



Peru State College  
**MATH 340: STATISTICS**  
Syllabus - Spring 1 2012

**Instructor:** Dave B. Radell, Ph.D.

**Contact Info:** dradell@peru.edu, phone number available through Blackboard.

**Office Hours:** TBA, two online during the session, using Blackboard Collaborative Tool.

**Required Text:** *Elementary Statistics, 8th Ed. (only!)*, by Bluman (ISBN: 0-07-746039-1)

**Required Software:** Microsoft Word and Excel are needed for assignments, quizzes and exams. Use of 2007 or newer Microsoft Office products are required for compatibility by Peru State College. [Adobe Flash Player](#) is optional (it's free) for those wishing to view several supplemental lecture videos and homework problems worked out on the virtual chalkboard. A scanner to submit some work may also be beneficial.

**Course Description and Objectives:**

This course exposes the student to the study of the methods of summarizing and interpreting data, elementary probability, and its relation to distributions. The meanings, importance, and application of the normal and binomial distributions and the methods of random sampling, testing of hypotheses, analysis of paired data, and interpretation of standardized test scores are covered. Students work on independent research projects to gain first-hand experience course concepts, including development of a research poster.

**Prerequisites:** Technically, none. But this is a 300-level math course, so expect to it be treated as such. It is expected that you have a good working knowledge of arithmetic (order of operations, etc.) and simple algebra (manipulating variables, in particular). If you haven't had a beginning math course in a few years or the first homework seems completely confusing, you'll want to review basic math concepts. Moreover, you'll need to be familiar with MS Word (for exam/quiz submissions) and also have a working knowledge of MS Excel (for the course capstone project).

**Upon completion of this course you should be able to:**

1. Understand the basic concepts of descriptive and inferential statistics, probability theory, and common distributions.

2. Apply the concepts of basic statistics, probability theory, and common distributions to new data. Apply means that you can use the statistical concepts learned to solve new problems with new data or information.
3. Interpret statistical output in the context of a given problem or situation.
4. Use the material from the course to conduct an independent research project where you will apply the statistical techniques and methods to an original data set. Communicate your findings effectively to an audience not familiar with statistics via a visual poster.
5. Become familiar with the use of MS Excel for basic statistical computations and graph production.
6. Become a more critical thinker and problem solver through your exposure to this material.

**Assessment and Grading:** A total of 500 points are possible in this course. It is your responsibility to periodically check up on your grades in the Blackboard Grade Center.

**Participation/Communication:** Regular participation and communication is essential to your success in this course. Therewith, you will need to exercise extreme motivation and dedication for the next 8 weeks to succeed—we move through the course material VERY QUICKLY! It is important that you read chapters and my notes carefully, email or post questions on Blackboard (using the “Question Board” section), complete and submit assignments and exams in a timely manner. **You should be checking the course at least three times per week.** I will check my email and Blackboard at least twice per day, so expect me to be responsive to your email inquiries.

**Weekly Assignments:** Homework is a very important part of the course and is regularly assigned but not collected, and is not weighted toward your course grade. You will have to complete the homework problems to be successful in this course; **expect to spend at least 4-8 hours per week working the material each week.** I expect you to be motivated enough to complete these problems on your own, and you will need to do so to succeed in this course. Each week, including exam weeks, a new folder will appear under the “Assignments-Weekly” section of Blackboard and will provide your weekly homework assignment. Complete solutions to each assigned problem will be posted for you to use to check your work, and supplemental videos are also available for many assigned problems. **DO NOT** (I repeat, **DO NOT**) fall into the common trap of using the solutions as a replacement for doing the problems on your own. Working the problems and studying the example problems presented in the text is your best preparation for the class quizzes and exams ~do not take this part of the course lightly. The attached sheet describes in detail the exact problems to work for each section and only represents a MINIMUM number of problems you should attempt. Feel free to ask me for solutions to problems not formally assigned.

**Weekly Quizzes:** Quizzes will be assigned each week and are either multiple choice (taken online through Blackboard) and/or short answer (“paper” submission via MS Word—you will complete and submit on Blackboard) in format. On occasion, I may collect a homework question as the weekly quiz. Note also that quizzes will be posted on Sunday mornings and are due by 11:00 pm (Central Time) the following Sunday, one week later. You may attempt each online-interactive quiz only once and there is typically a time limit. There will not be a quiz during the two exam weeks. **\*\*You may not use outside class material (e.g., *answers.com* or other web sources) to answer any quiz or exam question in this class. Doing so will result in an automatic failure for the quiz or exam\*\*.**

**Examinations:** There will be a midterm exam during the fourth week and a comprehensive final that will be given during the eighth week. All exams will be open notebook and textbook, and calculator use is permitted. The exam formats will be generally short answer problems, similar to those done in homework assignments. Like quizzes, the midterm exam will be posted on Sunday and due the following Sunday by 11:00 pm CST. Note that there **will be** a homework assignment/lesson during exam weeks (but no quiz). Please plan your personal schedules accordingly. **\*\*You may not use outside class material (e.g., *answers.com* or other web sources) to answer any quiz or exam question in this class. Doing so will result in an automatic failure for the quiz or exam\*\*.**

