PSYC/SOCI 3503
Behavioral Science Statistics
Fall 2008

Division: Behavioral Sciences
Instructor: Aaron J. Bonham, MS
Email: ajbonham@mnu.edu
Fax: 816-235-6689
Phone: 816-235-6688 (day)
Cell Phone: 913-575-7993

Thursday 1:45 – 4:15 p.m.
Room: Metz 117 & computer lab
Office Hours: By Appointment
Office Location: Metz 201

COURSE DESCRIPTION:
This course is designed to prepare students to understand, communicate and interpret quantitative data and analyses within the context of behavioral sciences research. This learning will occur through the application of elementary descriptive statistics, statistical inference, and correlation and regression, with an emphasis on the relationship of theory and method in the research setting. A lab component will train students on the use of SPSS computer software for conducting statistical analyses.

Prerequisites: PSYC 1103 and MATH 1103 or demonstrated algebra proficiency.


COURSE OBJECTIVES:
By the end of this course, the student should be able to:
1. Understand the basic terminology and concepts that are necessary for a mastery of the study of statistics.
2. Use and interpret graphic illustrations that represent data.
3. Explain, calculate, and interpret a variety of descriptive and inferential statistics.
4. Identify and apply the correct statistical technique to match the research question and data set.
5. Use the SPSS computer program to compute descriptive and inferential statistics.

COURSE REQUIREMENTS:
1. **Reading.** Scheduled sections from the text should be read prior to each class session. Consistent reading of the assigned material will provide the basis for informed class discussions. Class attendance and active participation in class discussions will be a part of the grade for the course.

2. **Lab Assignments.** In order to fully understand, implement and benefit from the SPSS software, students are expected to complete lab assignments on time as indicated in the course schedule.

3. **Homework Assignments.** There will be 2 homework projects due throughout the semester. For these projects you will collect data and perform statistical procedures that have been discussed in class.

4. **Exams.** Two regular exams will cover the assigned material from the lectures and text. There will be a two-part final exam that demonstrates comprehension and competence with basic
statistical terminology and analyses in part 1, and competence using the SPSS software in part 2. See the Exams section below for more information.

5. **Special Accommodations:** Students needing special accommodations should notify the instructor as soon as possible.

6. **Academic Integrity:** Learning only takes place through effort, therefore all coursework is expected to be the student’s own. Plagiarism on homework projects, or cheating on exams will not be tolerated. Students caught cheating will be dealt with according to MNU’s policy on academic dishonesty.

**ATTENDANCE:**
The basic policy of MNU is that there are no excused absences. **Consistent attendance is essential for success in this course.** If for any reason you find it necessary to miss a class, please call or email the instructor beforehand if at all possible, or at the soonest moment possible after. For every absence after the second, 10 points per absence will be deducted from the 50 attendance/participation points for the semester. **Students who are more than 10 minutes late for a given class period without a reasonable excuse will be counted as absent for that class and will receive NO CREDIT for that day’s work.**

**EXAMS**
Exams will be made up of a variety of question types including multiple choice, short answer, and hand calculations of statistical tests. All types of questions may require some form of calculation, or may require a demonstration of conceptual understanding. It is strongly suggested that you write your exams and perform your calculations in pencil. The 2 regular exams will cover recent course material, however due to the nature of the subject matter **much of the knowledge required will be cumulative.** The Final exam will be a comprehensive exam, covering material learned throughout the course. It is strongly recommended that you bring a reliable calculator with you to class and exams. **There will be no sharing calculators in exams.** You will not be allowed to have any other electronic devices with you during the exam. Such devices include but are not limited to cell phones, I-pods, laptops, or palm pilots.

**Evaluation:**

| Attendance/Class participation | 50 points |
| Lab Assignments (6 @ 25 points) | 150 points |
| Homework Projects (2 @ 25 points) | 50 points |
| Regular Exams (2 @ 60 points) | 120 points |
| Final Comprehensive Exam | 80 points |
| Final Lab Exam | 50 points |
| **TOTAL POINTS** | **500 points** |

