MATH 107CPM Statistics
Spring, 2016
Moravian College
Mondays, 6:30-9:30pm, PPHAC 101

Instructor Information

Name: Ted Lebo
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Office Hours: M, W, F 5:40-6:30 p.m. or by appointment
Blackboard: http://blackboard.moravian.edu/

Course Description

Introduction to statistical concepts and methods without the use of calculus. Topics include descriptive statistics, elementary probability, discrete and continuous probability distributions, correlation and regression, estimation, and hypothesis testing.

General Description

This introductory course in statistics will provide you with an understanding of the correct and incorrect ways that data can be collected and used to support or to discredit opinions that are held by you or others and to use data effectively to support recommendations that are made in a wide range of human endeavors. You will also gain an understanding of the nature of chance and probability and how these concepts can be combined with collected data to precisely characterize the range of potential outcomes that uncertain events and human decisions may have had in the past or will have in the future.

The priority in this course will be on the understanding of and correctly applying the concepts and tools of statistics. Mathematical formulas will frequently be used in this course. You will be required to memorize the formulas initially but will eventually be able to use a formula sheet. The course's overall objective is to make you comfortable with and confident in your ability to recommend, for yourself and future colleagues, the statistics concepts and tools that will best serve you both professionally and as an informed citizen.

Student Learning Objectives

In completing this course you will:

- Gain an understanding of the effective and ineffective ways that data can be collected, analyzed and displayed.
- Be able to calculate and interpret "statistics" that can be used to effectively characterize a whole set of data.
- Understand the nature of chance and probability and their roles in analyzing data and drawing conclusions. Be able to state a precise degree of confidence about a specific range of possible future outcomes.
- Learn how to correctly draw or discredit inferences or conclusions by correctly analyzing sample data that you or others have collected.
- Understand how measure the degree to which one type of data is associated with or influences another type data.
- Be able to establish regression forecast equations, judge their quality as a predictive tool and use them to forecast future results.

- Use EXCEL tools and statistical tables to analyze & display data, determine confidence levels & draw inferences.

Program Learning Objectives Related to this Class

- Analyzing: Develops basic skills in analyzing economic, business, social science & natural science data.

Required text, calculator and EXCEL tools

Peck, R., Olsen, C., & Devore, J. Introduction to Statistics and Data Analysis, 5th edition, Cengage Learning, 2016 (ISBN 978-1-305-11534-7).

Student will need to obtain and be able to use a basic pocket calculator. A pocket calculator with additional capability of performing basic statistical functions may be helpful. In general, an inexpensive calculator that adds subtracts multiplies, divides and that can square numbers and find the square root of numbers will do. Calculators with a y^x function (i.e. exponential function) capability will also work nicely because squaring and finding square roots is easily done using the y^x function key on such calculators.

We will also be using EXCEL software, particularly for in class problem labs and occasionally for homework assignments.

Students totally unfamiliar with basic EXCEL spreadsheet software may wish to buy a "how to" book.

Assignments

Students will achieve the learning objectives for this course through a mix of lectures, weekly in-class practice problem reviews/labs, homework problems and two exams. The schedule for these assignments and exams is listed at the end of this syllabus.

Grading Summary

2 Exams 100 points each = 200 points
10 Quizzes 10 points each = 100 points

Total Possible 300 points
Exam Dates: Midterm – 2/29
Final – 5/4

Grading will be done by adding the scores earned and dividing by the number of possible points. The usual % based grade scoring will be observed (e.g. 83-86 % = B, 87-89% = B+, 90-92% = A-, etc.)

In class problem sets will not be graded.

Other Important Information

Academic Honesty

Students are expected to comply with Moravian College's policy on academic honesty as found in the "Moravian College Comenius Center Graduate Academic Policies Handbook" when preparing assignments and reports, or taking quizzes and exams. Please make yourself familiar with that policy. If you do not have a copy of the Handbook please request one from the Comenius Ctr. Office.

Moravian's cheating and plagiarism policies will be followed for all assignments and exams. Please do not make this an issue.

Attendance Policy

Attendance will be taken regularly. Attendance at all exams is mandatory. Students missing an exam without prior notification and permission from the instructor will receive a grade of zero for that exam.

Blackboard

All students must enroll for the course on Blackboard. There is no access code. All class lecture notes, homework assignments and exam study guides will be put into the Course Information section of Blackboard, ahead of their due dates. Students are strongly encouraged to print out the day's lecture notes ahead of each class so they can follow the discussion more easily and add their own margin notes as needed. Also, students will be notified of any class cancellations or assignment schedule revisions through Blackboard, so it should be checked prior to every class.