**Course Project:** A capstone project applying the concepts learned from the course and integrating the use of MS Excel is part of your course evaluation. You periodically will have portions of it due during the semester to keep you on track. Please note that this **IS NOT** a course in how to use Excel—it is up to you to use your textbook examples and posted links within the course to learn how to perform basic Excel functions. I will provide as much detail as possible on how to complete this project—**but it will take initiative on your part** to use the software effectively. Excel is a spreadsheet program (it isn’t truly a statistical software package) commonly used in business applications, and so obtaining a working knowledge is of great benefit to you professionally.

**Late Assignment Policy:**

Late assignments, exams or quizzes are not accepted without prior consent (at least 24 hours) from the instructor. All quizzes, exams and projects must be submitted through Blackboard by the due date to prevent a penalty. All late materials are penalized 25% per day for each 24 hours past due, with a minimum penalty of 24 hours for any work submitted after the official due date of 11pm Central Time on Sunday.

**Grading Scale:**

Midterm Exam (100 points) @ 20%	A 90% + (>450 pts.)
Comprehensive Final (100 points) @ 20 %	B 80%-89% (400-449 pts.)
6 Weekly Quizzes (200 points) @ 40%	C 70%-79% (350-399 pts.)
Course Capstone Project (100 points) @ 20%	D 60%-69% (300-349 pts.)
	F 59% and below ( < 300 pts.)

**Note: In fairness to all students, individual extra credit is NOT available in this course. Please do not inquire. Incomplete grades are only given under extreme circumstances which prevent a student from completing coursework by the end of the semester.**

### College's Incomplete Coursework Policy

To designate a student's work in a course as incomplete at the end of a term, the instructor records the incomplete grade (I). Students may receive this grade only when serious illness, hardship, death in the immediate family, or military service during the semester in which they are registered prevents them from completing course requirements. In addition, to receive an incomplete, a student must have completed substantially all of the course's major requirements.

Unless extenuating circumstances dictate otherwise, students must initiate requests for an incomplete by filling out an Incomplete Grade Completion Contract, which requires the signature of the student, instructor, and Dean. The Incomplete Grade Completion contract cites the reason(s) for the incomplete and details the specific obligations the student must meet to change the incomplete to a letter grade. The date by which the student agrees to complete required work must appear in the contract. The Dean, the instructor, and the student receive signed copies of the Incomplete Grade Completion Contract.

Even if the student does not attend Peru State College, all incomplete course work must be finished by the end of the subsequent semester. Unless the appropriate Dean approves an extension and if the student does not fulfill contract obligations in the allotted time, the incomplete grade automatically becomes an F.

### College's Academic Integrity Policy

The College expects all students to conduct themselves in a manner that supports an honest assessment of student learning outcomes and the assignment of grades that appropriately reflect student performance. It is ultimately the student's responsibility to understand and comply with instructions regarding the completion of assignments, exams, and other academic activities. At a minimum, students should assume that at each assessment opportunity they are expected to do their own original academic work and/or clearly acknowledge in an appropriate fashion the intellectual work of others, when such contributions are allowed. Students helping others to circumvent honest assessments of learning outcomes, or who fail to report instances of academic dishonesty, are also subject to the sanctions defined in this policy.

Instances of academic dishonesty may be discovered in a variety of ways. Faculty members who assign written work ordinarily check citations for accuracy, run data base

and online checks, and/or may simply recognize familiar passages that are not cited. They may observe students in the act of cheating or may become aware of instances of cheating from the statements of others. All persons who observe or otherwise know about instances of cheating are expected to report such instances to the proper instructor or Dean. **\*\*You may not use outside class material (e.g., *answers.com* or other web sources) to answer any quiz or exam question in this class. Doing so will result in an automatic failure for the quiz or exam\*\*.**

In order to promote academic integrity, the College subscribes to an electronic service to review papers for the appropriate citations and originality. Key elements of submitted papers are stored electronically in a limited access database and thus become a permanent part of the material to which future submissions are compared. Submission of an application and continued enrollment signifies your permission for this use of your written work.

Should an occurrence of academic misconduct occur, the faculty member may assign a failing grade for the assignment or a failing grade for the course. Each incident of academic misconduct should be reported to the Dean and the Vice President for Academic Affairs (VPAA). The VPAA may suspend students for two semesters found to be responsible for multiple instances of academic dishonesty. The reason for the suspension will be noted on the student's transcript.

A faculty member need present only basic evidence of academic dishonesty. There is no requirement for proof of intent. Students are responsible for understanding these tenets of academic honesty and integrity. Students may appeal penalties for academic dishonesty using the process established for grades appeals.

