

PSYCHOLOGY 3000: STATISTICS FOR THE BEHAVIORAL SCIENCES

WESTERN MICHIGAN UNIVERSITY COURSE SYLLABUS FALL 2008

COURSE INFORMATION

Meeting Time:	Mon Wed Fri 12:00pm – 12:50pm	Location:	Wood Hall Room 2708
Instructor:	Eric J. Fox, Ph.D. Email: eric.fox@wmich.edu Phone: (269) 387-4479 Office: Wood Hall Room 3522	Office Hours:	Mondays, 1:00pm – 3:00pm Tuesdays, 12:00pm – 1:00pm or by appointment
Teaching Assistant:	[REDACTED] Email: [REDACTED] Office: Lobby outside Wood 1710	Office Hours:	Thursdays, 2:00pm – 4:00pm or by appointment
Teaching Assistant:	[REDACTED] Email: [REDACTED] Office: Lobby outside Wood 1710	Office Hours:	Wednesdays, 1:00pm – 2:00pm Thursdays, 2:00pm – 3:00pm or by appointment

COURSE OVERVIEW

This course is primarily concerned with the concepts of introductory statistics. Statistics might seem to be a boring subject to some, and some people are scared of the math involved in statistics. Ultimately, however, statistics is not about numbers or formulas or sampling theory – it is about *life*. Statistics are used to help us determine whether or not something we've done was effective, and whether something we've observed can be applied to new or different situations or people. If we observe something wonderful or horrible happen to someone, for example, statistics can help us understand how likely that event is to happen to us, our loved ones, or our clients. This kind of knowledge can allow us to plan for the future, achieve our goals more effectively or efficiently, allocate our resources in the best manner possible, and hopefully live better lives. Just try to remember that as you learn about all of the painfully boring statistical formulas and concepts. ☺

In this course we will consider in detail various descriptive statistics such as the measures of central tendency and variability, and we will examine distributions of data as they relate to z-scores and probability. Inferential statistics in the form of hypothesis testing with *t*-tests and the analysis of variance (ANOVA) will be covered, and correlation will be introduced.

TEXT & MATERIALS

The following materials will be used for the course, and are available at the WMU and University Bookstores:

1. Gravetter, F. J., & Wallnau, L. B. (2008). *Essentials of statistics for the behavioral sciences (6th Ed.)*. Belmont, CA: Wadsworth/Thomas Learning. [REQUIRED]
2. Gravetter, F. J. (2008). *Study guide for Gravetter and Wallnau's Essentials of Statistics for the Behavioral Sciences*. Belmont, CA: Wadsworth/Thomas Learning. [RECOMMENDED]

WEBSITE

A course website will be maintained using WMU's Blackboard Learning System. The website has the following key features:

- Course materials – a variety of materials are available, including the syllabus, PowerPoint slides from lectures, and exam study guides
- Online self-quizzes – these are **required** weekly assignments (see next page)
- Gradebook – all scores and grades will be available online (exam scores will typically be available within 24 hours)

You can access all of your Blackboard course websites from **GoWMU** (<http://gowmu.wmich.edu>). Click on the “e-learning” link from the row of icons near the top right of the screen. If you need help accessing or using the course website, try the following resources:

- E-Learning Support Website: <http://www.wmich.edu/vista/students>
- Office of Information Technology (OIT) Help Desk Phone Number: 269-387-HELP
- Office of Information Technology (OIT) Help Desk Phone Email Address: helpdesk@wmich.edu

GRADE

Your course grade is determined by the total number of points you accumulate on:

Assignment		Points	%of Total Points
Unit Exams (12 @ 35 points each)	=	420	84%
Online Self-Quizzes (12 @ 5 points each)	=	60	12%
Final Exam	=	15	3%
Math Review Quiz	=	5	1%
TOTAL		500	100%

The course letter grade is related to the point total as follows:

Grade	A	BA	B	CB	C	DC	D	E
Percent	90%	85%	80%	75%	70%	65%	60%	< 60%
Points	450+	425–449	400–424	375–399	350–374	325–349	300–324	< 300

Please note that **no extra credit** will be offered for this course.

Your grade will be determined entirely by the points you receive on the assignments listed above.

