AP Statistics / Mr. Hansen

Name: _____

In each rectangle (or in the appropriate shaded row if you don't wish to track your progress so precisely), enter a letter M for each multiple-choice problem attempted and a letter F for each free-response problem attempted. If you got the problem correct, also put a check mark (✔) in the cell. If you wish, you may use a more detailed coding system to record the exact problem that you did. Feel free to use this chart in any way that you find to be helpful.

	Thu 3/17	Fri 3/18	Sat 3/19	Sun 3/20	Mon 3/21	Tue 3/22	Wed 3/23	Thu 3/24	Fri 3/25	Sat 3/26	Sun 3/27	Mon 3/28
I. Exploratory Data Analysis												
A. Graphical displays of univariate data (dotplot, stemplot, histogram, cumulative frequency plot): detect center, spread, clusters, gaps, shape, outliers, and other unusual features												
B. Summarizing univariate data: median, mean, range, IQR, s.d., quartiles, percentiles, *z* scores, and the effect that linear transformations (such as a change from inches to cm, or from Fahrenheit to Celsius) have on each of these												
C. Comparing distributions (dotplots, back-to-back stemplots, parallel boxplots): compare center and spread, shape, and other features												
D. Bivariate data												
1. Scatterplots												
2. Linear correlation coefficient (*r*), interpretation of *r* and r^2												
3. LSRL: calculate slope, intercept, and *yhat*, and **be able to interpret each of these in the context of the problem**												
4. Residual plots, regression outliers, and influential observations												
5. Transformations to achieve linearity: logarithmic and power functions												
E. Categorical data and two-way tables												
1. Marginal and joint frequencies												
2. Conditional relative frequencies and association												
II. Design of Studies												
A. Meaning of census, sample survey, experiment, observational study												
B. Surveys												
1. Characteristics of well-designed and well-conducted surveys												
2. Populations, samples, and random selection												
3. Sources of bias (know terms: response bias, undercoverage, etc.)												
4. SRS												
5. Stratified random sampling												
C. Experiments												
1. Characteristics of well-designed and well-conducted experiments												
2. Terms: treatments, levels, control group, exp. units, subjects, random assignment, replication, blinding, double-blinding												
3. Sources of bias and confounding, incl. placebo effect												
4. Completely randomized design												
5. Randomized block design (incl. matched pairs as a special case)												
D. Generalizability of results from obs. studies, experiments, and surveys												
III. Probability and Simulation												
A. Probability as long-run relative frequency												
1. Law of large numbers												
2. Addition rule, multiplication rule, conditional probability, independence												
3. Discrete random variables (incl. binomial and geometric distributions)												
4. Simulation of distributions (incl. binomial and geometric)												
5. Expected value (mean) and s.d. of a r.v., linear transformations of r.v.												
B. Combining indep. r.v.'s (classic example: difference in heights between a randomly selected man and a randomly selected woman)												
a. Mean of a sum always equals sum of means												
b. Mean of a difference always equals difference of means												
c. Variance of a sum (or difference) equals sum of variances if vbls. are indep.; otherwise you have "insufficient information to answer"												
C. Normal (*z*) distribution: properties, using tables, modeling distributions												
D. Sampling distributions of *phat* and *xbar*, incl. CLT, sampling distr. of difference between two indep. sample proportions or two indep. sample means, and simulation of sampling distributions												
IV. Statistical Inference												
A. Confidence intervals (STAT TESTS 7,8,9,0,A,B), incl. concept of confidence level, m.o.e., required sample size, *z**, and *t**. Remember to use 1-sample procedures if you have matched pairs.												
B. Significance tests (STAT TESTS 1-6, CHISQGOF, and C), incl. concept of H_0 and H_a, *P*-values, 1- and 2-sided tests, Type I error, Type II error, power. Again, use 1-sample procedures if you have matched pairs.												
C. Inference for slope of LSRL: H_0 is always "There is no linear assoc. between *X* and *Y*" and can be stated either as "β = true slope = 0" or "ρ = true lin. correl. coeff. = 0"; must be able to compute any of b_1, s_{b1}, or *t* when two are known; must be able to read computer output												
Summary / Administrative Data												
A. Stat study time at home	:		:	:	:			:		:	:	:
B. Sleep time tonight **(hrs. : minutes)**	:		:	:	:			:		:	:	:
C. Multiple-choice problems (# correct / # attempted)	/		/	/	/			/		/	/	/
D. Percentage correct for MC problems	%		%	%	%			%		%	%	%
E. Free-response problems (# correct / # attempted)	/		/	/	/			/		/	/	/
F. Percentage correct for FR problems	%		%	%	%			%		%	%	%
G. Notes to self (e.g., "Review resid. plots!")												

