Course Information:
PSYC 2354.002: Psychological Statistics
Tuesday-Thursday 2:00-3:20 PM
Classroom: HPR 135

Professor Information:
Amy Hayes, Ph.D.  
Office: HPR 224  
Office Phone: 903 565-5753  
Email address: ahayes@uttyler.edu
Office Hours: M 10-12, Thursdays 11-12


A student at UT-Tyler is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Course Catalog Description
PSYC 2354: An introduction to descriptive and inferential statistical methods used in psychological research. Emphasis will be on hypothesis testing with t-tests, analysis of variance, correlation, and selected nonparametric techniques.

Student Learning Outcomes & Assessments
Upon successful completion of the course, the student will be able to …
1. Demonstrate an understanding of the differences between and uses of descriptive and inferential statistics.  (BS/BA 6.0)
2. Demonstrate an understanding of the differences between parametric and nonparametric statistics  
   (BS/BA 6.0)
   a. Define and distinguish between a population and a sample.
   b. Define and distinguish between statistics and parameters.
   c. Classify data with respect to the four levels of measurement.
3. Compute statistical tests manually (with a calculator) and interpret and explain results.  (BS/BA 6.0)
   a. Compute and explain measures of central tendency and find the mean, median and mode of a sample and a population
   b. Compute and explain variability: range, variance and standard deviation
   c. Calculate and interpret standard z scores and information gained through normal distribution tables.
   d. Calculate and interpret correlation coefficients using the Pearson and the Spearman.
   e. Explain regression and predict y-values using regression the equation.
   f. Calculate and interpret standard error of the estimate and proportion of variance accounted for.
   g. Discuss hypothesis testing and how to state the null and alternative hypotheses
   h. Interpret the level of significance of a hypothesis test (p-values)
   i. Identify type I and type II errors, and the probabilities associated with them.
   j. Discuss the power of an analysis and the factors that affect it.
   k. Perform one and two sampled t-tests, determine significance, and interpret the results.
   l. Explain an F-test, calculate and interpret a one-way ANOVA
   m. Calculate and interpret a two-way ANOVA
   n. Calculate and interpret non-parametric tests such as the Mann-Whitney U, the Wilcoxon rank test, and Chi Squares.
   o. Graph different types of data manually and describe the information contained in them.
5. Be able to identify the independent and dependent variables of experiments, determine the design and the correct statistical analyses with which to test appropriate hypotheses.  (BS/BA 6.0)
**Evaluation and grading:** Course grades will be determined based on the student’s performance on in-class quizzes and exams. Students should expect at least a quiz a week, over material covered since the previous quiz or exam. The lowest quiz grade will be dropped.

The four major exams will be worth 15% each of the course grade (60% exam total), and combined quizzes will be worth 40% of that grade. A course average of 90 or more will produce an A, 80-89 is a B, 70-79 is a C, 60-69 is a D, and anything below 60 is an F. Psychology majors must have a grade of C or better to meet degree requirements.

**Course Policies and Information**

**Due dates and make-ups:** Assignments MUST be turned in when due. Any make-up exams will be administered on November 17. Those who do not have exams to make up will be provided the opportunity to retake one of the first three exams or two quizzes. All make-ups and retakes are limited to this date.

**Attendance and Preparedness:** Attendance in this class matters! Students who do the best in this class are those who come to every class meeting, and arrive on time and prepared. Being on time to class is important, as we will usually start off with a quiz over previous work. Please bring with you to every class: pencils with erasers, paper and a calculator. Quizzes will have a set time limit so that we can proceed with class on schedule.

**Practice Work:** During class time we will usually have time to begin the practice problems for each chapter. Quiz content and format will be modeled on practice worksheets but may also include the application of related concepts covered on the powerpoint. As time permits, you should expect to complete substantial practice before leaving class. The practice time is for your benefit, so please take advantage of it.

**Accuracy Checks:** During quizzes and exams that involve numerical calculations, I am willing to check the accuracy of your final numbers. If your answer is incorrect, but your work is neat and legible, I will attempt to find the point in your calculations where you “went wrong,” so that you can try again, time permitting. Please do not abuse this privilege, or rely too heavily on it. I work hard in giving you every chance to show me what you have learned, but you must work hard, as well, to learn.

**Online Resources:** The link below will take you to the Companion site with resources (Flashcards, Glossary, and Tutorial quizzes for each chapter) available from your textbook’s publisher.

