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QMBE 2786-001 Intermediate Business & Economics Statistics

Course Syllabus

Fall 2015

Class Time: Monday, Wednesday & Friday 1:00PM – 1:50PM

Class Room: KH 129

Instructor: Chinedum Nwadiora

Email: cnwadior@uno.edu  Cell Phone: (215) 298-3283

Office: KH 342 / KH 359 (Back Desk)

Office Hours: Friday 2:00PM to 4:30PM (KH 342), MWF before class (KH 359), & by appointment

Prerequisites:

▶ Math 2785 or equivalent. You must have had a previous statistics course.

▶ Concurrent enrollment in QMBE 2787 (computer lab for this course). It is much to your disadvantage to ignore this policy.

▶ A UNO account for access to Moodle. Most course documents will be posted. Check daily!

Textbook


I assume nearly all students should fall into one of these categories:

1. You still have the Connect access with e-book that you bought for Math 2785. That access should be good for at least one year from the time of purchase. Only thing you have to do is register for this new course by following the link below.

2. You do not have current Connect access. Perhaps you took Math 2785 or Math 2314 more than a couple of semesters ago or perhaps you are a transfer student. In that case, the best thing is to buy the package sold in the bookstore. It is based on Jaggia and Kelly, Business Statistics: Communicating with Numbers, 1st edition, but customized for UNO as Elementary and Intermediate Statistics for Business and Economics.
The package includes a loose-leaf hard text and the Connect access that you need for the homework and costs $136. This is almost the same price as Connect Plus alone when purchased directly from McGraw-Hill. Do not buy the access code alone from the bookstore ($180). Get the package!

**The Course:**

This course is a continuation of Math 2785 (or Math 2314, but with emphasis on business/economic data). The class format will be a combination of lecture and completing worksheets together. Normally you will download these in advance from Moodle. If the lead time is short, I will make copies for you.

Here, **subject to revision**, is our program (the exact material covered by each test announced in advance):

In Math 2875 you were exposed, in a very cursory way, to the basic ideas of elementary statistics. You probably spent most of that time mechanically running procedures that you did not really understand. That’s normal for the first course. In this course we will learn a number of new procedures, but with real emphasis on understanding their logic. I will also be your Excel statistics lab instructor. The emphasis there will be on logic as well.

Please read through the review documents before class. You are supposed to be familiar with those ideas – except for the normal approximation to the binomial. Then we will start with the Sign Test, which in itself is a good review of the binomial and normal distributions and the very important concept of p-value.

• **Review of some basic ideas.** Variance, significance, p-value, test errors. Download worksheets.

• **Nonparametric methods: The Sign Test.** Section 20.5

• **Chi-square tests for goodness of fit and independence.** Sections 12.1 and 12.2.

• **Hypothesis tests comparing the variances of 2 populations.** Section 11.2. The F test.

• **Analysis of Variance.** Chapter 13.

• **Covariance and Correlation.** Section 14.1

• **Simple and Multiple Linear Regression.** Chapter 14 and 15.1/15.4, 17.1

• **Further Regression Topics.** 16.1, 16.2, 17.3 (if time)
**Learning Assurance Course Objectives**

By the end of this course the student should be able to use appropriately collected sample data for testing and prediction. In particular:

**A.** Student will understand the essential background for statistical testing, including:
1. The calculation and meaning sample statistics, especially variance and standard deviation.
2. The probability distributions of the relevant test statistics.

**B.** Student will be able to conduct, and interpret the results of, a variety of tests, demonstrating a solid understanding of the concepts of p-value and statistical significance. These include (may vary by semester)
1. F-test for comparison of variances.
2. Anova tests for differences in means of 3 or more populations and factorial analysis.
3. The sign test for dependent samples and population median.
4. \( \chi^2 \)-tests for independence and goodness of fit.
5. Correlation significance test.

**C.** Analysis and prediction using correlation/regression will be especially emphasized. Regression tasks:
1. Compute and interpret the coefficient of correlation.
2. Estimate a linear (simple and multiple) regression equation.
3. Test for overall model and individual effects.
4. Interpret regression summary statistics, Anova output, predictor coefficients and significance.
5. Make predictions using the model.

**Grading Policy**

If you have not done so already, become familiar with Moodle. Quizzes and other materials will be posted to Moodle each week. Furthermore, your quiz and exam GRADES will be posted to Moodle to allow you to track your progress in the course and ensure that your grades have been recorded accurately. If there is a discrepancy with what is posted on Moodle and what was passed back to you, please notify me ASAP. Grade appeals will only be accepted for 1 week
after the assignment has been passed back. After 1 week has passed, I will not address previous quizzes and exams.

**Homework / Moodle Quizzes:** There will be an assignment due every one to two weeks for this course. Depending on the topics covered in the previous week, I will either assign written homework, due Monday at the start of class, or assign problems that must be completed online. Homework is assigned in order for you to become more familiar with the type of questions that may appear on an exam. Therefore, I strongly suggest completing and reviewing these assignments on a timely and individual basis.

**Exams:** You will be evaluated on four exams. The exams are tentatively scheduled in the course outline. All exams will be closed book. They may contain problems, multiple choice, and/or short answer questions. Each student must provide his/her own scantron and soft lead pencil. You will need to bring your Financial Calculator for all exams.

**Exam Makeup Policy:** You are expected to take all exams in class on the days in which they are given. If you are unable to take the exam on the designated day, you must contact me via e-mail prior to the test. You may be able to re-schedule the exam only if you have a valid excuse that has been approved prior to the test. In that case you will have one week maximum in which to schedule a time and take a make-up exam. If you fail to contact me and thus are not able to take a make-up, you will receive a zero. Furthermore, if you schedule a make-up with me and fail to show up, you will receive a zero.

**Attendance and Participation:** Attendance is required and will be taken at the beginning of each class. Attendance and Participation will account for 10 percent of your final grade, and class participation will only help facilitate your learning. Any and all questions that you may have are valid for this course. I believe learning is more a function of effort than of talent; your effort in this class will certainly be rewarded.

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**Communicating via e-mail:** When communicating with the instructor via email, be sure to use your UNO e-mail address. Also be sure to include something in the subject line, so that your issue can be promptly addressed. I will try to respond in a timely fashion to all communications. Also note: please use the e-mail address given at the top of this syllabus.

**Academic Integrity:** Academic Integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty.

Refer to the UNO Judicial Code for further information. The Code is available online via the UNO webpage (www.uno.edu).

**Student Accommodations:** It is university policy to provide reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities. Students with disabilities are encouraged to contact Disabled Student Services at 504-280-6222 to discuss their individual needs for accommodations. All information regarding disabilities is confidential between you and DSS.

**Classroom Decorum:** Please make sure that you switch your cell phones to silent/off before you come to class. Also, please refrain from using any other electric devices while class is in session (i.e.: laptops, tablets, MP3 players, hand-held gaming devices, etc.)

Above all: respect yourself and your classmates.