Elementary Statistics
MA 107 A, Spring 2006

General Information

Instructor: Dr. Lee Chasen **Office**: PPHAC 219
Phone: 610-861-1373 **e-mail**: lchasen@moravian.edu
Class Schedule: MWF 8:50 to 10:00 AM
Office Hours: MWTF 1:30 – 2:30 p.m., and by appointment.
Textbook: Statistics and Data Analysis, 2nd edition by Peck, Olsen and Devore

Course Goals

After completing this course, successful students will:

- Have an understanding of how data is collected and gain experience collecting data sets.

- Be able to effectively summarize data using graphical displays, interpret data and draw conclusions based on graphical displays of data

- Understand that the purpose of collecting and analyzing data is to answer questions and make informed decisions.

- Understand the role of probability and uncertainty in data analysis.

- Be able to explain clearly and in writing, how the results of statistical analyses relate to the context from which they were obtained.

- Learn to think critically about data and the results of data analyses that occur in their everyday lives.

- Be able to use technology appropriately as a tool for quantitative analysis.

About the Course

Topics to be covered include graphical representations of data, measures of central location and variation, normal distributions, regression and correlation, sampling and design of experiments, probability, random variables, discrete probability distributions, parameter estimation, confidence intervals, and inference and tests of hypothesis. Theses topics are covered in chapters 1 through 10 of the text. (Note that some of the sections in some of the chapters will not be covered.)

The Importance of Reading and Learning on Your Own

While I do not expect the average first or second year college student to be able to teach themselves statistics from a textbook, I do hope that you recognize the very high value placed upon this skill by your future employers. With that in mind, you will be asked to practice reading technical material regularly. Within quizzes and exams, you will be asked questions designed to test how carefully you are paying attention to the reading material. These will be short quizzes designed to test whether or not you were able to discern the key points in the reading material and begin, on your own, the process of understanding the topic. Be sure to ask yourself *"What problem is being addressed and what fundamental ideas are being applied in order to address the problem?"*

Attendance, Participation, and Organization

Your attendance and *active* participation in class is required. You may be

- asked to work either on your own or within a group to complete classroom activities.
- asked to go to the board to present a homework problem.
- asked to submit homework problems.
- quizzed on reading assignments. (these may be unannounced quizzes)

In short, you must come to class fully prepared to participate. You will be responsible for knowing which reading assignments are due and which homework problems might be collected. Since I will be providing quite a few handouts (including ones with the assignments listed), I suggest that you purchase a three ring binder.

Make up exams will only be provided in the case of a documented illness. Students will be excused from, or allowed to reschedule, a quiz, class work, or homework assignment at my discretion only. As a general guideline, you may assume that if the need is not due to a conference or some other school sponsored activity, and if we have not agreed upon rescheduling *in advance*, rescheduling will not be allowed. I tend to frown very heavily on rescheduling for a school sponsored event if the students grades are not up to par. *Be absolutely clear, if I collect work, give a quiz, or have the class participate in a activity for which credit is being awarded, and you have not contacted me in advance of an illness or similarly important reason for your absence, it is unlikely that you will be given a chance to make up the work or have the assignment waived.*

Calculators and Technology

You will need to have a graphing calculator for use in this class. It must be comparable to a TI-83. (Note that I will only provide instructions for using the TI-83.) You will also be expected to have access to Microsoft Excel and a compatible word processor for some activities and projects.

Grading

In addition to the mandatory final exam, there will be three exams, a number of announced quizzes, regular (near daily) reading quizzes, and graded homework assignments. There will also be periodic homework spot-checks in which you will be asked to close your book and transcribe your solution to a particular homework problem. Your course grade will be computed as follows:

Quizzes/Homework/In-Class Activities/Classroom Participation	20% of your grade
Project(s) (at least one of significant length and possibly smaller ones as well)	10% of your grade
Three Exams (Each worth 15%)	45% of your grade
Cumulative Final Exam	25% of your grade

Quizzes will be given approximately once a week usually on Wednesdays. However, I reserve the right to quiz at any time and from time to time I may provide pop quizzes on assigned reading. Quizzes will test both your understanding of the material that has been covered in class as well as your understanding of the reading assignments. Pay particular attention to any assignment that calls your attention to specific examples or particular passages in the text. I do not expect you to come to class

having memorized the entire section. However, if I call your attention to something, you should strive hard to grasp that material prior to class or the next quiz.

Homework will be assigned regularly and you are expected to complete the assignments. You should always come to class ready to submit your homework. It should be well labeled and neat. Always include the section and problem numbers. I will base your homework grade on both your written and submitted work as well as your apparent level of preparedness as demonstrated by your ability to ask and answer questions in class. For written work, I will consider the degree of effort, the neatness of the work, and whether or not the work is completed correctly.

Class room participation will be noted and will represent as much as 5% of your grade. You earn classroom participation credits by

- asking questions in class (not just naming a problem number). Providing a framework in which you have the opportunity to learn is my responsibility, the actual learning is your responsibility. When you do not understand something, you should ask questions that will help you understand.

- answering questions in class.

- participating in the classroom activities.

- working enthusiastically with your fellow students to ensure that you each understand the material.

I reserve the right to make qualitative judgments in determining grades for all graded work and or the course. Also, while this syllabus is subject to change, in the event of a change, students will be notified via an addendum to the syllabus which would be distributed during a regular class period.

Tentative Exam Dates

| Exam 1: February 8, 2006 | Exam 2: March 15, 2006 |
| Exam 3: April 12, 2006 | Final to be announced |

Extra Help

You are strongly encouraged to ask questions in class and to see either myself or the mathematics tutors for help outside of class as much as necessary. You will be informed soon about the tutor center hours.

Special Accommodations

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the Learning Services Office as soon as possible to enhance the likelihood that such accommodations are implemented in a timely fashion.

Academic Honesty

For graded homework assignments and projects, you may use your class notes and any books or library sources, except a solutions manual. You may not use the help, orally or in written form, of any individual other than your instructors unless it is specifically a group assignment and you may not copy someone else's work or let someone else copy your work. If an assignment is completed by a group of

two or more people, each person who contributed to the work must put his or her name on the work. All in-class daily problems, quizzes and tests are to be done by you individually unless specifically stated by your instructor for a particular event.

The College academic honesty policy appears in your Student handbook; you are expected to be familiar with it. The *Academic Honesty Policy Guidelines* specific to mathematics classes are reiterated at the end of this syllabus. They apply to work done outside of the class as well as to in-class quizzes and tests. Please read them carefully. If you are unsure about the propriety of a particular procedure or approach, please consult with your instructor before continuing with the assignment.

Academic Honesty Policy Guidelines

MATHEMATICS COURSES

The Department of Mathematics and Computer Science supports and is governed by the *Academic Honesty Policy of Moravian College* as stated in the Moravian College Student Handbook. The following statements will help clarify the policies of the members of the Mathematics faculty.

In all homework assignments which are to be graded, you may use your class notes and any books or library sources. When you use the ideas or thoughts of others, however, you must acknowledge the source. For graded homework assignments, you may not use a solution manual or the help, orally or in written form, of an individual other that your instructor. If you receive help from anyone other than your instructor or if you fail to reference your sources you will be violating the *Academic Honest Policy of Moravian College*.

All in-class or take-home quizzes are to be completed by you alone without the aid of books, study sheets, or formula sheets unless specifically allowed by your instructor for a particular test.