

# Extra Credit:

## A Statistical Study

**Directions:** The following assignment is worth at least 2 additional percentage points of your final grade. This means if you get a final average of 85%, your new average would be at least 87% if you complete this assignment in full. You may work in groups of up to three people.

We wish to provide evidence for or against the following:

**Claim:** Brigham Young University students have an average weight less than the national average for college students.

Do this by the following:

1. Conduct a random sample of 100 men and 100 women, and find the weight of each<sup>1</sup>.
2. Compute a binned frequency table for both the men and women data with 10(*lbs*) intervals per bin and make sure you include cumulative and relative frequency columns.
3. Construct bar graphs for each of the men's and women's distribution.
4. Find the mean of each data set.
5. Find the standard deviation of each data set.
6. Find the national average weight for college students and compare this value to that of you sample of BYU students.
7. Does you study support or deny the claim?
8. Interpret potential reasons for the results you received.

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<sup>1</sup>I want to see 200 individual pieces of paper with information identifying both the sex and the height of the surveyed individual