UNIT EXAMS

The weekly unit exams are the primary source of points for this course. They will consist mainly of multiple-choice, short-answer, and computational problems based on the study objectives provided on the course website. Please note that the exams may be based on **all** of the study objectives, even though some objectives may not be addressed during lecture. For some exams, it will be necessary for you to use certain statistical tables; these tables will be provided for you at the time of the exam.

Exams begin at 12:00pm, and you will have until 12:50pm to complete the exam. Once one person has completed the exam and left the room, **no one will be allowed to begin the exam**. Therefore, if you consistently arrive late, you run the risk of missing the exam altogether.

CALCULATORS

You may use a calculator for the exams, but graphing calculators and other types of calculators that store information are **NOT ACCEPTABLE**. Simple calculators that perform the statistical operations necessary for this class are available at Meijer and other such stores for \$5 - \$15. You will need a calculator that can calculate square roots. If you have questions about the acceptability of your

calculator, show it to me **before the first exam**. The use of unacceptable calculators will be considered cheating (see policy below). Bring your calculator to **every class**, as we will do practice activities that require its use. You will **not** be allowed to use your cell phone as a calculator during exams.

FORMULAS

We will be using several statistical formulas throughout the semester. You will be required to memorize some of the simpler formulas, but more complex formulas will be provided for you during the exams. Formulas to be provided will be announced during lecture. Keep in mind that although some formulas will be provided, you will still need to learn how to use them and know when their use is warranted.

EXAM RETURN

Graded exam answer sheets will usually be returned at the beginning of the following class meeting. Exam scores typically will be available on the course website within 24 hours after the exam is taken. You should always compare your answer sheet grade with the website grade to make sure your grade has been recorded correctly!

EXAM RE-GRADE POLICY

After exams have been graded and returned, you may submit your exam for re-grading if you believe that it was not graded accurately. Re-grade requests must be submitted **in writing** within one week after the exams have been returned. Your request should identify the question(s) you believe should be re-graded and the reason(s) why you believe more points should be awarded. References to relevant material in your textbook (page and paragraph) or to specific lecture material will make it easier to evaluate your request. Attach your exam answer sheet to your re-grade request. When evaluating a re-grade request, I will review both the test item and my grading criteria.

ONLINE SELF-QUIZZES

Each week you must complete an online self-quiz available on the course website. You must complete the self-quiz before 11:00am the day of the exam. You may use your textbook and notes while taking the self-quiz, and you may take it wherever and whenever you like (before the deadline). Each self-quiz consists of 20 multiple-choice and true/false questions related to the chapters covered by that week's exam. Each self-quiz is worth up to 5 points.

You can re-take each self-quiz as many times as you like before the deadline; only your highest score will count toward your grade. Note that you will not receive exactly the same quiz each time; some questions will be the same, but others will be different. It is recommended that you re-take each self-quiz as many times as necessary to obtain a perfect score – missing a point or two on each self-quiz adds up over the semester and can make a big difference on your final grade! This means you should **not** wait an hour before the deadline to attempt the self-quiz. You may need several attempts to earn a perfect score, and should allot yourself enough time to do so.

Please note that the online self-quizzes may occasionally cover material or objectives from the chapter that will not appear on the exam. Follow the exam/unit study objectives to determine which material you must know for the exam.

FINAL EXAM

A comprehensive final exam covering material from the entire course will be administered at the end of the semester. This exam will focus on some of the most important concepts from the course, and will be similar or identical to a course pretest that you will take at the beginning of the semester. A study guide outlining the material to be covered on the final exam will be provided on the course website. **The final exam is required.** Although it is only worth 15 points or 3% of your total grade, failure to take the exam will result in your final grade being lowered one letter grade level (e.g., from an "A" to a "BA" or from a "BA" to a "B").

MATH REVIEW QUIZ

During the first unit, you will be required to complete a Math Review Quiz to assess your basic math skills. This quiz will be similar in content and format to the “Skills Assessment Preview Exam” found in Appendix A of your textbook. To study for this quiz, you should read Appendix A to review and master the material it contains.

