

M&IS 24056: Fundamentals of Business Statistics Spring 2010

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Office Hours

Murali Shanker: 4:15 - 5:15, T, Th; A401 BSA

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Class Times Section 002: 5:30-6:45, 200 BSA

Course Description

This course is an introduction to concepts in statistical methods and their applications to real-world problems. This course will examine both the theoretical and practical side of the different methods. Students will be given ample opportunities to apply the techniques to different problems. The goal of the course is for students to understand fundamental statistical concepts and methods, and their applications.

Course Requirements

Last day to withdraw from a course: Sunday, April 4, 2010

Prerequisites: Math 11011 (Algebra). Students attending the course who do not have the proper prerequisite risk being deregistered from the class.

Enrollment: It is the student's responsibility to ensure proper enrollment in classes. You are advised to review your official class schedule during the first two weeks of the semester to ensure proper enrollment. Should you determine an error in your class schedule, you have until **31 January 2010** to correct it with your advising office. If registration errors are not corrected by this date and you continue to attend and participate in classes for which you are not officially enrolled, you are advised now that you will not receive a grade at the conclusion of the semester.

Students With Disabilities: University policy 3342-3-18 requires that students with disabilities be provided reasonable accommodations to ensure their equal access to course content. If you have documented disability and require accommodations, please contact the instructor at the beginning of the semester to make arrangements for necessary classroom adjustments. Please note, you must first verify your eligibility for these through the Student Disability Services (contact 330-672-3391 or visit <http://www.registrars.kent.edu/disability> for more information on registration procedures).

Class Time

Class time will be devoted to lectures, problem solving, statistical software, and testing. As we will make extensive use of statistical software, and interactive technology, please bring your laptop and clickers to class.

As with any new subject, comprehension improves with greater exposure. To facilitate this, I will be providing online access to every class lecture in multimedia format. These multimedia lectures will duplicate each lecture that I give in class, including the overhead presentation, any notations that I make on these slides, and the audio explaining the slides. These multimedia lectures can be accessed through the web.

Quizzes and Examinations

There will be 6 quizzes, 3 examinations, 1 project, and several in-class assignments.

All **quizzes** and **examinations** will be taken online, and are best taken using a standards-compliant web browser like [Mozilla Firefox](#). Examinations and quizzes will consist of multiple choice, true or false, fill-in-the-blanks, short-answer, matching, and calculation type questions. All online testing material can be found at the course web site on Vista WebCT, and can be taken from anywhere (home, work, school, BSA computer labs, in the airport, from a hammock sipping Mango juice, etc.) the student has access to the Web. All tests are open-book, open notes, but before taking any test, the student will be asked to indicate his/her agreement to an **Academic Honesty Statement**. This statement will certify that the student agrees to abide by university rules on cheating, and any failure to do so will result in a failing grade. Thus, for example, while you are allowed to use books and notes for the tests, it is cheating if you ask other students to help you while taking the tests. This statement is available online at your course website. **Do this first before doing anything else.**

Quizzes: There are 6 quizzes for this class. Each quiz is worth 10 points. The amount of time allotted for each quiz may vary, but will typically be around 25 minutes. You will have **two** attempts to take each quiz. The **average** result of the two attempts will be your score for that quiz. If you are happy with your first attempt, there is **no need** to take the second attempt. Results for the quizzes will be known immediately. Only the best 5 quizzes will be considered for your grade. Thus, the maximum points from quizzes is 50.

Examinations: There will be 3 examinations. Each examination is worth 50 points. Each exam (including the final) will take approximately 75 minutes. All examinations are cumulative. You will have only one attempt to take each examination. Results for the examination will be known only after the examination closes for all students. From the first two examinations, Exams 1, and 2, only the *best* examination score will be considered. Exam 3 (Final Exam) is required for all students. Students will receive a score of 0 for any missed examination. Thus, the maximum score from examinations is 100.

Projects: The project will be assigned in class. This project will be done in groups, and will involve the student in all aspects of statistical data analysis. The project will be graded at each milestone, and the final score for the project for the group will be a cumulative total of the scores at each milestone. Individual student scores for the project will depend on the final project score for the group, and peer evaluation. The project is worth 50 points.

