examinations or other graded in-class work due to classes missed because of that activity, unless it can be shown that such an accommodation would constitute an unreasonable burden on the instructor. Should disagreement arise over what constitutes such a

burden, the instructor and the student should initially contact the [academic unit chair](#) or the dean's designee.

The specific activity program coordinator (e.g., assistant athletics director for academic services, director of forensics, director of bands) should, as early as possible, provide the college-designated individual with the class schedule of any student who may be required to miss class because of a university-sanctioned activity.

Students should inform their instructors early in the semester of required class absences. Instructors should attempt to provide opportunities for equivalent work, either before or after the class absence, in accordance with any [academic unit](#) or college requirements, which may apply.

Incomplete grades (I) should not be used unless deemed necessary by the respective faculty.

### **Missing Coursework**

Please note that if you do not submit written work in accordance with the policies in this syllabus, you will receive a zero for that work.

### **ASU Blackboard Academic Success Tutorials**

ASU has created five video tutorials to help ensure student academic success. Those tutorials are

- Read the Course Syllabus
- Communication
- Academic Integrity
- Critical Thinking
- Global Engagement

This *Statistics* course subscribes to the policies contained in the tutorials.

The tutorials are available by clicking on the “Academic Success Tutorials” tab in the left-hand menu of the Course home.

### **Online Learning Experience**

An online course is no more or less rigorous than a traditional classroom course. You should expect this course to be academically challenging.

In an online course, you should expect the same workload as in a traditional classroom course. You should plan to spend the same amount of time on class-related activities for an internet course as you would for a traditional classroom course. Your workload will differ in that your studies are more individually driven and your class-related time is tailored to your individual schedule.

You will be completing the full curriculum of a 15-week-semester course in seven-and-a-half weeks. The pace of the course is accelerated. You should plan your study time accordingly.

The medium for the delivery and reception of information in an online course differs from a traditional classroom course. Online courses are not the correct learning medium for every student. Some students learn better in a traditional classroom setting with direct visual and auditory interaction among the student, other students, and the professor. Other students learn well in an online setting through independent study and learning.

To be successful in *Statistics* online, you should be comfortable studying, learning, assimilating, and analyzing on your own. You should have daily, high-speed access to the internet and should access the Course website once every 24 hours. You should be comfortable using the internet generally and ASU's Blackboard program specifically. You should have broadband or DSL access to the internet. You should have appropriate computer skills and daily access to a dependable computer. You should have an appropriate physical environment.

You are responsible for: (1) your computer skills, computer availability, and internet access; (2) accessing the Course website daily; (3) mastering the Course website, including the Blackboard and myASU software; (4) reading and assimilating the required texts and lectures; (5) completing the required quizzes, SPSS assignments, final, and introductory assignments; (6) mastering basic statistical concepts; and (7) meeting the Course requirements as detailed in the Weekly Schedule section.

Please create an appropriate physical online learning setting for yourself. Please allow yourself sufficient time to master the Course material. Please do not fall behind because concepts build on concepts already covered in the Course.

### **Online Etiquette**

By enrolling in this course you are joining an online community (please see course etiquette information, refer to your "Welcome-to- *Statistics*" Course Announcement, and read the Online Etiquette section of the FAQs Discussion Board). You should visit the course website at least once a day during the semester to watch for new announcements, complete assignments, engage in online discussions, stay current with assignments, and take advantage of additional information posted that may arise from student needs or concerns about the course content.

Also by enrolling in this course, you have joined an online community of adult learners. As such, you are invited to contribute to our learning community through discussion, comments, and questions related to course objectives and content. We jointly share the responsibility for maintaining a safe, respectful, and appropriate learning environment. We jointly share responsibility for maintaining appropriate academic standards (which include, but are not limited to, doing and submitting your own coursework).

Students are entitled to receive instruction free from interference by other members of the class. If a student is disruptive, the instructor may ask the student to stop the disruptive behavior and warn the student that such disruptive behavior can result in withdrawal from the course. The instructor may withdraw a student from a course when the student's behavior disrupts the educational process.

Appropriate classroom behavior is defined by the instructor. This includes the number and length of individual messages online. Course discussion messages should remain focused on the assigned

discussion topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion.

Inappropriate discussion board messages may be deleted if an instructor feels it is necessary. Students will be notified privately that their posting was inappropriate.

Individual issues are best discussed individually rather than on the class discussion board. Issues that relate personally to one individual are best emailed directly to your instructor at [sdmoya@asu.edu](mailto:sdmoya@asu.edu).

Questions about the responses to questions on quizzes, the final, and SPSS assignments are best emailed directly to your instructor at [sdmoya@asu.edu](mailto:sdmoya@asu.edu). Please be aware that not all students complete assignments at the same time. Do not post questions about quiz or final questions or responses on the Course website.

Please complete the Online Writing Skills tutorial at [ASUonline](#) if you feel you need additional information on Internet communication etiquette.

## **University Policies of CISA**

### **Academic Integrity**

Arizona State University and the College of Integrative Sciences and Arts strongly believe in academic integrity; thus cheating and plagiarism is not tolerated. If a student is charged with academic dishonesty and found to be in violation, disciplinary action will be taken and a student's name will be kept on file. Academic dishonesty includes borrowing ideas without proper citation, copying others' work (including information posted on the internet), failing to turn in your own work for group projects, as well as providing materials of any type to a homework help site or a study resource site. Disciplinary action may result in a reduced grade for the assignment or class, suspension or expulsion from the university, and/or an XE on his or her transcript. For further information, please read the Student Academic Integrity policy at <https://provost.asu.edu/academic-integrity>.