ATTENDANCE

Attendance at lecture is not required, but you are strongly encouraged to attend class because:

- We will be completing practice problems in class that are very similar to the types of questions and problems you will encounter on the exams. By attending class, you will get a good sense of what will be on the exam, be able to assess your skills and knowledge, and receive immediate feedback and assistance with any difficult material from the TAs and instructor.
- Very few students are able to earn a good grade in this course without attending class regularly.
- You are responsible for knowing any information, announcements, or handouts provided in class

If you do miss a class, you are responsible for any lecture material presented during class and any announcements made regarding changes in exams, assignments, or the course schedule.

REMEDIAL EXAMS

If you are absent from an exam **for any reason** (illness, a family emergency, a funeral, car trouble, oversleeping, etc.) you will receive a score of zero for that exam. In some circumstances, you may arrange with the instructor to take an exam early (before the scheduled class exam). Contact the instructor if you would like to arrange to take an exam early.

Two remedial exams will be given during the semester; one in the middle of the semester and the other at the end of the semester (see Calendar below for exact dates). You can use your score on remedial exams to replace missing or low exam scores. The first remedial exam will review material covered in Units 1 through 6, and the remedial exam score can **only** be used to replace a zero or a low score on Unit Exams 1 through 6. The second remedial exam will review material covered in Units 7 through 12, and that remedial exam can only be used to replace a zero or low score on Unit Exams 7 through 12. If your remedial exam score is lower than your lowest score, it will not be used. In other words, the remedial exam can only help you, not hurt you. **Both remedial exams are optional.**

No other makeup exams will be given for any reason—this is a strict and non-negotiable policy, and it is best not to miss any exams. Remember that the remedial exams are cumulative and more difficult than regular unit exams. If you are satisfied with all of your exam scores, you do **not** have to take the remedial exams.

INCOMPLETES

In keeping with the University’s policy on the grade of Incomplete, a grade of incomplete (“I”) will **NOT** be given as a substitute for a failing grade. Incompletes are only given when a student who is passing course with a grade of C or better has to miss the remainder of the semester due to an unavoidable circumstance (e.g., a serious illness). Contact the instructor as soon as possible if you believe you need (and are eligible) to take an Incomplete for the course.

ACADEMIC DISHONESTY

You are responsible for making yourself aware of and understanding the policies and procedures in the Undergraduate and Graduate Catalogs that pertain to Academic Honesty. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. [The policies can be found at <http://catalog.wmich.edu> under Academic Policies, Student Rights and Responsibilities.]

If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Student Conduct. You will be given the opportunity to review the charge(s). If you believe you are not responsible, you will have the opportunity for a hearing. You should consult with your instructor if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test. **Any student found to be responsible for the act of academic dishonesty will be given a failing grade in the course and may be suspended or expelled from the university.**

EMERGENCY CLASS CANCELLATION

In the event that classes are officially canceled (due to weather, rioting, rip in the space-time continuum, etc.), the following schedule will be automatically in effect:

1. If the class day canceled is a day on which an exam was scheduled, the exam will be given on the first class day when classes resume
2. If the day canceled is a lecture day immediately prior to an exam day, the exam will be given on the first class day when classes resume

RELIGIOUS OBSERVANCES POLICY

The University is a diverse, multicultural enterprise and, as a community, we jointly embrace both individual responsibility and dignified respect for our differences. It is our general policy to permit students to fulfill obligations set aside by their faith. It is our intent that students who must be absent from scheduled classes to fulfill religious obligations or observe practices associated with their faith not be disadvantaged. However, it is your responsibility to make arrangements with the instructor in advance.

If you anticipate an absence due to a religious obligation, you must notify the instructor in writing at least one week in advance. If your absence falls on a lecture day, you will be able to download the lecture notes from the course website and you can contact the instructor to learn of any extra-credit assignments that may have been announced in class. If your absence falls on an exam day, you have two options: 1) schedule a time with the instructor to take the exam early or 2) accept a score of 0 for that exam and then replace it with your remedial exam score.

AMERICANS WITH DISABILITIES ACT

The Americans with Disabilities Act (ADA) requires that all qualified persons have equal opportunity and access to education regardless of the presence of any disabling conditions. Access to education means providing students with the tools needed to be successful in higher education, including physical accommodations in classroom and lab space, course substitutions and/or waivers, modifications of classroom presentations, and modifications in testing and course requirements. If you have some specific learning disability, hearing impairment, visual impairment, seizure disorder, motor impairment, psychological disorder(s), and/or any other disabilities, you should register with the Disabled Student Services on campus, get a note from them outlining any special attention you may need, and bring that to me as soon as possible. I will make every effort to provide any accommodations necessary.

