

# Statistics II Lab 4

**Submission Instructions:** Welcome to Lab 4. Upon completion, you *should upload* your **Word Document** and **Minitab Project files** to Blackboard by 11:59 PM of the due date Feb 21st.

## Problems

### Hypothesis Testing Lab

Answer the following questions using Minitab. Copy your results to a Word document with the questions stated clearly using statistical symbols where necessary. Also provide explanations as needed.

For the data below, state which test is appropriate and the null and alternative hypotheses. Then use Minitab to perform the test and calculate the appropriate confidence interval.

1. **Question 1** (50 points)

The rainfall was measured on nine days and the results (in mm) were:

11.7 12.2 10.9 11.4 11.3 12.0 11.1 10.7 11.6

Is the mean rainfall significantly different from 12.1 mm (the average measured over the same period last year)? The standard deviation is assumed known and is 0.45mm.

2. **Question 2** (50 points)

The birth weights (kgs) of 36 babies born after normal pregnancies of 40 weeks were:

3.5 4.1 2.8 3.2 2.8 3.1 3.4 3.0 2.3  
3.8 2.7 3.7 3.9 2.6 2.7 3.1 2.2 2.9  
3.2 3.7 3.3 4.3 3.4 3.5 4.6 3.1 3.4  
3.5 3.5 3.8 2.4 3.0 3.6 4.0 2.9 3.3

Is the mean weight of babies born after a normal pregnancy 3.6kgs?  
The standard deviation is assumed known and is 0.6kgs.