

Silver State APSI – AP Statistics
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Monday, June 21

Introduction & expectations – 3 X 5 cards and four vital topics

Exploratory Data Analysis

Comparing data sets – worksheet

Comparing data sets on various AP exams

EDA project

Regression & correlation

Exploring the linear model – pizza data

Meaning of coefficients

Evaluating the model

Another linear model – Mustang data

Non-linear models – not AP but very useful for students

Regression on various AP exams

Mandatory extra credit

Regression project

Causation vs. correlation?

Tuesday, June 22

Design

Observational study vs. survey vs. experiment

Vocabulary in the text

Confounding and lurking variables by Paul Velleman

Design on various AP exams

Group activity – test preparation

Probability

Spectrum

Rules – and, or & not

Independence

Conditional probability

Random variable

Discrete distribution

Expectation and standard deviation – insurance problem

Binomial probability

Requirements

Formula

Expected value and standard deviation

Continuous distribution

Normal probability

Empirical rule

Normal approximation to the binomial

Probability on various AP exams

Simulation

- Eight step process
- Simulation problems
- Introducing inference via simulation
- Simulation on the AP exam

Wednesday, June 23

Sampling distribution

- What is a sampling distribution?
- Simulation of a sampling distribution of means – the CLT
- Sampling distributions for proportions and differences

Inference on means

- What is a hypothesis test?
- Various types of tests on an ambulance service
- A six-step process
- AP requirements for a hypothesis test on means
- Difference between two means
- Hypothesis tests on means on various AP exams
- Error & power
- Confidence intervals on the mean
 - Requirements, computation, results
 - Meaning of a confidence interval
- Projects for the second semester

Thursday, June 24

Inference on proportions

- Hypothesis tests on proportions
 - Requirements for AP
 - AP exam question
 - Determining sample size
 - AP exam question
 - Difference between two proportions
 - AP exam questions
- Confidence intervals on proportions
 - AP exam question

Inference on relations

- Chi Square test
 - Homogeneity vs. independence by Dan Teague
 - An AP exam question
- Hypothesis test on regression slope
 - Various AP exam questions

The investigative task

- FR #6 on various AP exams

A look at the 2010 exam

