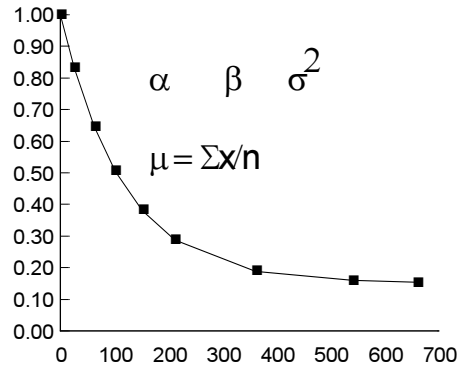


Statistics for the Social Sciences

PSYC 250

Fall 2009

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WF 10:10 to 11:30
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Course Description:

This course covers descriptive and inferential statistics in the design, analysis, and interpretation of social science research with practical application using computers in laboratory. The statistical methods to be covered include frequency distributions and graphing, measures of central tendency, measures of variability and correlation, t-tests, analysis of variance and several distribution-free tests. Prerequisites: MATH 101 or 105 and the introductory course in the major or permission of instructor.

This course will introduce you to methods of collecting, presenting, analyzing, and interpreting social science data. Statistics are tools for understanding data and for making rational decisions about the results of research. My goal for the course is to provide you with a well-stocked toolbox of statistical techniques that will aid you in both your professional and personal life. For each technique you should learn how to use that technique and, perhaps more importantly, when it is appropriate to use the technique.



Required texts:

Runyon, R. P., Coleman, K. A., & Pittenger, D. J. (2000). *Fundamentals of Behavioral Statistics* (9th edition). New York: McGraw-Hill.

You should bring the Runyon et al. text to every class and lab meeting. You may not need it every time, but when we need it you should have it with you.

You will also need a calculator to complete homework assignments and exams. This need not be an expensive statistical calculator; an inexpensive basic calculator will do just fine. You will find, however, that a square root key and a memory will be extremely valuable.



Tentative Semester Schedule, Lecture:

Week	Date	Topic	Readings from the Runyon et al. text
1	08/17	Syllabus	
	08/19	Introduction to Statistics	Chapters 1 and 2
	08/21	Basic Concepts	Chapters 1 and 2
2	08/24	Exploratory Data Analysis	Chapter 3
	08/26	Exploratory Data Analysis	Chapter 3
	08/28	Measures of Central Tendency	Chapter 4
3	08/31	Measures of Dispersion	Chapter 5
	09/02	Measures of Dispersion	Chapter 5
	09/04	Measures of Dispersion	Chapter 5
4	09/07	Labor Day Holiday	Chapter 5
	09/09	Graphs and Tables	Chapter 7
	09/11	Graphs and Tables	Chapter 7
5	09/14	Exam 1	Covers chapters 1-5
	09/16	The Standard Normal Distribution	Chapter 6
	09/18	The Standard Normal Distribution	Chapter 6
6	09/21	Correlation and Regression	Chapters 8 and 9
	09/23	Correlation and Regression	Chapters 8 and 9
	09/25	Correlation and Regression	Chapters 8 and 9
7	09/28	Probability	Chapter 10
	09/30	Probability	Chapter 10
	10/02	Probability	Chapter 10
8	10/05	Exam II	Covers chapters 6, 7, 8, and 9
	10/07	Introduction to Statistical Inference	Chapter 11
	10/09	Introduction to Statistical Inference	Chapter 11
9	10/12	Fall break day 1	Chapter 11
	10/14	Introduction to Statistical Inference	Chapter 11
	10/16	Introduction to Statistical Inference	Chapter 11
10	10/19	Statistical Inference: Single Samples	Chapter 12
	10/21	Statistical Inference: Single Samples	Chapter 12
	10/23	Statistical Inference: Single Samples	Chapter 12
11	10/26	Statistical Inference: Two-Sample Cases	Chapter 13
	10/28	Statistical Inference: Two-Sample Cases	Chapter 13
	10/30	Statistical Inference: Two-Sample Cases	Chapter 13
12	11/02	Exam III	Covers chapters 10, 11, 12, and 13
	11/04	Introduction to ANOVA	Chapter 14
	11/06	Introduction to ANOVA	Chapter 14
13	11/09	Introduction to ANOVA	Chapter 14
	11/11	Introduction to ANOVA	Chapter 14
	11/13	Two-Factor ANOVA	Chapter 15
14	11/16	Two-Factor ANOVA	Chapter 15
	11/18	Two-Factor ANOVA	Chapter 15
	11/20	Two-Factor ANOVA	Chapter 15
Thanksgiving break 11/21 to 11/29			
15	11/30	Nonparametric Tests	Chapters 17 and 18
	12/02	Nonparametric Tests	Chapters 17 and 18
	12/04	Nonparametric Tests	Chapters 17 and 18
	12/07	Nonparametric Tests	Chapters 17 and 18
Final Examination is Monday, December 14, from 9:00 – 11:00. Covers chapters 14, 15, 17, & 18.			