**Grading scale:**
- A 463-500 points
- A- 450-462 points
- B+ 433-449 points
- B 413-432 points
- B- 400-412 points
- C+ 383-399 points
- C 363-382 points
- C- 350-362 points
- D+ 333-349 points
- D 313-332 points
- D- 300-312 points
- F 299 or less
<table>
<thead>
<tr>
<th>DATE (tentative)</th>
<th>Content</th>
</tr>
</thead>
</table>
| August 21       | Overview of the course  
Chapter 1 - Introduction  
Chapter 2 – Central Tendency  
Chapter 3 – Variability |
| August 28       | Chapter 4 – Graphic data  
Chapter 5 – Correlation Coefficients  
*Lab 1 – Intro to SPSS and data set up  
Lab 2 – Descriptive Statistics * |
| September 4     | Chapter 6 – Reliability & Validity  
**Review Chapters 1-6**  
Lab 3 - Correlation |
| *September 11   | **Exam #1 – Chapters 1-6** |
| September 18    | Chapter 7 – Hypothesis Testing Intro.  
Chapter 8 – Probability & Normal Curve  
Chapter 9 – Statistical Inference  
Chapter 11 – t-test: Related/Repeated  
*Lab 4 – t-tests* |
| September 25    | Chapter 10 – t-test: Independent Samples  
Chapters 12 & 13 – ANOVA  
Homework #1 Assigned.  
*Lab 5 - ANOVA* |
| October 2       | Finish Chapter 12 & 13.  
**Review Chapters 7-12** |
| *October 9      | **Exam #2 – Chapters 7-12** |
| *October 16     | Chapter 14 – Hypothesis testing w/ Correlations  
Chapter 15 – Linear Regression  
*Lab 6 – Correlation and Regression*  
**Homework Assignment #1 is due** |
| October 23      | Chapter 16 – Nonparametric tests & Chi-square  
Homework #2 Assigned.  
**Review for Comprehensive Final Exam**  
**Homework Assignment #2 is due**  
*Lab – Catch up/practice day* |
| November 6      | NO CLASS – Priority Registration |
| *November 13    | **Comprehensive Final – in class** |
| November 20 & 27| NO CLASS – Aaron out of town & Thanksgiving Break |
| December 4      | *Lab – Catch up/Review day* |
| *Wednesday* December 10 @ 3-4:50pm | **Final Lab Exam.** |
University Mission Statement:
The University provides a wide variety of intellectual, social, and religious activities that serve a developmental function in students. The ultimate goal is to develop broadly educated individuals with specific skill and career knowledge related to a potential field of work.

Related Division Mission:
The Division of Behavioral Sciences educates and develops students to be competent in academic disciplines focused on understanding human behavior, mental processes, social functioning and the institutional structures of society. Specifically, students will have a firm grasp of the knowledge base, methods of inquiry, and scientific developments within the academic discipline of psychology.

Course Objectives:
Students will demonstrate familiarity with the major concepts, theoretical systems and empirical findings in psychology (current & historic) specifically related to developmental concerns, biological influences, normal and abnormal behavior and mental processes. Students will grasp the importance of research to the field of psychology and demonstrate an applied understanding of basic research methods, including experimental design, data analysis, and interpretation. Students will understand and be exposed to the application of psychological principles to personal, professional and social issues.

Intended Educational (Student) Outcome or State Standards:
Demonstrate understanding and skill in the application of psychological principles to the business setting.

Means of Assessment:
Behavioral Science Statistics Comprehensive Exam Score
Alignment of Mission, Objectives, and Outcomes
MidAmerica Nazarene University

Term: Fall 2008    Class: Behavioral Science Statistics
Dept #: PSYC 3503 / SOCI 3503    CRN: 20051
Professor: Aaron Bonham
Means of Assessment: Behavioral Science Statistics Comprehensive Exam Score

University Mission Statement:
The University provides a wide variety of intellectual, social, and religious activities that serve a developmental function in students. The ultimate goal is to develop broadly educated individuals with specific skill and career knowledge related to a potential field of work.

Related Division Mission:
The Division of Behavioral Sciences educates and develops students to be competent in academic disciplines focused on understanding human behavior, mental processes, social functioning and the institutional structures of society.

Course Objectives:
Students will have a firm grasp of the knowledge base, methods of inquiry, and scientific developments within the academic discipline of psychology.

Intended Educational (Student) Outcome or State Standards:
Students will grasp the importance of research to the field of psychology and demonstrated an applied understanding of basic research methods, including experimental design, data analysis and interpretation.

Means of Assessment:
Behavioral Science Statistics Comprehensive Exam Score