

Math 107 B

Elementary Statistics

Fall 2007

Class Meeting: MWF 12:50-2:00 PPHAC 232

Instructor: Nathan Shank

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Office Location: PPHAC 219

Office Hours: MWF 9:00-10:30 (other times by appointment)

Text: *Introduction to Statistics and Data Analysis*, Peck, Olden, and Devore, 2001, Second Edition, Duxbery

Course Goals: After completing the course, successful students will

- have an understanding of how data is collected and gain experience collecting their own data sets
- be able to effectively summarize data using graphical displays, and 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, both orally and in writing, how the results of statistical analysis relate to the context from which they were obtained
- learn to think critically about data and the results of data analysis that occur in their everyday lives
- be able to use technology appropriately as a tool for quantitative analysis

Course Topics: Throughout the course, the student will learn to collect, analyze, interpret and present numerical and descriptive data. The topic covered include collecting data sets, graphically methods for describing data, numerical measures for data, normal distributions, regression and correlation, sampling and design of experiments, basic probability theory, parameter estimation, confidence intervals and inference and tests of hypothesis. These topics are chapters 1 through 10 of the text.

Assignments/Assessment: The following will be used to determine the students grade for the course:

- Homework: Math is not a spectator sport. You need to practice what you learn. Homework is to be done individually. Any collaboration on homework must be properly documented. Homework will be collected and checked for completeness with some emphasis on correctness. If two or more homework sets look similar, no

points will be awarded for the entire homework set (with no warning). Multiple offences will be handled more severely. Please see the section on academic honesty policy for more information. You are always welcome to come to office hours to see the instructor. Late homework will not be accepted for a grade. Homework should be neatly written on stapled, lined notebook paper. If you need paper, please see me. Homework problems will help you prepare for the tests.

- **Quizzes:** Quizzes may be given at any time. Quizzes can be exact homework problems and will be strictly times. Quizzes can not be made up. Expect a quiz every class period.
- **Culture Points:** Mathematics is everywhere. Culture points are designed for you to experience the breath of math. Please see the handout on Culture Points for more details.
- **Tests:** You will have 3 hour tests and a cumulative final exam. These tests can not be made up. The three hour tests are tentatively scheduled for Friday September 28, October 26, and November 1.

Grading: You are responsible to keep track of your own grade. Grades will be computed as follows:

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|----------------|----------|
| Homework, Quiz | 25% |
| Tests | 12% each |
| Project | 10% |
| Culture Points | 5% |
| Final Exam | 24% |

Class Structure: Class will consist of lecture, group work, individual work, and problem sessions. Please come to class prepared with you text, notes, and calculator everyday. Please be prepared to participate in class. Class will start promptly at 2:20, and class will not end prior to 3:30. Please turn off your cell phones prior to the start of class.

Attendance: Attendance will be taken everyday. There is a very strong correlation between attendance and grades. In order to understand the material, you need to be present in class. Group work also requires everyones participation. I understand that there are circumstances that you must miss class so the lowest homework grade will be dropped when computing the final grade. Remember that no late homework or quizzes are accepted.

Technology: A TI83 or 84 will be extensively used throughout the course. If you do not have one of these calculators, please try to borrow one from a friend. Some quizzes you will not be allowed to use your calculator.

Academic Honesty: For graded homework assignments and projects, you may use your class notes and any books or library sources except a solutions manual. Any resources you use must be documented at the top of the homework assignment. As an example if

you get help from the Tutor Center for problem 4 only, please write "Help with problem 4 from Tutor Center". No points will be deducted for honestly acknowledging help. However if you do not document any appropriate resource this is considered cheating.

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 the syllabus. They apply to work done outside of 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.

Special Accommodations: Students with disabilities who believe that they may need accommodations in their 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 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 Students Handbook. The following statements will help clarify the policies of 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 thought 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 than 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 Honesty Policy of Moravian College. For homework which is not to be graded, if you choose, you may work with your fellow students. You are responsible for understanding and being able to explain the solution of all assigned problems, both graded and ungraded.

All in-class or take home tests and 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.