Math 332   Mathematical Statistics II   Spring 2012

Class Meeting: T/Th 10:20 - 11:30 and Friday 2:35 - 3:45 in Hall of Science Room 200

Instructor: Nathan Shank

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Office Location: PPHAC 219

Office Hours: Monday 3:00 - 4:00, Tuesday 11:30 - 12:00, 1:30 - 3:30, Thursday 11:30 - 12:00 (other times by appointment)

Text: *Mathematical Statistics with applications,* Wackerly, Mendenhall III, Scheaffer, 2008, Seventh Edition, Duxbury Thomson Learning.

Course Goals: After completing the course, successful students will

- understand probability distributions involving more than one variable;

- solve a variety of statistical inference problems and understand real world situations that give rise to them;

- learn to make transitions between verbal descriptions, symbolic representations, and numerical descriptions related to statistical analysis;

- be able to apply the appropriate techniques to analyze data and formulate a conclusion from the statistical analysis;

- understand the role of statistics in scientific and medical investigations as well as public policy and personal decision making; and

- be able to explain clearly, both orally and in writing, how the results of their statistical analysis relate to the context from which they were obtained.

Course Topics: Throughout the course, the student will learn to collect, analyze, interpret and present numerical and descriptive data. This is something that is vital in preparing student to make sound professional and personal decisions. Data analysis, inferences, and decision making are situations which probability and statistics address. The course will start with chapter 5, and then part of chapter 11. The course will then cover chapters 6-10 and the rest of chapter 11 and parts of chapters 12 through 14. Additional topics outside the text will also be discussed. The topics to be covered include but are not limited to the following: multivariate distributions, central limit theorem, confidence intervals, point estimators, hypothesis testing, linear models, least squares, analysis of variance, and χ^2 tests.

Assignments/Assessment:

- Homework: As you know math is not a spectator sport. You need to practice what you learn. Homework will be assigned weekly and it will be collected at the

beginning of class on _____. First attempt at homework should be done on your own. If you still need assistance you may ask for a hint from a classmate or work on the problem together. However acquiring an entire solution from a classmate in not acceptable. Homework is to be written up individually. Any collaboration must be properly documented. If two or more homework sets look similar, no points will be awarded for the entire homework set (with no warning). 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.

- Project: There will be several group project throughout the year. More information will be available at a later date. You will be graded individually on content AND participation.

- Tests: You will have **three** tests and a cumulative final exam. The tests are tentatively scheduled for Friday, February 10, Friday, March 16, and Friday, April 20. The final exam will be scheduled at a later date.

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

Homework	30%
Test	30% Total
Project	20%
Final Exam	20%

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 the start time, and class will not end early. 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 every ones 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 is accepted.

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 math-

ematics 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 who wish to request accommodations in this class for a disability should contact Mr. Joe Kempfer, Assistant Director of Learning Services for Disability Support, 1307 Main Street (extension 1510). Accommodations cannot be provided until authorization is received from the office of Learning Services.

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.