

# AP Statistics Syllabus

**Kenzie Sanchez**

Room 169

ksanchez2@eanesisd.net

(512) 732-9280 ext. 33420

Conference – 3<sup>rd</sup> period

**Tutoring – every morning, 8:10 – 8:40**

Website: <https://sites.google.com/eanesisd.net/whksanchez>

## **Materials:**

- Notes packet
- charged iPad
- graphing calculator –TI 84+ (allowed on SAT, SAT II and AP Math exams)
  - The calculator's memory will be cleared for all learning checks.

**Grading Policy:** Your quarterly grade will be calculated with the following weights:

- **Daily Grades – 10%** - at least one daily grade will be earned each week. These may be from homework, labs, problem sets or other in-class activities.
- **Learning Checks – 90%**
  - There will be approximately 15 learning targets assessed each quarter. Each learning target will have its own grade in the grade book.
  - There will usually be one learning check every week. Each will typically include 5 learning targets. Instead of earning one grade for the whole learning check, students earn a grade for each learning target.
  - Each learning target will be assessed the week it is taught. It will be assessed again at least one more time a week or two later.
    - If the last grade for a learning target is the highest grade for that learning target, then that will be the grade for the learning target (replacing any lower grades in the grade book).
    - If the last grade is not the highest grade for that learning target, then the most recent grade will be averaged with the existing grade for that learning target.

Your semester average is computed by averaging the two quarterly grades (40% each) with the final exam (20%).

## **Homework**

Completing homework is the most critical part of the learning process. The effort that you put into your homework has the greatest bearing on how well you learn and retain statistical knowledge. All problems should be attempted with work shown. You must check to see if your answers are correct with the back of the book or with posted solutions.

## **Make-up Policy**

- When you are absent it is your responsibility to look at the Google calendar for the day, to turn in missed work, and to make arrangements to make up any learning checks missed. Be sure to check the Google calendar before asking me questions about make-up work.
- If you are absent for a school-related function you will be expected to participate in the next days' class as though you had been present – be sure to get your assignments before the missed day(s).
- Students will be allowed one day to make up work for each day they are absent. Refer to the Student Handbook for more information.
- If you miss class for any reason (excused or unexcused), remember that tutorial videos are available on the textbook website and that all completed notes are posted in the Google folder. Please use these resources to prepare yourself for your return to school.

## UIL Eligibility

It is the student's responsibility to be aware of his/her grades and how those grades will affect their eligibility to participate in extracurricular activities. Refer to the Student Handbook for more information on eligibility rules.

## Classroom Rules

- Be on time! School tardy policies will be enforced.
- Listen attentively, take notes, and ask questions – Engage your brain!
- Be courteous to all others in the class – listen patiently, offer encouragement, etc.
- Make mathematical thinking your top priority for 50 minutes!
  - Work only on statistics for the duration of the class.
  - Unless you are using them as part of a classroom activity, cell phones and iPads are to stay packed up during class.
  - Take care of your personal business before school, during passing periods, during lunch or after school.
- Follow the Westlake Honor Code. School policy will be enforced.

## Course Content

- Exploring Data: Describing patterns and departures from patterns (20% ~ 30%)
  - Making and interpreting graphs
  - Distributions of univariate data – center, shape, spread, and outliers
  - Bivariate data – correlation and linear regression, transforming data
  - Categorical data – marginal frequencies and bar charts
- Sampling and Experimentation: Planning and conducting a study (12% ~ 15%)
  - Methods of data collection
  - Characteristics of well-conducted surveys and experiments
  - Minimizing the sources of bias
  - Simple random sampling, stratified random sampling, cluster sampling
- Anticipating Patterns: Exploring random phenomena using probability & simulation (17% ~ 32%)
  - Probability – probability distributions, random variables, “Law of Large Numbers”
  - The normal distribution
  - Sampling distributions – of a sample proportion and of a sample mean
  - $t$ -distribution
  - $\chi^2$  (Chi-square) Distribution
- Statistical Inference: Estimating population parameters and testing (26% ~ 43%)
  - Estimation and confidence intervals for means and proportions
  - Tests of significance (hypothesis tests) for means and proportions
  - $\chi^2$  (Chi-square) test for goodness of fit
  - Inference for slope and regression

## Course Skills

- Selecting Statistical Methods (15 ~ 12%)
  - select methods for collecting and/or analyzing data for statistical inference
- Data Analysis (15 ~ 23%)
  - describe patterns, trends, associations, and relationship in data
- Using Probability and Simulation (30 ~ 40%)
  - explore random phenomena
- Statistical Argumentation (25 ~ 35%)
  - develop an explanation or justify a conclusion using evidence from data, definition, or statistical inference