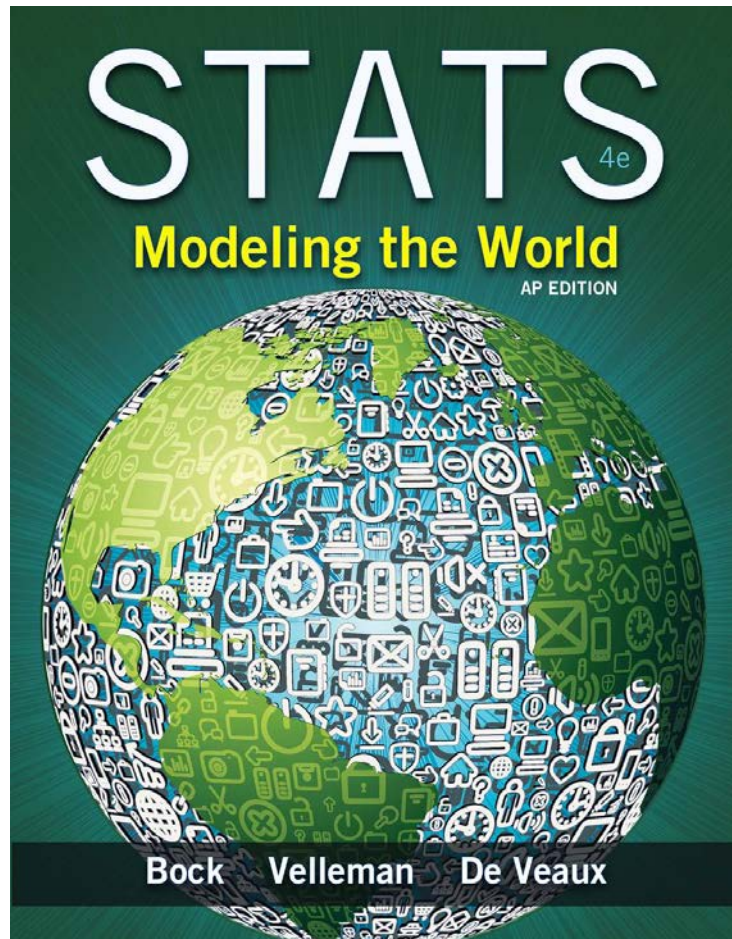


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A Correlation of

**Stats Modeling the World  
AP® Edition  
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to

**Florida  
Advanced Placement Statistics  
Course #1210320  
Advanced Placement Statistics Standards**

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**A Correlation of Stats: Modeling the World, AP® Edition, ©2015  
to Florida’s Advanced Placement Statistics Standards, #1210320**

Advanced Placement Statistics Standards	Stats: Modeling the World AP Edition, ©2015
<b>I. Exploring Data: Describing patterns and departures from patterns</b>	
<b>A. Constructing and interpreting graphical displays of distributions of univariate data (dotplot, stemplot, histogram, cumulative frequency plot)</b>	
1. Center and spread	<b>SE/TE: 1.3:</b> 48, 51-53, 58
2. Clusters and gaps	<b>SE/TE: 1.3</b> 44, 51, <b>3.11:</b> 287
3. Outliers and other unusual features	<b>SE/TE: 1.4:</b> 88-89
4. Shape	<b>SE/TE: 1.3:</b> 48, 50, 58
<b>B. Summarizing distributions of univariate data</b>	
1. Measuring center: median, mean	<b>SE/TE: 1.3:</b> 51-53, 58-60
2. Measuring spread: range, interquartile range, standard deviation	<b>SE/TE: 1.3:</b> 53-54, 56, 60-61, <b>1.5:</b> 111
3. Measuring position: quartiles, percentiles, standardized scores (z-scores)	<b>SE/TE: 1.3</b> 53-54
4. Using boxplots	<b>SE/TE: 1.3:</b> 55-56, 58
5. The effect of changing units on summary measures	<b>SE/TE: 1.5:</b> 111-112
<b>C. Comparing distributions of univariate data (dotplots, back-to back stemplots, parallel boxplots)</b>	
1. Comparing center and spread: within group, between group variation	<b>SE/TE: 1.4:</b> 84-88, <b>2.9:</b> 234-235, <b>6.23:</b> 606, 622
2. Comparing clusters and gaps	<b>SE/TE: 1.4:</b> 44
3. Comparing outliers and other unusual features	<b>SE/TE: 1.3:</b> 50, 56, <b>1.4:</b> 89
4. Comparing shapes	<b>SE/TE: 1.3:</b> 48-51
<b>D. Exploring bivariate data</b>	
1. Analyzing patterns in scatterplots	<b>SE/TE: 2.6:</b> 151, 155, <b>2.9:</b> 236
2. Correlation and linearity	<b>SE/TE: 2.6:</b> 154-156, <b>2.7:</b> 178-179
3. Least-squares regression line	<b>SE/TE: 2.9:</b> 255, <b>7.26:</b> 708
4. Residual plots, outliers, and influential points	<b>SE/TE: 1.4:</b> 88-89
5. Transformations to achieve linearity: logarithmic and power transformations	<b>SE/TE: 2.9:</b> 241-242

