

**AM 166: Homework # 3 (due Tuesday, March 6)**

The book we refer to is Wackerly, Mendenhall & Scheaffer, *Mathematical Statistics with Applications* (6th Edition).

1. For problems in this homework, you may want to use STATA to carry out the computation or draw the graph.
2. Solve Problems 11.10, 11.36, and 11.43.
3. Solve Problems 11.51, 11.52.
4. Problem 11.56. For this problem, identify  $X$ ,  $Y$ . Use STATA (or any software) to identify  $X'X$ ,  $(X'X)^{-1}$ ,  $\hat{\beta}$ , and to draw the data and the fitted parabola. Also find an unbiased estimate of  $\sigma^2$ .