Tentative Semester Schedule, Lab:

Week	Date*	Topic	Quiz Covers	Homework Assignment
1	08/18 – 08/20	Intro to SPSS	None	None
2	08/25 – 08/27	Scales of Measurement	Chapters 1 and 2	Chapters 1 and 2
3	09/01 – 09/03	EDA, Central tendency	Chapters 3 and 4	Chapters 3 and 4
4	09/08 – 09/10	Dispersion	Chapter 5	Chapters 5 and 7
5	09/15 – 09/17	Graphs	Chapter 7	None
6	09/22 – 09/24	Normal Distribution	Chapter 6	Chapter 6
7	09/29 – 10/01	Correlation, regression	Chapters 8 and 9	Chapters 8, 9, and 10
8	10/06 – 10/08	Probability	Chapter 10	
9	10/13 – 10/15	No lab this week		
10	10/20 – 10/22	Statistical inference	Chapter 11	Chapter 11
11	10/27 – 10/29	Single sample tests	Chapter 12	Chapter 12
12	11/03 – 11/05	Two-sample tests	Chapter 13	Chapter 13
13	11/10 – 11/12	ANOVA	Chapter 14	Chapter 14
14	11/17 – 11/19	Two-factor ANOVA	Chapter 15	Chapter 15
15	12/01 – 12/03	Nonparametric tests	Chapters 17 and 18	Chapters 17 and 18
	12/08 – 12/10	No lab this week		

* - The first date listed each week applies to the Tuesday lab, the second to the Thursday lab.



Examinations:

Each examination will consist of two parts: a take-home portion and an in-class portion. The take-home portion will consist of applications and computations. These will be distributed the class period before a scheduled examination and will be due the day of the exam. You are permitted to refer to your book and your notes while completing the take home portion of the exam. You *may not* consult other students, faculty, or Internet resources. If you have any questions about the take-home portion of the exam, *direct them to me*. The in-class portions will be primarily conceptual in nature, though some simple calculations may be required. The in-class exams will consist primarily of multiple choice questions, but may include short essay questions.



Quizzes:

Nearly every week there will be a quiz in the lab. The quiz will cover the readings for that week. Your scores from the lowest three quizzes will be dropped; the scores from the remaining 10 will count for 15% of your final grade. No make-ups of the quizzes will be permitted; if you miss a quiz it will be one of the three dropped grades. Quizzes will be administered at the beginning of the lab period only, so if you are late you will have missed the quiz and it will be one of your three dropped scores.



Homework Assignments:

The only way to really learn and understand statistics is to do statistics, so there will be homework assignments each week. Each homework assignment will be questions from the relevant chapter(s) of the Runyon et al. text; you will complete the odd numbered problems for each assigned chapter. The answers for these problems are in the back of the book and you should make sure that your answer agrees with the answer given. If not, you need to go back and figure out where you went wrong. When you turn in your homework you must show your work. We will use the lab periods to go over questions about the homework assignments.

SPSS Labs:

The lab meets in one of the White Hall computer labs so in many lab periods I will show you how to perform that week's techniques using SPSS. You will be required to complete the assigned analysis and turn in the completed answer sheet for grading.