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<b>E. Exploring categorical data</b>	
1. Frequency tables and bar charts	<b>SE/TE: 1.2:</b> 16-17, 22-26, 31-42
2. Marginal and joint frequencies for two-way tables	<b>SE/TE: 1.2:</b> 18-20, 25, 31
3. Conditional relative frequencies and association	<b>SE/TE: 1.2:</b> 16-17, 20-23, 26, 31
4. Comparing distributions using bar charts	<b>SE/TE: 1.2:</b> 17, 22-24, 31
<b>II. Sampling and Experimentation: Planning and conducting a study</b>	
<b>A. Overview of methods of data collection</b>	
1. Census	<b>SE/TE: 1.1:</b> 5, 283-284, 582, 585
2. Sample survey	<b>SE/TE: 3.11:</b> 280-297, 331
3. Experiment	<b>SE/TE: 3.12:</b> 305-325, 331
4. Observational study	<b>SE/TE: 1.2:</b> 27, <b>3.12:</b> 305-306, 331
<b>B. Planning and conducting surveys</b>	
1. Characteristics of a well-designed and well-conducted survey	<b>SE/TE: 3.11:</b> 291-293, 296-297
2. Populations, samples, and random selection	<b>SE/TE: 3.11:</b> 282, 313-314
3. Sources of bias in surveys	<b>SE/TE: 3.11:</b> 281-282, <b>5.18:</b> 487
4. Sampling methods, including simple random sampling, stratified random sampling, and cluster sampling	<b>SE/TE: 3.11:</b> 285-288, 296-297, <b>3.12:</b> 311
<b>C. Planning and conducting experiments</b>	
1. Characteristics of a well-designed and well-conducted experiment	<b>SE/TE: 3.12:</b> 308-312
2. Treatments, control groups, experimental units, random assignments, and replication	<b>SE/TE: 1.1:</b> 4, <b>3.12:</b> 307, 308-310, 312-313, 314
3. Sources of bias and confounding, including placebo effect and blinding	<b>SE/TE: 3.12:</b> 314-315, 316
4. Completely randomized design	<b>SE/TE: 3.12:</b> 311, 318, 320
5. Randomized block design, including matched pairs design	<b>SE/TE: 3.12:</b> 317-318