SUCCESS IN THE COURSE

To be successful in this course, you should:

1. Buy the textbook, study guide, and an acceptable calculator right away
2. Read the relevant text material **before** coming to lecture and come prepared with any questions you have about the material
3. Review and master the information and skills identified in the exam study objectives each week
4. Re-do every online self-quiz until you achieve a perfect score
5. Bring your textbook and calculator to **every class**
6. Complete as many of the practice problems as possible in class so that you can receive help or feedback on your answers
7. Do the practice problems in the textbook and study guide for each unit
8. Contact the instructor or TA whenever you have questions about material (either via phone, email, or office hours)

UNITS

UNIT	Textbook Content
UNIT 1	Chapter 1 – Introduction to Statistics <i>and</i> Chapter 2 – Frequency Distributions
UNIT 2	Chapter 3 – Central Tendency
UNIT 3	Chapter 4 – Variability
UNIT 4	Chapter 5 – z-Scores
UNIT 5	Chapters 6 – Probability
UNIT 6	Chapter 7 – Probability and Samples
UNIT 7	Chapter 8 – Introduction to Hypothesis Testing
UNIT 8	Chapter 9 – Introduction to the <i>t</i> Statistic
UNIT 9	Chapter 10 – The <i>t</i> Test for Two Independent Samples
UNIT 10	Chapter 11 – The <i>t</i> Test for Two Related Samples (NOTE: Skip chapter 12!)
UNIT 11	Chapter 13 – Introduction to Analysis of Variance (NOTE: Skip chapter 14!)
UNIT 12	Chapter 15 – Correlation and Regression

CALENDAR

The class will meet every Monday, Wednesday, and Friday from 12:00pm to 12:50pm as outlined below. This schedule is subject to change at the instructor's discretion.

Mondays	Wednesdays	Fridays
	September 3 Course Overview	September 5 Math Quiz & Course Pretest
September 8 UNIT 1 Lecture (Ch. 1 & 2)	September 10 UNIT 1 Lecture (Ch. 1 & 2)	September 12 UNIT 1 Exam
September 15 UNIT 2 Lecture (Ch. 3)	September 17 UNIT 2 Lecture (Ch. 3)	September 19 UNIT 2 Exam
September 22 UNIT 3 Lecture (Ch. 4)	September 24 UNIT 3 Lecture (Ch. 4)	September 26 UNIT 3 Exam
September 29 UNIT 4 Lecture (Ch. 5)	October 1 UNIT 4 Lecture (Ch. 5)	October 3 UNIT 4 Exam
October 6 UNIT 5 Lecture (Ch. 6)	October 8 UNIT 5 Lecture (Ch. 6)	October 10 UNIT 5 Exam
October 13 UNIT 6 Lecture (Ch. 7)	October 15 UNIT 6 Lecture (Ch. 7)	October 17 UNIT 6 Exam
October 20 UNIT 7 Lecture (Ch. 8)	October 22 UNIT 7 Lecture (Ch. 8)	October 24 UNIT 7 Exam
October 27 Remedial Exam 1	October 29 UNIT 8 Lecture (Ch. 9)	October 31 UNIT 8 Exam
November 3 UNIT 9 Lecture (Ch. 10)	November 5 UNIT 9 Lecture (Ch. 10)	November 7 UNIT 9 Exam
November 10 UNIT 10 Lecture (Ch. 11)	November 12 UNIT 10 Lecture (Ch. 11)	November 14 UNIT 10 Exam
November 17 UNIT 11 Lecture (Ch. 13)	November 19 UNIT 11 Lecture (Ch. 13)	November 21 UNIT 11 Exam
November 24 Stats Day – No Class	November 26 Thanksgiving Break – No Class	November 28 Thanksgiving Break – No Class
December 1 UNIT 12 Lecture (Ch. 15)	December 3 UNIT 12 Lecture (Ch. 15)	December 5 UNIT 12 Exam
<p>Final Exam & Remedial Exam 2* Monday, December 8th 2:45pm – 4:45pm</p> <p><small>*this exam is given during our final exam time</small></p>		