In-Class Assignments and Tests: As this class is built on data exploration and interactivity, frequently, you will be asked short questions in class. The frequency, time, and format of these questions will depend on the subject matter. You will require the use of Clickers, and in some cases, the use of a laptop to run statistical analysis, before you can answer these questions. As such, ensure that each group has a working laptop with JMP installed, and that you all have your clickers handy. In-class assignments and tests are worth a maximum of 50 points.

Attendance: While no attendance is taken, you are nevertheless responsible for all content, including projects and assignments, presented in class. Any missed assessments cannot be made up.

Dates and Timings: Approximate test (quizzes, and examinations) dates are posted at your course website, and also given below. Tests can be taken at any time during which they are available. As a warning, please do not wait until the last minute to take your tests. As you must realize in dealing with technology, several things can and will go wrong. The only condition under which I will extend the due dates is if the Vista server goes down on the last available day. Any problems with your computer will not change the due date. As such, it is your responsibility to ensure that you complete the tasks in a timely fashion. You will get zero (0) points for all missed tests. Please ensure that your tests have been graded correctly, and notify the instructor immediately of any concerns. Specifically, you will have **one week** after the test scores are posted to notify the instructor of any errors. Projects will be assigned in class. Due dates for project milestones will also be specified in class.

Extra Credit: Periodically, you may be given additional homework / quizzes in class or online, each of which will count as extra credit towards your final grade. As missed quizzes / examinations cannot be made up, it is in your best interest to attend class regularly. Please check your electronic calendar regularly for any announcements about quizzes, etc.

Academic dishonesty: Cheating means to misrepresent the source, nature, or other conditions of your academic work (e.g., tests, papers, cases, online quizzes) so as to get undeserved credit. The use of the intellectual property of others without giving them appropriate credit is a serious academic offense. It is the University's policy that cheating or plagiarism result in receiving a failing grade for the work or course. Repeat offenses result in dismissal from the University. **Students must indicate their acceptance to this policy before they are allowed to take any quiz or exam.** As soon as you log into your Vista course website, please take the *Academic Honesty Statement* quiz first. You will not have access to any other quiz or exam until you do so.

Class Materials

As this class makes extensive use of statistical software, and interactivity, the first two items below are required.

JMP statistical software. This is required software. All students will be required to sign a statement agreeing to a charge of \$12.50 that will be debited from your bursar's account for the cost of the software. As comparison, purchasing the software directly from SAS will cost several hundred dollars per student. This software can then be used in other classes until end of Spring 2010. As this software is required for in-class tests, projects, quizzes, and examinations, you will not get access or credit for any testing until you agree to the purchase of this software. **Sign the statement first.** I will bring the document indicating your agreement with this to class.

Clickers. The university has adopted clickers from Turning Point. I will be using this in class for both assessment and learning. If you don't have one already, there are several options to purchase this.

- a. Go to <https://store.turningtechnologies.com/index.cfm> for the Kent State Store. When prompted for school code, type SUQ5

- b. A new clicker that you can use in all your classes cost \$40. You can also buy used clickers at the bookstore for \$33.75. When you are ready to sell it, the bookstore will be buying back used XR's from students for \$22.50. Note that is a one-time cost, and the clicker can be used in any class that uses that system for however long you remain at Kent.
- c. If you have a web-enabled device, like a laptop, or a smart phone, you can instead buy a responseware license for \$16 / year, or \$32 / 4 years. This allows you to use the technology using your preferred device like an iPhone or laptop. The session ID to use this in our class is FLI2U6CE. It is important that before you buy this option, you ensure that you are able to connect to the Internet in the classrooms where you have classes. Most rooms at Kent have an acceptable WiFi connection, but please ensure your device can use them, or your cell phone plans allow data access. Note that not all instructors may support this web-enabled approach. Please check with your other classes to determine your most cost effective solution.
- d. Register your clicker on the Vista homepage.

Book. There are no required books for this class. I will be using “Introduction to the Practice of Statistics,” by David Moore and George McCabe, as the guide for the materials in class. The current version is 6, but both the 5th and 4th editions are equally suitable. This is not a required book, and most students have done well in my classes without a book. But, if you do want to get a book, here are some cost-effective options:

- a. If you want the latest version, it might be cheaper to rent it for the semester, rather than buy it. See <http://www.chegg.com/details/introduction-to-the-practice-of-statistics/1429216220/>.
- b. If you want to get the 5th or the 4th edition, it is probably cheaper to buy it. See http://product.half.ebay.com/Introduction-to-the-Practice-of-Statistics_W0QQprZ44675633QQtgZinfo
- c. Ultimately, whether you want to buy a book, and which edition you want, is up to you. The book is not required.
- d. If you want to borrow a book for a few days, I will be happy to lend you mine.

