

**Wilberforce University****Division of Arts & Sciences  
Course Syllabus**

<b>Course:</b>	<b>PSY 325 Intermediate Statistics 3 Credit Hours</b>
<b>Term:</b>	<b>Spring 2012  Friday 6.00pm – 8.30pm (King 215)</b>
<b>Instructor:</b>	<b>Name: Prof. Francis Mozu Email Address: fmozu@wilberforce.edu Phone Number: 9377085678</b>
<b>Catalog Description:</b>	<b>Further consideration in hypothesis testing. Testing hypotheses about the difference between two dependent means, correlation, analysis of variance, chi-square and inference about frequencies.</b>
<b>Prerequisites</b>	<b>MAT 111 and PSY 220</b>
<b>Course Level Learning Outcomes:</b>	A student who completes the course with a grade 'C' or better would have: 1. Gained knowledge of statistical reasoning and techniques as used in the behavioral sciences. 2. Gained knowledge of principles and assumptions applied to the measurement of human characteristics and behavior.
<b>Materials:</b>	Statistical Reasoning in the Behavioral Sciences Bruce M. King, John Wiley and Sons, New York ISBN 978-0-470-64382-2  Hand-held calculator is required.
<b>Grading:</b>	Grading Scale 90 - 100% = A 89 - 90% = B 79 - 80% = C 69 - 70% = D Below 60% = F <b>Assignments (8): 400 points (40%)</b> <b>Tests (4): 400 points (40%)</b> <b>Attendance 50 points (5%)</b> <b>Final Exam 150 points (15%)</b>

A student's proficiency in course work is measured in terms of the following Alphabetical symbols. Minuses and pluses are not accepted.

A: Excellent

B: Good

C: Satisfactory (Grade C or better required in major courses).

D: Poor (passing, except in major courses).

F: Earned Failure. (Removed only by repeating the course). Upon successfully passing the course, the first grade is "excluded" from grade point average. The second grade is "included in the recalculation of the grade point average.

I: Incomplete (student performing satisfactorily, but unable to complete coursework due to valid reason).

N: Used in cases where grades are not yet submitted.

W: Withdrew before course drop deadline.

WP: Student withdraws from University. Withdrew passing after course drop deadline (2 weeks after mid-term).

WF: Student withdraws from University. Withdrew failing after course drop deadline (2 weeks after mid-term. WF is treated as an F (punitive grade).

CR: Credit/pass

NC: No credit/fail

Z: Failed course for non-attendance/unofficial withdrawal (treated the same as an F grade). Last date of attendance is reported by faculty.

<p><b>Activities:</b></p>	<p>Assignments (8)          Tests (4)          Attendance          Final Exam</p>
<p><b>Policy Statements:</b></p>	<ul style="list-style-type: none"> <li>• Students are expected to attend classes regularly and punctually and to leave only when class is concluded. According to university regulations the instructor may reduce the course grade when the student has more than 3 unexcused absences during the semester.</li> <li>• Students are expected to participate in all assignments and exams.</li> <li>• Students should take notes, contribute to progress of the class and not cause distractions. Notes must be dated.</li> <li>• Students must be prepared for each class by reading assigned chapters and reviewing course notes.</li> </ul>
<p><b>University Policies:</b></p>	<p><u>Academic Honesty:</u>          Plagiarism and cheating are completely unacceptable in an institution of higher education and learning. Such behavior deprives the student involved of the desired education and development of an appropriate value system. It is extremely unfair to other students, and it severely diminishes the value and integrity of a University degree.          Plagiarism occurs whenever another's work is submitted as one's own. This includes the use of information from an Internet site or from a published author's ideas and words without proper attribution or documentation. It also includes the copying of term papers, other unpublished works, homework, case reports, computer programs and spreadsheets, and any other course assignments which are submitted for course credit as the student's own effort.</p> <p>Each instructor shall state the specific penalties for plagiarism and cheating in the course syllabus. The instructor has final responsibility for assessing the penalty in such</p>

	<p>cases regarding the course grade.</p> <p>All cases of plagiarism and cheating will be referred to the Vice President for Academic Affairs for possible further action. Additional penalties may be imposed for the egregious cases of plagiarism and cheating.</p>
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### Drops and Withdrawals

#### Dropping Courses:

A course may be dropped up through the end of the second week of the semester without any record on the transcript. After this date, a course may be dropped up to two weeks after mid-term grade reports are due, with a **W** appearing on the transcript. Withdrawals after mid-terms must be approved by the Vice-president of academic Affairs.

