MAT 104 Introduction to Statistics

Summer II 2011 Syllabus

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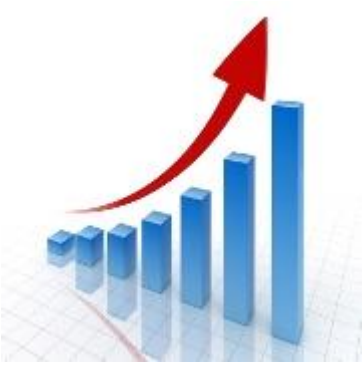


C.P.O.: 1815
Office Hours: MWF morning times by appointment
Feel free to send e-mail for appointments at other times as well.

Course Description

This course is designed for students with little mathematics background who wish to gain experience with the basic concepts of statistics and their applications. Topics include graphic representations of data, measures of central tendency and variability, linear regression and correlation, probability, sampling distributions, estimation using confidence intervals, and significance testing. This course is not intended for mathematics majors and is noncredit for anyone with credit in ECO 250 or MAT 311. *Prerequisite: Developmental Mathematics must be passed or waived.*

Course Goals

- To better understand and to critically examine sets of data through the use of elementary statistical techniques.
- To become familiar with data sampling and organization.
- To develop skill in exploratory data analysis and hypothesis testing.
- To gain experience in effectively investigating and communicating mathematical ideas.

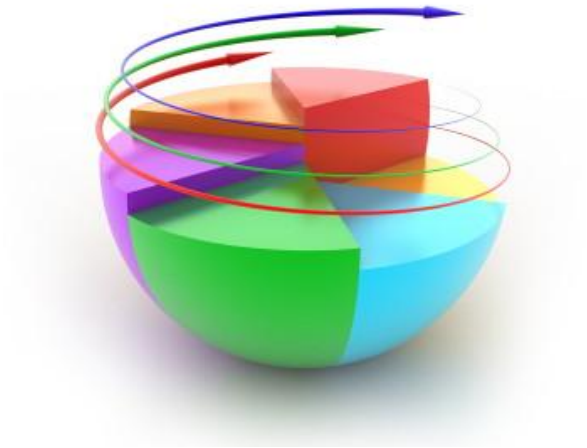
Course Text

- The statistics text we will use is the seventh edition of ***Elementary Statistics: A Step by Step Approach*** (ISBN: 73048259) by Allan G. Bluman.
- There will also be some selected readings from a variety of sources.

Course Web Page

Our course home page is located at http://faculty.berea.edu/pearcej/MAT104/.
Use this page as a resource to find this syllabus, homework assignments, and other course-related information.

Technology Policies



Some of the work in this course will require use of the computer, so these policies are designed to help students better understand how to be effective in a technology-rich environment.

- **Laptop and Software:** In this hands-on environment, we will be learning to program our computers as well as running as paperless a course as possible, so each student is required to bring his or her appropriately equipped laptop to class everyday except when otherwise announced.
- **Unapproved Technology:** The in-class use of unapproved technology will not be tolerated and in certain cases will constitute a violation of academic honesty. For example, no games are ever acceptable and communication programs, such as e-mail or instant messaging programs, are only acceptable for class work during class, so must otherwise be disabled before class. Likewise, cellular phones and pagers must be disabled before class. To help students to appreciate the gravity of this policy, each and every in-class use of unapproved technology will result in a 1% reduction of the student's homework assignment grade.
- **Citing:** Team participation is a proven and useful means by which students can learn material. In addition, much information is easily accessible by searching the web. Students are encouraged to appropriately use information from other students, the web, and other resources. However, any information used from other students or any other resource **MUST BE CITED**. This includes statistics, images, tables, and other multimedia. (See below for more information on this serious topic.)
- **Email and Web**: On the other hand, electronic communication programs are useful when used appropriately, so each student is required to use the course web page to access assignments and to use a Berea College e-mail account to facilitate electronic communication outside of class.
- **Backups**: All students are expected to back-up their work, which includes assignments, quizzes and exams daily. The best way to do this is to store a copy of all work on a CD, flash drive, floppy disk or some other media, and **not in another location on their laptop**. The normally understanding instructor will not be at all sympathetic to loss of electronic work, so it is the student's responsibility to protect his/her work from such heartbreaking loss.
- **Exceptions**: Exceptions to any of these technology policies will be considered on an individual case-by-case basis but will only be granted under extremely unusual circumstances.

Final Project

Student teams will collect data in order to complete a final project on a selected topic. These projects will involve statistical analysis, as well as a written report and presentation.

System of Evaluation

Maximum Final Grading Scale

Grade ≥ 93 %	A
90% ≤ Grade < 93 %	A-
87% ≤ Grade < 90 %	B+
83% ≤ Grade < 87 %	B
80% ≤ Grade < 83 %	B-
77% ≤ Grade < 80 %	C+
73% ≤ Grade < 77 %	C
70% ≤ Grade < 73 %	C-
67% ≤ Grade < 70 %	D+
63% ≤ Grade < 67 %	D
60% ≤ Grade < 63 %	D-
Grade < 60 %	F

Evaluated Items	Points	Grading Percentages
Test 1	100	16.7 %
Test 2	100	16.7 %
Test 3	100	16.7 %
Quiz Total	100	16.6 %
Assignments	100	16.6 % *
Final Project	100	16.7 %

Please refer to the GRADING section of the current Berea College Catalog for the College-wide interpretations of these letter grades.