Laptops. I will be making extensive use of JMP in class, and many of the assessments will also require the use of JMP. In class, as such, I will require each group to have access to at least one laptop.

Lecture Notes. I will post lectures notes for each class on the Vista website. Please download them before class. After class, I will also post a multimedia lecture of that day's class. You can review them at any point.

Grades

The maximum points for this course is 250 (50 quizzes + 100 examinations + 50 project + 50 in-class). The grading scale for this class is as follows

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum Score Required	225	217	208	200	192	183	175	167	158	150

- None of the assessments, examinations, quizzes, projects, or in-class assignments, can be made up. You will receive a score of zero (0) for any missed assessment.
- Please print and keep a copy of your tests after each exam or quiz. That will be the proof I will require if there are any disputes about test scores.
- You will have one week after receiving the score for each assessment to request any corrections.

How to Access and Use Your Course Web Site

1. To ensure that the content appears correctly on your browser, please use a standards-compliant browser like Mozilla Firefox (<http://www.mozilla.com/>) rather than Internet Explorer. The course can be accessed directly at <https://vista8.kent.edu/webct/logon/315058038011>
2. Once you have indicated your agreement for the purchase of JMP, you will be given access to download and install it. The software will also be available in the BSA computer labs after the students have agreed to the purchase.
3. While I will be using several websites to provide a more engaging learning environment, the central website to access your course is through Vista, the course management software for Kent State University. To log into Vista, do the following:
 - Go to <https://vista8.kent.edu/webct/logon/315058038011>. Log in using your Kent username and password. Or,
 - Go to <http://flashline.kent.edu>.
 - Enter your Kent username and password
 - Click on **My Courses** tab. You should see all your courses. Click on the link for <http://vista.kent.edu> to take you to the course website

Course Schedule

The following tables contains the class schedule. Note that all online tests (except the exam 3) begin on the **Monday** of the week they are assigned, and are available until **Sunday** 11:50 p.m. (ET) of that week.

Start Date	Approximate Class Periods	Chapters
January 19	1	Introduction
January 21	4	Chapter 1: Looking at Data - Distributions
February 4	1	Using JMP
February 8		Quiz 1; Chapter 1; Ends February 14 at 11:50 pm ET.
February 9	1	JMP - Data Distributions
February 11	2	Chapter 2: Looking at Data - Relationships
February 15		Quiz 2; Chapter 2; Ends February 21 at 11:50 pm ET.
February 18	1	JMP - Data Relationships
February 23	2	Chapter 3: Producing Data
March 2	1	Chapter 4: Random Variables
March 4	1	Review: Exam 1
March 8		Exam 1; Chapters 1-4; Ends March 14 at 11:50 pm ET.
March 9	1	Chapter 5: Sampling Distribution of a sample mean
March 11	1	JMP - Sampling Distributions
March 15		Quiz 3; Chapters 4-5; Ends March 21 at 11:50 pm ET
March 16	3	Chapter 6: Introduction to Inference
March 22		Quiz 4; Chapter 6; Ends March 28 at 11:50 pm ET
March 25	1	JMP - Inference

April 6	2	Chapter 7: Inference for Distributions
April 12		Quiz 5; Chapter 7; Ends April 18 at 11:50 pm ET
April 13	1	Review Exam 2
April 15	3	Chapter 10: Linear Regression
April 19		Exam 2; Chapters 1-7; Ends April 25 11:50 pm ET
April 26		Quiz 6; Chapter 10; Ends May 2 at 11:50 pm ET
April 27	1	JMP - Linear Regression
April 29	3	Project Wrapup
May 3		Exam 3; All chapters; Ends May 9 at 11:50 pm ET

Please Do The Following Immediately

- Sign the sheet authorizing the amount for JMP software. The instructor will bring this sheet to class.
- Log into Vista, and answer the quiz on Academic Honesty.
- You will not be able to take any quizzes and examinations until you do the above.