AP Statistics / Mr. Hansen **Name:** _____

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	Tue 3/29	Wed 3/30	Thu 3/31	Fri 4/1	Sat 4/2	Sun 4/3	Mon 4/4	Tue 4/5	Wed 4/6	Thu 4/7	Fri 4/8	Sat 4/9
I. Exploratory Data Analysis												
A. Graphical displays of univariate data (dotplot, stemplot, histogram, cumulative frequency plot): detect center, spread, clusters, gaps, shape, outliers, and other unusual features												
B. Summarizing univariate data: median, mean, range, IQR, s.d., quartiles, percentiles, *z* scores, and the effect that linear transformations (such as a change from inches to cm, or from Fahrenheit to Celsius) have on each of these												
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4. Residual plots, regression outliers, and influential observations												
5. Transformations to achieve linearity: logarithmic and power functions												
E. Categorical data and two-way tables												
1. Marginal and joint frequencies												
2. Conditional relative frequencies and association												
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A. Meaning of census, sample survey, experiment, observational study												
B. Surveys												
1. Characteristics of well-designed and well-conducted surveys												
2. Populations, samples, and random selection												
3. Sources of bias (know terms: response bias, undercoverage, etc.)												
4. SRS												
5. Stratified random sampling												
C. Experiments												
1. Characteristics of well-designed and well-conducted experiments												
2. Terms: treatments, levels, control group, exp. units, subjects, random assignment, replication, blinding, double-blinding												
3. Sources of bias and confounding, incl. placebo effect												
4. Completely randomized design												
5. Randomized block design (incl. matched pairs as a special case)												
D. Generalizability of results from obs. studies, experiments, and surveys												
III. Probability and Simulation												
A. Probability as long-run relative frequency												
1. Law of large numbers												
2. Addition rule, multiplication rule, conditional probability, independence												
3. Discrete random variables (incl. binomial and geometric distributions)												
4. Simulation of distributions (incl. binomial and geometric)												
5. Expected value (mean) and s.d. of a r.v., linear transformations of r.v.												
B. Combining indep. r.v.'s (classic example: difference in heights between a randomly selected man and a randomly selected woman)												
a. Mean of a sum always equals sum of means												
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D. Sampling distributions of *phat* and *xbar*, incl. CLT, sampling distr. of difference between two indep. sample proportions or two indep. sample means, and simulation of sampling distributions												
IV. Statistical Inference												
A. Confidence intervals (STAT TESTS 7,8,9,0,A,B), incl. concept of confidence level, m.o.e., required sample size, z^*, and t^*. Remember to use 1-sample procedures if you have matched pairs.												
B. Significance tests (STAT TESTS 1-6, CHISQGOF, and C), incl. concept of H_0 and H_a, *P*-values, 1- and 2-sided tests, Type I error, Type II error, power. Again, use 1-sample procedures if you have matched pairs.												
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Summary / Administrative Data												
A. Stat study time at home			:		:	:	:			:		:
B. Sleep time tonight **(hrs. : minutes)**			:		:	:	:			:		:
C. Multiple-choice problems (# correct / # attempted)			/		/	/	/			/		/
D. Percentage correct for MC problems			%		%	%	%			%		%
E. Free-response problems (# correct / # attempted)			/		/	/	/			/		/
F. Percentage correct for FR problems			%		%	%	%			%		%
G. Notes to self (e.g., "Review resid. plots!")												

AP Statistics / Mr. Hansen **Name:** _____

	Sun 4/10	Mon 4/11	Tue 4/12	Wed 4/13	Thu 4/14	Fri 4/15	Sat 4/16	Sun 4/17	Mon 4/18	Tue 4/19	Wed 4/20	Thu 4/21
I. Exploratory Data Analysis												
A. Graphical displays of univariate data (dotplot, stemplot, histogram, cumulative frequency plot): detect center, spread, clusters, gaps, shape, outliers, and other unusual features												
B. Summarizing univariate data: median, mean, range, IQR, s.d., quartiles, percentiles, *z* scores, and the effect that linear transformations (such as a change from inches to cm, or from Fahrenheit to Celsius) have on each of these												
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1. Marginal and joint frequencies												
2. Conditional relative frequencies and association												
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A. Meaning of census, sample survey, experiment, observational study												
B. Surveys												
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2. Populations, samples, and random selection												
3. Sources of bias (know terms: response bias, undercoverage, etc.)												
4. SRS												
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C. Experiments												
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2. Terms: treatments, levels, control group, exp. units, subjects, random assignment, replication, blinding, double-blinding												
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Summary / Administrative Data												
A. Stat study time at home	:	:			:		:	:	:			
B. Sleep time tonight **(hrs. : minutes)**	:	:			:		:	:	:			
C. Multiple-choice problems (# correct / # attempted)	/	/			/		/	/	/			
D. Percentage correct for MC problems	%	%			%		%	%	%			
E. Free-response problems (# correct / # attempted)	/	/			/		/	/	/			
F. Percentage correct for FR problems	%	%			%		%	%	%			
G. Notes to self (e.g., "Review resid. plots!")												

AP Statistics / Mr. Hansen **Name:** _____

	Fri 4/22	Sat 4/23	Sun 4/24	Mon 4/25	Tue 4/26	Wed 4/27	Thu 4/28	Fri 4/29	Sat 4/30	Sun 5/1	Mon 5/2	Tue 5/3
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A. Stat study time at home		:	:	:			:		:	:	:	
B. Sleep time tonight **(hrs. : minutes)**		:	:	:			:		:	:	:	
C. Multiple-choice problems (# correct / # attempted)		/	/	/			/		/	/	/	
D. Percentage correct for MC problems		%	%	%			%		%	%	%	
E. Free-response problems (# correct / # attempted)		/	/	/			/		/	/	/	
F. Percentage correct for FR problems		%	%	%			%		%	%	%	
G. Notes to self (e.g., "Review resid. plots!")												

AP Statistics / Mr. Hansen **Name:** _____

	Wed 5/4	Thu 5/5	Fri 5/6	Sat 5/7	Sun 5/8	Mon 5/9	Tue 5/10	Wed 5/11	Thu 5/12
I. Exploratory Data Analysis									
A. Graphical displays of univariate data (dotplot, stemplot, histogram, cumulative frequency plot): detect center, spread, clusters, gaps, shape, outliers, and other unusual features									
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Summary / Administrative Data									
A. Stat study time at home		:		:	:	:			:
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C. Multiple-choice problems (# correct / # attempted)		/		/	/	/			/
D. Percentage correct for MC problems		%		%	%	%			%
E. Free-response problems (# correct / # attempted)		/		/	/	/			/
F. Percentage correct for FR problems		%		%	%	%			%
G. Notes to self (e.g., "Review resid. plots!")									