- Student Companion Site
# Course Calendar

<table>
<thead>
<tr>
<th>Tuesdays</th>
<th>Thursdays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 30   Ch 1 Intro</td>
<td>Sep 1   Ch 2 Variables</td>
</tr>
<tr>
<td>Sep 6    Ch 3 Frequency</td>
<td>Sep 8   Ch 4 Central Tendency</td>
</tr>
<tr>
<td>Sep 13   Ch 5 Variability</td>
<td>Sep 15  Ch 6 Normal curve</td>
</tr>
<tr>
<td>Sep 20   Ch 6 Normal curve continued</td>
<td>Sep 22 Exam 1</td>
</tr>
<tr>
<td>Sep 27   Ch 7 Correlation</td>
<td>Sep 29  Ch 8 Regression</td>
</tr>
<tr>
<td>Oct 4    Ch 9 Probability</td>
<td>Oct 6   Ch 10 Hypothesis testing and review</td>
</tr>
<tr>
<td>Oct 11   Exam 2</td>
<td>Oct 13  Ch 11 Single-samples test</td>
</tr>
<tr>
<td>Oct 18   Ch 11 Single-samples test cont.</td>
<td>Oct 20 Ch. 12 Two-samples test</td>
</tr>
<tr>
<td>Oct 25   Ch 12 Two-samples test cont.</td>
<td>Oct 27 Ch 13 oneway ANOVA</td>
</tr>
<tr>
<td>Nov 1    Ch 13 post hoc tests</td>
<td>Nov 3   Review</td>
</tr>
<tr>
<td>Nov 8    Exam 3</td>
<td>Nov 10  Ch 14 twoway ANOVA</td>
</tr>
<tr>
<td>Nov 15   Ch 14 continued</td>
<td>Nov 17  Make-ups &amp; Retakes</td>
</tr>
<tr>
<td>Nov 22   Thanksgiving Holiday</td>
<td>Nov 24  Thanksgiving Holiday</td>
</tr>
<tr>
<td>Nov 29   Ch 15 Chi Square</td>
<td>Dec 1   Ch 15 Non parametrics</td>
</tr>
<tr>
<td>Dec 6    Choose the Stat</td>
<td>Dec 8   Review</td>
</tr>
</tbody>
</table>

### University Policies:

#### Grade Replacement/Forgiveness
If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

#### Disability Statement
"If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability services/accommodation(s) must provide appropriate documentation of his/her disability to the Disability Services counselor. In order to assure approved services the first week of class, diagnostic, prognostic, and prescriptive information should be received 30 days prior to the beginning of the semester services are requested. For more information, call or visit Disability Services located in the University Center, Room 3150. The telephone number is (903) 566-7079. Additional information may also be obtained at the following UT Tyler Web address: [http://www.uttler.edu/disabilityservices](http://www.uttler.edu/disabilityservices).

#### Student Absence due to Religious Observance
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting.

#### Student Absence for University-Sponsored Events and Activities
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.
Social Security and FERPA Statement:
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Student Standards of Academic Conduct

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

(i) “Cheating” includes, but is not limited to:
• copying from another student’s test paper;
• using during a test, materials not authorized by the person giving the test;
• failure to comply with instructions given by the person administering the test;
• possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed “crib notes”. The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
• using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
• collaborating with or seeking aid from another student during a test or other assignment without authority;
• discussing the contents of an examination with another student who will take the examination;
• divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructor has designated that the examination is not to be removed from the room or not to be returned or to be kept by the student;
• substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
• paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program, or information about an unadministered test, test key, homework solution or computer program;
• falsifying research data, laboratory reports, and/or other academic work;
• taking, keeping, misplacing, or damaging the property of U. T. Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and,
• misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.

(ii) “Plagiarism” includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another’s work and the submission of it as one’s own academic work offered for credit.

(iii) “Collusion” includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.

Vision

The College of Education and Psychology is nationally recognized and respected for its academic programs and opportunities. It is a center of academic excellence, scholarly inquiry, and public service. The College prepares leaders to meet the critical challenges of the 21st Century through productive contributions to local and global communities and toward individual and cultural equity.

Mission

The mission of the College of Education and Psychology is to provide a positive environment that fosters the acquisition of knowledge and skills. The mission is individually and collectively realized through a community of scholars that contributes to knowledge through scholarly inquiry; organizes knowledge for application, understanding and communication; and provides leadership and service. We affirm and promote global perspectives that value individual and cultural diversity to enhance learning, service, and scholarship.
Psychology B.S./B.A. Program Mission Statement:

The mission of the undergraduate program in Psychology is to provide students with a demonstrable knowledge and understanding of the science of behavior and the mind, including content in Memory and Thinking; Sensory and Behavioral Neuroscience; Developmental Psychology; Clinical and Abnormal Psychology; Social Psychology; Psychological Measurement and Methodology. We seek to prepare students for either postgraduate education or a wide variety of employment settings and careers.

Psychology B.S./B.A. Program Learning Outcomes may be found at:

http://www.uttyler.edu/psychology/BSBAPsychPLO