Grading Policies

For the benefit of the students in the class, all course grade computations are continually updated by the instructor, so students may check frequently on their in-progress course grade during the term. Any questions/concerns regarding grading of any component of the course are to be addressed to the instructor **only**.

* After having completed **all** work in the course, students who satisfy all of the following conditions will have their lowest 100 point assignment total, quiz total, or test score dropped before their final grade is computed:

a. They have completed **all** coursework, quizzes, and exams.
b. They have not been excessively tardy to or absent from class.
c. They have not had any noted incidents of disruptive behavior.

- Note that the final project score will not be dropped.

The instructor may raise the grade of students who have demonstrated significant improvement in their performance, either in assignments or in test results. *This is the sole discretion of the instructor, but a student is welcome to bring this possibility to his/her attention.*

Assignment Bonus

Assignments will be assigned on a near-daily basis, since thinking with statistics regularly is one of the keys to success in this course. Through thoughtfully completing assignments, students get the needed practice of application of the concepts. Because the instructor desires to strongly encourage a diligent effort on assignments, students who turn in each of their assignments with no more than two late submissions, will be awarded an additional 5% on the assignment grade!

Exams and Quizzes

Tests and frequent short quizzes will be given in this course. Approximately one announced quiz will be given each week in which there is no test. In general, the announced quizzes will consist of questions on the assigned text readings or assignment-like problems.

The most likely topics of the three tests will be:

- Test 1: Chapters 1 & 2
- Test 2: Chapter 3
- Test 3: Chapters 6, 7, and possibly 8

Problems that appear on the tests will be more varied in nature, ranging from assignment-like problems to problems that require a deeper synthesis of ideas and from true or false questions to short-answer questions.

Because there is a final project in which students synthesize the material, there will be no comprehensive final examination in this course.

Class Atmosphere

The members of this class constitute a learning community. Learning in such a community best takes place in an atmosphere in which instructor and the students treat everyone with mutual respect. Students need not always raise their hands in order to ask questions or to make comments, but they should not interrupt the instructor or fellow students in doing so. Students typically find the atmosphere set by the instructor to be a relaxed one, but students will still need to work hard and consistently both in and out of class in order to do well. If at anytime you have thoughts, comments, or suggestions about how the class atmosphere could be improved or made into one which is more supportive of your learning, please come by or drop me a note about it. I welcome such suggestions. This course is designed to be a positive-learning experience for all students, but this cannot be achieved when students are disruptive or disrespectful, so the final grade of any student who is disruptive or disrespectful to the instructor or to another student by 3 percent for each incident following an initial formal warning.

Assignment Submissions

All written assignments should be neat, organized, and should show sufficiently many steps to demonstrate a clear understanding of the techniques used. The student's name, and assignment number, and due date must be included at top of each homework submission. If any of these identifiers are missing, that assignment score will be reduced. Homework is due at the beginning of class on the announced date due. If a student must miss class due to either a sickness or a planned absence, homework is still expected to be submitted on time. Some in-class assignments must be completed in class and may not be made-up, but late homework will typically be accepted for reduced credit up until the homework assignment is returned. All late work must be clearly labeled both by assignment number and "as late". A selection of the homework problems will be graded for credit, and homework submissions not meeting the above standards may receive reduced credit. Homework assignments are posted on the web and may be requested in advance.

Plagiarism and Academic Honesty

Plagiarism is the use of anyone else's work or ideas without adequate citation. It is a sin which is both easy to commit and easy to avoid. Ideas taken from other people include those from published or unpublished books, articles, websites, TAs, or friends' homework. **The best way to avoid plagiarism is to cite ALL your sources!** If you are not sure whether or not to cite a source, you should cite it! Simply put, plagiarism is not only cheating, it is stealing because it constitutes theft of someone else's ideas. It is a serious offense, and Berea College takes it seriously. ***Plagiarism will not be tolerated!*** At the first offense, the student will receive an F for that assignment. At the second offense, the student will fail the course. In addition, ALL offenses of plagiarism will be reported to the Associate Provost for Academic Services as detailed in the Berea College *Student Handbook*.

Additional Help

The main teaching assistants for this course will be Tanner Slagel and Amber Poynter. Tanner will have consultation hours every Monday through Thursday 7-9 pm in Hutchins 230. In addition, Amber will hold noontime consultations hours only by appointment in Draper 301. Students are strongly encouraged to make use of the help available from the instructor and the TAs. Best results are obtained trying to solve problems alone or in a group before asking for help, so in either place, students should be prepared to show what they have already tried. Topics in this course build throughout the course, so students should be sure to do their best to keep up with the class, so as to not get behind and possibly forever lost. No question to which one does not know the answer is "dumb" unless it goes unanswered because it remained unasked.

Special Needs/Disability Statement

Students who have a disability that may prevent them from fully demonstrating their abilities should contact the Disability Services Coordinator, Cindy Reed, at (859) 985-3212, or e-mail cynthia_reed@berea.edu, to discuss accommodations necessary to ensure full participation in this course. Upon request, this syllabus can be made available in alternative forms.