Course grade:

There are a total of 100 points that can be earned in this course. There will be 4 exams, each worth 15 points. There are 17 chapters of homework; together they will count for 15 points. The quizzes will count for 15 points. The SPSS labs together will count for 10 points. Your final grade for the course will be based on the total number of points you earn. Specifically, the values are 90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, below 60 = F.

Attendance Policy:

This lecture portion of this class meets Monday, Wednesday, and Friday from 9:10 – 10:00 and the lab meets Tuesdays from 8:10 – 9:25 or Thursdays from 8:10 – 9:25, depending on your section. Because material from my lectures and any in-class examples will be included on the exams, regular attendance is extremely important. While there are no specific penalties for not attending class, **you** are responsible for information missed during an absence from class and you are responsible for arranging to make up missed material (see page 51 of the University Catalog and the Late Work Policy below).

Mobile Phone Policy:

Cognitive psychology has taught us that learning requires the allocation of attention to the to-be-remembered material and that dividing attention among two or more attention-demanding tasks decreases performance on all of the tasks. Using a mobile phone to engage in any kind of communication is an attention-demanding task and disrupts the classroom learning environment. The Student Handbook prohibits activities that are disruptive in the classroom, therefore use of mobile phones in this class is prohibited. You must turn off your phone when entering the classroom. If you engage in mobile phone use while in class you will lose points equal to 20% of your final course grade per occurrence. If you are concerned about receiving RAVE alerts, I am subscribed to the system and will bring my phone to class. If my phone rings during class time for anything other than a RAVE alert I will award everyone in class that day extra credit points worth 5% of the final course grade.

Late Work Policy:

Please note: I expect, perhaps as a result of my management background, your best performance on exams and things turned in when they're due. I'll help you prepare for your assignments as much as possible before they're due, but when the time comes, I expect you to be prepared. All assignments have a due date and I **will not** accept late work without prior arrangements. If you know in advance about any situation that would interfere with your ability to meet a deadline (e.g., excused sporting or other campus events, scheduled business travel), see me as soon as possible *before* the deadline. If your conflict is with an exam date, you may take the test early, again only with prior approval. If something unforeseeable comes up on the day an assignment is due (e.g., a medical emergency, death in the family), please contact me as soon as possible after the incident to discuss possible rescheduling options. Be aware that I will require you to document the cause of any unforeseen rescheduling of exams or other assignments.



Academic Integrity Policy:

From the 2009-2011 University Catalog, page 56:

Cheating in all its forms, including plagiarism and cheating on visual work, is considered an academic matter to be controlled and acted upon by the individual faculty member.

Students guilty of academic dishonesty on examinations in any course shall receive, as minimum penalty, a grade of F in that course. Such action shall be taken by the instructor, with written notification to the appropriate College administrators. Repeated offenses shall subject the student to suspension or dismissal from the college. Students involved in facilitating the academic dishonesty among others, such as the unauthorized dissemination of examination materials, will be subject to disciplinary action beyond that called for by their own cheating in the course.

In this class, you must work as an individual on homework assignments and examinations. You may (and actually are encouraged to) form study groups and share notes, books, etc. when preparing for an exam, but you must work alone and without any of these resources when taking an exam. This policy applies to both the in-class and take-home portions of the examinations.



Communication:

My intent is to be as accessible to you as possible. Please feel free to stop by my office any time. I'm available by phone whenever I'm in my office and you can leave voice mail if I'm not. If you need quicker response times (especially on weekends), use email. I usually check my email many times everyday, even on weekends. Finally, check the course Sakai page (available at <http://courses.shepherd.edu/xsl-portal>) – it is meant to be a resource to help you with the course. Useful information and some course materials (e.g., PDF versions of my PowerPoint presentations) will be made available there.

NOTICE Email policy

Please be aware that I will not discuss official business (e.g., coursework, course grades, academic advising, etc.) via email unless you use your Shepherd email address. This is mostly for the protection of your privacy. If, for instance, I get an email signed Mary Smith requesting sensitive information about her progress in my class, but it comes from hotgurl46@aol.com, I have no way of knowing whether it is really from Mary Smith or someone else.