1. Both plots are slightly skewed left, the female group has a narrower spread and higher mean than the male group. There are no outliers. The median of the female group is nearly higher than the top of the IQR of the male group.

2a. H0: µFemale = µmale  
HA: µFemale ≠ µmale

2b. The plots indicate that both groups are skewed left, but the standard deviations are approximately equal, with a difference of 0.08. The observations are probably independent, unless groups of friends are taking the class together.

2c. The test statistic is t = 2.69 with 77 degrees of freedom.

2d. The p-value is 0.008713 it follows the t-distribution since this is a t-test.

2e. With α = 0.05 and p = 0.0087, H0 is rejected (p < α).

2f. There is enough evidence at the 5% significance level to conclude that the true mean GPA of females taking the STAT 217 class is not equal to the true mean GPA of males taking the STAT 217 class at the time this data was collected.

3a. The 95% confidence interval is 0.065 to 0.435.

3b. We are 95% confident that the true difference in average GPAs for males and females taking the STAT 217 class at the time this data was collected lies between 0.065 and 0.435 GPA points (females – males).