**Elementary Statistics – Math 107**

**Instructor:** Gordon Williams  
**Location:** PPHAC 232

**Time:**  
Section A MWF 12:50-2:00 PM  
Section B MWF 2:20-3:30 PM

**Office Hours:** MWF 9-10 AM, F 11:15-12:15 AM

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**Course Goals**

In this course you will be learning to interpret, understand, generate and communicate statistical information. In particular students who successfully complete the course 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 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**

Every day of our modern lives we come into contact with statistical information (“two out of three dentists,” or “37% of those polled”). Often, we are asked to make decisions based on this kind of information such as what toothpaste to buy or who to vote for. To be able to make those decisions we need to be able to think critically about this information and make decisions about its validity and value. In essence, these questions and skills are what this course is about.

Topics to be covered in this course include graphing and describing statistical information, experimental design, mean, median, standard deviation, stem-and-leaf displays, histograms, linear regression, basic probability, the normal distribution, sampling variability, confidence intervals and hypothesis testing. These topics correspond to a selection of sections from chapters 1 through 10 of the text.

**Texts**


**Attendance Policy**

Regular attendance is required. Central to the learning of any subject in mathematics is practice and discourse. Opportunities for both will happen in class. Students who fail to come to class regularly are likely to miss valuable insights into the assigned work, fail to fully comprehend the material, get behind on the homework, fail to complete labs and quizzes vital to their final grades, and eventually do poorly on exams. Students who do come to class regularly will (hopefully) be intellectually stimulated and challenged, have opportunities to ask questions and learn from their peers as well as the instructor. Occasionally we will engage in activities in class that will have a written component you are expected to turn in, and they will affect your grade.
Students who come to class should come on time, both for their own benefit and out of consideration of their peers. During most classes, there will be questions to answer, a problem to solve, or data to contribute, for which you will get credit if you are in class and participate. This credit will count towards your class participation grade. If you are absent, you will not receive credit for the day’s activity. You are also responsible for obtaining all class handouts and keeping them organized. A three-ring binder for the course, with sections for class notes, handouts, quizzes and tests will be very helpful. Make-up exams will be given only in the case of documented illness.

**Getting Help**
You are encouraged to seek help during my office hours, or to arrange for an appointment when necessary. If my door is open at times other than my scheduled office hours, feel free to drop in and ask a question. You may also email me with any questions you may have. Student tutors are available and you will be notified during the second week about when and where.

**Academic Honesty**
Except as specified below, the college’s policy on academic honesty will be strictly adhered to. If you haven’t read it, I highly recommend you look over the relevant pages in the Student Handbook. For your convenience, what follows are the Academic Honesty Policy Guidelines of the Mathematics Department.

The Mathematics Department 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 members of the Mathematics Department 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 any 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 and 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.

I would like to expand on these policies slightly as they relate to this course. You are encouraged to work together in groups except when told not to. While a group of you working together may come up with a solution to a problem, your write up of the solution must be entirely your own work unless otherwise specified. Exams and quizzes will be individual work, and the only person with whom you should speak about questions on either exams or quizzes is me. Some assignments may have special instructions, and you should make sure you read them as the consequences of failing to follow the guidelines may involve issues of academic honesty, and will be treated accordingly.

Copying solutions from others, or allowing others to copy solutions from you, or copying solutions from a solutions manual or the back of the book are all violations of academic honesty. If you have any questions about academic honesty as it pertains to any aspect of this course or any assignment, please consult me.

**Graphing Calculator**
All students are required to have a TI-83 series (or comparable) graphing calculator, know how to use it, and bring it to class. Instructions will be provided on this calculator by request, but
students who already own and have used a comparable calculator may use it. We will also use the computer program Excel for some activities.

Homework
As stated above, practice is an essential component of learning mathematics. As such, homework will be assigned on a daily basis. You should expect to spend approximately two hours outside of class for every hour spent in class on homework, which means you should be putting in approximately 8 hours a week. If you find you are doing significantly more or less than this amount, you should come talk to me.

Homework will be available on the course’s BlackBoard site. Make sure you have subscribed to the course by January 14.

Most homework will be given as practice, not turned in, but you will be expected to be able to ask and answer questions about it at the beginning of the next class. Some problems will be assigned to be turned in, and you should carefully look over any comments I or the grader make, as this is an excellent opportunity for you to get feedback on your work.

Homework to be submitted will be due at the beginning of the class period, and no late homework will be accepted without prior agreed upon arrangement. Homework to be submitted in class must be neat, organized, legible, and devoid of those nasty little paper bits you get when you tear paper out of a spiral bound notebook. The paper bits are a major pet peeve of mine, so if you want to stay on my good side, avoid them (really). If you are turning in multiple sheets of paper, they must be paper clipped or stapled together, and your name must appear at the top of each page. If any of these conditions are not met, your assignment will not be accepted. Frequently in this course your work is more important than your answer and so you must show all of your supporting work wherever possible on any assignment, quiz, or exam.

Spot Checks
Periodically I will assign a problem during the first few minutes of class for you to solve and turn in. These problems will be on the previous night’s homework. Grading will be strictly on a right/wrong basis and will be no more than 5% of your final course grade. These points count towards part of your classroom participation grade.

Test Schedule
There are three tests, the first is on February 4th, the second is on March 18th and the last is on April 8th.

Grading
Class Participation 10%
Homework/Quizzes/Projects 25%
Three One Hour Tests 45% (15% each)
Cumulative Final Exam 20%

Special Accomodations
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.

Caveat Emptor
It may be necessary to make changes to this syllabus over the course of the term as conditions
change, in which case I will notify you of any changes in class.