WHEN YOU ENROLL IN BLACKBOARD PLEASE MAKE SURE YOU ENTER AN E-MAIL ADDRESS THAT YOU CHECK FREQUENTLY, SO YOU CAN BE REACHED QUICKLY IN SNOW OR OTHER CLASS CANCELLATION EMERGENCIES

When there is a conflict regarding assignments posted in Blackboard and the class schedule at the end of this syllabus, Blackboard should be regarded as definitive.

Cancelled Classes

Class may be canceled due to weather or for some other reason

Copyrights

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Disabilities

Students who wish to request accommodations in this class for a disability should contact the Academic Support Center, located in the lower level of Monocacy Hall, or by calling 610-861-1401. Accommodations cannot be provided until authorization is received from the Academic Support Center.

e2Campus

In the event of an emergency the system called e2Campus allows Moravian College to send text messages to the cell phones of registered members of the campus community with information about what is happening and/or what precautions should be taken. Up to two cell phone numbers and two e-mail addresses per user may be registered. This service is an integral part of the College's emergency response system. If you are not already registered on the system, please do so as soon as possible. To register for e2Campus visit http://intranet.moravian.edu/e2campus/index.asp from a computer on Moravian's campus.

Expectations of Students

As a matter of courtesy and professionalism, students are expected to make every effort to be on time for class and to participate in discussions in a manner appropriate for mature adults. Classes will generally start on time and late arrivals

will be expected to catch up with the discussion on their own, without disrupting other students.
NO TEXTING, CELL PHONING, FACEBOOKING, ETC. IS PERMITTED IN THE CLASSROOM WHEN CLASS IS IN SESSION.

Grading Judgment

It is within the purview of the instructor to apply qualitative judgment in determining grades for an assignment or for a course.

Inclement Weather

In the case of inclement weather, the instructor will post an announcement on Blackboard to inform students if the class is canceled. It is the student's responsibility to check Blackboard prior to each class period for cancellations due to inclement weather.

Syllabus Status

This syllabus and the course contents are subject to change at the discretion of the instructor. Generally, changes will be finalized only after discussion of the change with students in the class.

Inclement Weather

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Inclusion

Moravian College is a welcoming community that embraces and values the diversity of all members of the campus community. We acknowledge the uniqueness of all individuals, and we seek to cultivate an environment that respects, affirms, and defends the dignity of each member of the community. Moravian College complies with all federal and state laws regarding nondiscrimination in recruitment, admission, and employment of students, faculty, and staff.

You may wonder what that statement means. For the purposes of this class, the statement means that all persons, regardless of actual or perceived race, color, sex, religion, ancestry, genetic information, national origin, sexual orientation, gender identity or expression, familial status, marital status, age, mental or physical disability, use of guide or support animals and/or mechanical aids have an equal opportunity to participate and learn in this class and are to be treated equally in an inclusive and supportive manner.

In other words, in this class we all promote a culture of inclusion that welcomes and supports people of varying backgrounds, different viewpoints, experiences, talents, and ideas. By respecting and valuing these differences we can make problem solving and decision making multi-dimensional leading to more learning and better outcomes for all, including project clients.

Behaviors such as those listed in the table below will lead to an inclusive classroom culture.

Source: MIT Human Resources, Diversity & Inclusion, http://hrweb.mit.edu/diversity/affirmative-action-plan-admins/resources

Math 107CPM - Class agenda and schedule, Spring 2016

1/18 Syllabus review and Lecture from chapters 1 – 3, In-class practice problems
Homework – TBD, Reading assignment – Ch. 1-4
1/25 Quiz, Lecture from chapters 3 & 4, In-class practice problems
Homework – TBD, Reading assignment – Ch. 6
2/1 Quiz, Lecture from chapter 6, In-class practice problems
Homework – TBD, Reading assignment – Ch. 6
2/8 Quiz, Continued Lecture from chapter 6, In-class practice problems
Homework – TBD, Reading assignment – Ch. 7
2/15 Quiz, Lecture from chapter 7, In-class practice problems
Homework – TBD, Reading assignment – Ch. 7
2/22 Quiz, Continued Lecture from chapter 7, Midterm Exam review
Homework – Study for Midterm Exam
2/29 Midterm Exam
Reading assignment – Ch. 8
3/7 Spring Recess
3/14 Lecture from chapter 8, In-class practice problems
Homework – TBD, Reading assignment – Ch. 9
3/21 Quiz, Lecture from chapter 9, In-class practice problems
Homework – TBD, Reading assignment – Ch. 10
3/28 Quiz, Lecture from chapter 10, In-class practice problems
Homework – TBD, Reading assignment – Ch. 11
4/4 Quiz, Lecture from chapter 11, In-class practice problems
Homework – TBD, Reading assignment – CH. 5
4/11 Quiz, Lecture from chapter 5 and Forecasting, In-class practice problems
Homework – TBD
4/18 Lecture from Forecasting, In-class practice problems
Homework – TBD
4/25 Quiz, Final Exam review
5/4 Final exam