### **Students with Disabilities**

If you need academic accommodations or special consideration of any kind to get the most out of this class, please let me know at the beginning of the course. If you have a disability and need a reasonable accommodation for equal access to education at ASU, please call Disability Resources for Students.

The site can be found here: <https://eoss.asu.edu/drc>

<p><b>Downtown Phoenix Campus</b> University Center building, Suite 160 Phone: 602.496.4321 E-mail: <a href="mailto:DRCDowntown@asu.edu">DRCDowntown@asu.edu</a></p>	<p><b>Tempe Campus</b> Matthews Center building, 1st floor Phone: 480.965.1234 E-mail: <a href="mailto:DRCTempe@asu.edu">DRCTempe@asu.edu</a></p>
<p><b>Polytechnic Campus</b> Sutton Hall - Suite 240 Phone: 480.727.1039 E-mail: <a href="mailto:DRCPoly@asu.edu">DRCPoly@asu.edu</a></p>	<p><b>West Campus</b> University Center Building, Room 130 Phone: 602.543.8145 E-mail: <a href="mailto:DRCWest@asu.edu">DRCWest@asu.edu</a></p>

## **Mental Health**

As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These emotional health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. ASU Counseling Services provides counseling and crisis services for students who are experiencing a mental health concern. Any student may call or walk-in to any ASU counseling center for a same day or future appointment to discuss any personal concern. Here is the Web site: <https://eoss.asu.edu/counseling>. After office hours and 24/7 ASU's dedicated crisis line is available for crisis consultation by calling 480-921-1006.

## **Student Code of Conduct**

Students are required to adhere to the behavior standards listed in the Arizona Board of Regents Policy Manual Chapter V –Campus and Student Affairs: Code of Conduct located online at <http://students.asu.edu/srr/code> and the ACD 125: Computer, Internet, and Electronic Communications available at <http://asu.edu/aad/manuals/acd/acd125.html>.

Students are entitled to receive instruction free from interference by other members of the class. An instructor may withdraw a student from a course when the student's behavior disrupts the educational process under USI 201-10 <http://www.asu.edu/aad/manuals/ssm/ssm201-10.html>. An instructor may withdraw a student from a course with a mark of "W" or "E" when the student's behavior disrupts the educational process. Disruptive classroom behavior for this purpose is defined by the instructor.

## **Harassment Prohibited**

ASU policy prohibits harassment on the basis of race, sex, gender identity, age, religion, national origin, disability, sexual orientation, Vietnam era veteran status, and other protected veteran status. Violations of this policy may result in disciplinary action, including termination of employees or expulsion of students. Contact the professor if you are concerned about online harassment of any kind, and he/she will put you in contact with the Dean of Students office.

## **Title IX**

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/>.

## **Statement on Inclusion**

Arizona State University is deeply committed to positioning itself as one of the great new universities by seeking to build excellence, enhance access and have an impact on our community, state, nation

and the world. To do that requires our faculty and staff to reflect the intellectual, ethnic and cultural diversity of our nation and world so that our students learn from the broadest perspectives, and we engage in the advancement of knowledge with the most inclusive understanding possible of the issues we are addressing through our scholarly activities. We recognize that race and gender historically have been markers of diversity in institutions of higher education. However, at ASU, we believe that diversity includes additional categories such as socioeconomic background, religion, sexual orientation, gender identity, age, disability, veteran status, nationality and intellectual perspective.

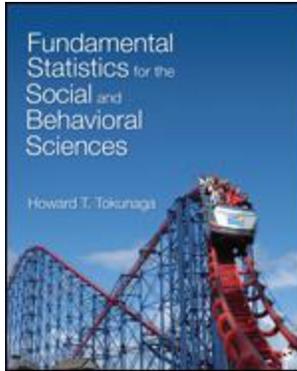
### **Syllabus Disclaimer**

The course syllabus is an educational contract between the instructor and students. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. The instructor reserves the right to make changes to the syllabus as deemed necessary. Students will be notified in a timely manner of any syllabus changes via email, or in the Announcements section on Blackboard.

### **Campus Resources**

As an ASU student you have access to many resources on campus. This includes tutoring, academic success coaching, counseling services, financial aid, disability resources, career and internship help and many opportunities to get involved in student clubs and organizations.

- Tutoring: <http://studentsuccess.asu.edu>
- Counseling Services: <http://students.asu.edu/counseling>
- Financial Aid: <http://students.asu.edu/financialaid>
- Disability Resource Center: <http://www.asu.edu/studentaffairs/ed/drc/>
- Major/Career Exploration: <http://uc.asu.edu/majorexploration/assessment>
- Career Services: <http://students.asu.edu/career>
- Student Organizations: <http://www.asu.edu/studentaffairs/mu/clubs/>
- ASU Writing Centers: <https://tutoring.asu.edu/writing-centers>
- ASU Police Department: <https://cfo.asu.edu/police>
- International Student Resources: <https://students.asu.edu/international/support/academic>



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# Fundamental Statistics for the Social and Behavioral Sciences

- [Howard T. Tokunaga](#) - San Jose State University, USA

Experience with



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