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<b>D. Generalizability of results and types of conclusions that can be drawn from observational studies, experiments, and surveys</b>	<b>SE/TE: 3.11:</b> 296-297, <b>3.12:</b> 306
<b>III. Anticipating Patterns: Exploring random phenomena using probability and simulation</b>	
<b>A. Probability</b>	
1. Interpreting probability, including long-run relative frequency interpretation	<b>SE/TE: 1.2:</b> 16-17, <b>1.3:</b> 44
2. "Law of large numbers" concept	<b>SE/TE: 4.13:</b> 345, 354-355
3. Addition rule, multiplication rule, conditional probability, and independence	<b>SE/TE: 4.13:</b> 345, 350-351, <b>4.14:</b> 368-371, <b>4.15:</b> 396, <b>5.20:</b> 518
4. Discrete random variables and their probability distributions, including binomial and geometric	<b>SE/TE: 4.15:</b> 389-390, 393-394, 405, <b>4.16:</b> 415-422, 428
5. Simulation of random behavior and probability distributions	<b>SE/TE: 3.10:</b> 269-275, <b>4.15:</b> 389-390, 405
6. Mean (expected value) and standard deviation of a random variable, and linear transformation of a random variable	<b>SE/TE: 4.15:</b> 394-400
<b>B. Combining independent random variables</b>	
1. Notion of independence versus dependence	<b>SE/TE: 4.15:</b> 399, 401-402, 405
2. Mean and standard deviation for sums and differences of independent random variables	<b>SE/TE: 4.15:</b> 394-400
<b>C. The normal distribution</b>	
1. Properties of the normal distribution	<b>SE/TE: 5.17:</b> 448
2. Using tables of the normal distribution	<b>SE/TE: 1.5:</b> 119
3. The normal distribution as a model for measurements	<b>SE/TE: 1.5:</b> 114, 116, <b>4.16:</b> 423-425, 428
<b>D. Sampling distributions</b>	
1. Sampling distribution of a sample proportion	<b>SE/TE: 5.17:</b> 445-448, 449-452
2. Sampling distribution of a sample mean	<b>SE/TE: 5.17:</b> 456, 457-458
3. Central Limit Theorem	<b>SE/TE: 5.17:</b> 454-455, 459-460

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4. Sampling distribution of a difference between two independent sample proportions	<b>SE/TE: 5.17:</b> 445-448, 449-452
5. Sampling distribution of a difference between two independent sample means	<b>SE/TE: 5.17:</b> 456, 457-458
6. Simulation of sampling distributions	<b>SE/TE: 5.17:</b> 453-454
7. <i>t</i> -distribution	<b>SE/TE: 6.22:</b> 578, 596, <b>7.26:</b> 716, 720
8. Chi-square distribution	<b>SE/TE: 7.25:</b> 675, 695
<b>IV. Statistical Inference: Estimating population parameters and testing hypotheses</b>	
<b>A. Estimation (point estimators and confidence intervals)</b>	
1. Estimating population parameters and margins of error	<b>SE/TE: 3.11:</b> 284-285, <b>5.18:</b> 477-478
2. Properties of point estimators, including unbiasedness and variability	<b>SE/TE: 5.17:</b> 465, <b>5.21:</b> 561, <b>7.26:</b> 726
3. Logic of confidence intervals, meaning of confidence level and confidence intervals, and properties of confidence intervals	<b>SE/TE: 5.18:</b> 473-488
4. Large sample confidence interval for a proportion	<b>SE/TE: 5.21:</b> 544-545
5. Large sample confidence interval for a difference between two proportions	<b>SE/TE: 5.21:</b> 544-545
6. Confidence interval for a mean	<b>SE/TE: 6.22:</b> 578-579
7. Confidence interval for a difference between two means (unpaired and paired)	<b>SE/TE: 6.22:</b> 578-579, <b>6.24:</b> 641-642
8. Confidence interval for the slope of a least-squares regression line	<b>SE/TE: 7.26:</b> 706-707, 724, 728
<b>B. Tests of significance</b>	
1. Logic of significance testing, null and alternative hypotheses; <i>p</i> -values; one- and two-sided tests; concepts of Type I and Type II errors; concept of power	<b>SE/TE: 5.19:</b> 494-496, 498-499, 500-501, 503-504, <b>5.20:</b> 518-524, 527-535

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2. Large sample test for a proportion	<b>SE/TE: 5.21:</b> 555
3. Large sample test for a difference between two proportions	<b>SE/TE: 5.21:</b> 555-556
4. Test for a mean	<b>SE/TE: 6.22:</b> 590
5. Test for a difference between two means (unpaired and paired)	<b>SE/TE: 6.23:</b> 617
6. Chi-square test for goodness of fit, homogeneity of proportions, and independence (one- and two-way tables)	<b>SE/TE: 7.25:</b> 676-678, 682, 687-693, 697
7. Test for the slope of a least-squares regression line	<b>SE/TE: 7.26:</b> 718-721

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