In certain General Studies core courses, students' assignments to course sections may be changed by faculty with written notification given to the Registrar. In all other cases, a student wishing to move from one section of a course to another must accomplish this by using a drop-add form to drop the old section and add the new section.

#### Withdrawal/Grading Policies

The following procedures will apply to all students withdrawing from the University. Grades will be given in regard to the time of withdrawal. Contact the Registrar's Office for forms and assistance.

- **W** (official withdrawal initiated by the student): To be given when a student withdraws between the first day of class/registration and the last day to drop courses, this is two weeks after mid-term exams.
- **AW** (unofficial withdrawal not initiated by the student): The student does not inform anyone that he/she is leaving campus ( the student walks out). The university may also administratively withdraw a student for disciplinary reasons, academic legal anytime during the semester.

#### Special Accommodations:

A student who is ill or who has or develops medical conditions including but not limited to illness, physical or other disability or pregnancy must notify the Director of Health Services immediately.



<p><b>WEEK 5</b></p>	<p>f. Calculating <math>r</math> from Raw Scores HW #2 <b>TEST # 1</b></p> <p><b>CHAPTER 8: PREDICTION(REGRESSION ANALYSIS)</b> a. The Criterion of Best Fit b. The Regression Equation HW #3</p>
<p><b>WEEK 6</b></p>	<p><b>CHAPTER 11: RANDOM SAMPLING AND SAMPLING DISTRIBUTIONS</b> a. Random Sampling b. Using a Table of Random Numbers c. The Random Sampling Distribution of the Mean: An Introduction d. Characteristics of the Random Sampling Distribution of the Mean HW #4</p>
<p><b>WEEK 7 &amp; 8</b></p>	<p><b>CHAPTER 12: INTRODUCTION TO STATISTICAL INFERENCE: TESTING HYPOTHESIS ABOUT SINGLE MEANS (z and t)</b> a. The Null and Alternative Hypothesis b. When Do We Retain and When Do We Reject the Null Hypothesis? c. Generality of the Procedure for Hypothesis Testing d. The Statistical Decision e. Choice of <math>H_A</math> : One-Tailed and Two-Tailed Tests f. Review of Assumptions in Testing Hypothesis about a Single Mean HW #5 <b>MIDTERM TEST: Test #2 (Chapters 8, 11, &amp; 12)</b></p>
<p><b>WEEK 9: 3/5 – 3/9</b></p>	<p><b>SPRING BREAK</b></p>
<p><b>WEEK 10</b></p>	<p><b>CHAPTER 13: INTEPRETING THE RESULTS OF HYPOTHESIS TESTING:</b> Effect Size, Type I and Type II Errors, and Power</p>

**WEEK 11 & 12**

- CHAPTER 14:  
TESTING HYPOTHESES ABOUT  
THE DIFFERENCE BETWEEN  
TWO INDEPENDENT MEANS**
- a. The Null and Alternative Hypothesis
  - b. The random Sampling Distribution of the Difference Between Two Sample Means
  - c. Properties of the Sampling Distribution of the Difference between Means
  - d. Determining a formula for  $t$
  - e. Testing the Hypothesis of No Difference Between Two Independent Means: The Dyslexic Children Experiment
  - f. The Conduct of a One-Tailed Test
  - g. Sample Size in Inference about Two Means
  - h. Estimating Power and Sample Size for Tests of Hypothesis about the Difference Between two Independent Means
- HW #6

- CHAPTER 15:  
TESTING FOR A DIFFERENCE  
BETWEEN TWO DEPENDENT  
(CORRELATED) GROUPS**
- a. Degrees of Freedom for Tests of no difference Between Dependent means
  - b. Testing a Hypothesis about Two dependent Means
  - c. An Alternative Approach to the Problem of Two Dependent Means
  - d. Assumptions When Testing a Hypothesis about the Difference between Two dependent Means
- HW #7

**TEST# 3 (Chapters 13, 14, & 15)**

**WEEK 13**

- CHAPTER 18:  
TESTING FOR DIFFERENCES  
AMONG THREE OR MORE  
GROUPS: ONE- WAY ANALYSIS OF  
VARIANCE**
- a. The Null Hypothesis
  - b. The Logic of One-Way ANOVA: Variation Within and Between Groups
  - c. Partition of the Sum of Squares
  - d. Degrees of Freedom
  - e. Variance Estimates and  $F$  Ratio