### **Title IX Compliance Notice**

Peru State College is an equal opportunity institution. PSC does not discriminate against any student, employee or applicant on the basis of race, color, national origin, sex, disability, religion, or age in employment and education opportunities, including but not limited to admission decisions. The College has designated an individual to coordinate the College's nondiscrimination efforts to comply with regulations implementing Title VI, VII, IX, and Section 504. Inquiries regarding non-discrimination policies and practices may be directed to Eulanda Cade, Director of Human Resources, Title VI, VII, IX Compliance Coordinator, Peru State College, PO Box 10, Peru, NE 68421-0010, (402) 872-2230.

Students requesting reasonable accommodation and tutoring services should contact the Center for Achievement and Transition Services (CATS).

## Course Schedule and Homework Problems

NOTE: Expect to work about 20-25 problems per week. Also pay attention to the “Excel” hints as you read along and try them out. This will help you more effectively prepare for your capstone project. Note as well that a “week” begins and ends on Sundays.

**\*CHAPTER 1: 1.1-1.6** (Week #1: 1/8 - 1/15)

**\*CHAPTER 14: 14.1 and 14.2**

**\*Algebra Review**

Review Exercises (p 26): 6, 8, 10, 20, 25

14.1: 11

14.2: 3,9

Review Exercises (p754) A-1, A-7, A-15; (p 755) A-21, A-29; (p 757) A-31, A-39

**\*CHAPTERS 2/3** (Week #2: 1/15 - 1/22)

2.1: 3, 5, 12, 17 (note Excel tip, p 49)

2.2: 1, 13, 15 (note Excel tip, p 65)

2.3: 1, 7, 12, 17, 22 (note Excel tip, p 91)

3.1: 1, 5, 13, 25, 33

3.2: 7, 21, 35 (note Excel tip, p 141)

3.3: 9, 15, 17 (note Excel tip, p160)

3.4: 3, 13, 15 (note Excel tip, p170)

**\*CHAPTERS 4/5** (Week #3: 1/22 - 1/29)

4.1: 9, 13, 15, 31

4.2: 5, 17, 23

4.3: 1, 7, 23, 41

5.1: 9, 11, 13, 21, 25

5.2: 1, 11, 13, 15

5.3: 3, 5, 23 (note Excel tip, p282)

**\*CHAPTER 6** (Week #4: 1/29 - 2/5)

6.1: 7, 9, 11, 29, 33, 37 (note Excel tip, p. 314)

6.2: 3, 9, 21, 39 (note Excel tip, p223)

6.3: 9

**Midterm Exam!**

**\*CHAPTERS 6/10** (Week #5: 2/5 - 2/12)

6.4: 2, 7, 11

10.1: 13, 17, 25 (skip “Significance of the Correlation Coefficient material)

10.2: 15, 17, 27, 29 (note Excel tip, p 564)

10.3: 9, 13, 15 (Skip Prediction Interval material)

**\*CHAPTERS 7/8 (Week #6: 2/12- 2/19)**

7.1: 9, 13, 15, 20 (note Excel tip, p 369)

7.2: 5, 13 (note Excel tip, p 376)

8.1: 12, 13

8.2: 9, 15, 21 (note Excel tip, p 426)

**\*CHAPTERS 8/9 (Weeks #7/#8 2/19 - 2/26)**

8.3: 4, 9, 15, 19 (note Excel tip, p 436)

8.4: 5, 15 (note Excel tip, p 444)

8.5: 1, 3, 13 (note Excel tip, p 457)

8.6: 5

9.1: 5, 11 (note Excel tip, p 483)

9.2: 1, 13 (note Excel tip, p 491)

9.3: 3, 9 (note Excel tip, p 503)

**\*CHAPTER 12 Week #8 (2/26-3/1): \*Comprehensive final exam!**

12.1: 12, 17 (note Excel tip, p 641)

Suggested Weekly Study Outline:

**Early in the week (Sunday- Tuesday).** Read the assigned chapters and note the methods used to solve the problems for each chapter. Also watch the short videos on how to solve the individual problems for each of the chapters you read, and compare with the methods in the text.

**Midweek (Wednesday-Friday).** Work the assigned homework problems and check your answers and the method with the posted solutions. This is a good time to email Dave or post to the discussion board your questions on the material.

**End of the Week (Friday-Sunday)** Review your homework problems, the class discussion board, and the Powerpoint slides before taking the weekly quiz or exam.

Remember, your best preparation for the quizzes and exams is by **DOING** these homework problems. If you have questions, please don't hesitate to contact Dave at [dradell@peru.edu](mailto:dradell@peru.edu)  
**DO NOT START OFF THE COURSE BEHIND—START THE MATERIAL IMMEDIATELY!**

1. Peru State's Student Success Services: <http://www.peru.edu/cats/tutoring.htm>  
Walk in and appointment hours and Math Lab are available for on-campus students for MATH340.

2. Peru State's SSS for Distance-Only Students:  
[https://www.peru.edu/forms/tutoring\\_request.htm](https://www.peru.edu/forms/tutoring_request.htm)