

**BUS 230: Business and Economics Communication and Research**  
**In-class Exercise: Univariate and Bivariate Statistics**  
**Instructor: James Murray**

**Your Name:** \_\_\_\_\_

**Directions:** Work in groups of up to four people and answer the following questions based on Chapter 10 of your textbook. All papers will be collected, but only one member’s paper will be randomly selected and graded and all members of the group will receive the same grade. Failure to complete the worksheet with a group will result in a 20 percentage point penalty.

By signing below, you agree that the following work represents the efforts of everyone in the group, and you are willing to accept as your own grade for the group project the grade earned from this representation of your group’s work.

_____	_____	_____
Signature Group Member 1	Print Name	Date
_____	_____	_____
Signature Group Member 2	Print Name	Date
_____	_____	_____
Signature Group Member 3	Print Name	Date
_____	_____	_____
Signature Group Member 4	Print Name	Date

Below is scenario for a research project and a subset of survey questions that is used to obtain data. Review the scenario then answer the questions that follow concerning which statistical test you would use to answer the research question.

**Scenario:** A researcher is interested in exploring the relationship between student employment and effort put forth towards academics. She administers a survey to full-time University of Wisconsin-La Crosse (UW-L) students which includes the following questions:

- What is your employment status? FULL TIME / PART TIME / NOT EMPLOYED
- How many hours did you work last week? NUMERICAL RESPONSE
- How many hours do you study last week? NUMERICAL RESPONSE
- What is your class standing? FRESHMAN / SOPHOMORE / JUNIOR / SENIOR
- On average, how often have you attended office hours so far this semester?  
 MORE THAN ONCE PER WEEK                      ONCE PER MONTH  
 ONCE PER WEEK                                      LESS THAN ONCE PER MONTH  
 TWO OR THREE TIMES PER MONTH

1. Suppose the national average for the number of hours full-time college students work is 12 hours per week. The researcher is interested in determining if there is evidence that UW-L students work on average for more hours than the national average.

(a) What statistical method would you use to answer this question?

(b) Explain your reasoning for your answer in part (a). What characteristics of this research question and methodology make the test you chose appropriate.

2. The researcher is interested in determining whether there is a difference in the average number of hours students study per week between those who are employed (either full-time or part-time) and those who are not employed.

(a) What statistical method would you use to answer this question?

(b) Explain your reasoning for your answer in part (a). What characteristics of this research question and methodology make the test you chose appropriate.

3. The researcher is interested in determining whether on average students spend more hours studying than the number of hours students spend working.

(a) What statistical method would you use to answer this question?

(b) Explain your reasoning for your answer in part (a). What characteristics of this research question and methodology make the test you chose appropriate.

4. The researcher is interested in determining whether there is a difference in how often students attend office hours between those who are employed (either full-time or part-time) and those who are not employed.

(a) What statistical method would you use to answer this question?

(b) Explain your reasoning for your answer in part (a). What characteristics of this research question and methodology make the test you chose appropriate.