S T A T I S T I C S 2040
Business Statistics

S Y L L A B U S

Session: Spring Semester 2010
Prerequisites: CIS 1200 and MATH 1010
Class Section: 50
Class Location: Udvar-Hazy 149
Dates/Times: Jan. 12 – May 4, 2010: TR 5:15 – 6:55 PM
Textbook: Triola, Mario F., <u>Elementary Statistics Using Excel (4/e),</u>
                  Pearson/Addison Welsey. ISBN: 0-321-56496-0
                  Useful Triola Web-site: wps.aw.com/aw_triola_stats_series/

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Office Hours: Prior to/After Class or By Appointment

<u>Course Objectives</u>: Students successfully completing this course should be able to:

1. Develop a basic notion of statistics and its role in today's world.
2. Understand probability, its role in various disciplines, and its use in statistical calculations.
3. Identify, collect, display, and analyze the numerical type of information generated by business operations.
4. Understand the concept of statistical inference from a sample to a population, while controlling the amount of error incurred in the process.
5. Develop the statistical reasoning and an ability to apply this reasoning to real-life business problems.
6. Appreciate the universal applications of statistical methods in every aspect of modern life.
7. Interpret the statistical result appearing in the public media and other places.

<u>Class Format</u>
The course includes lecture material, text readings, and exercise problems and is conducted in a general discussion manner. Lecture material will be derived from the text and possibly supplemental material. The student is expected to read and analyze the assigned material for each class and is expected to actively participate in the class discussions. Class participation is **<u>extremely</u>** important.

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Student Assignments and Evaluation

Outside of Class Study: Success in this course will depend to a large degree on the effort expended. Simply attending class will seldom be sufficient to pass the course. It is expected that every student will devote between two and three hours outside of class for every class hour. Studying statistics is similar to studying a combination of Russian and Economics. There is a foreign language element and a heavy dose of THINKING. Would you expect to learn Russian and Economics simply by attending classes? Much of your success will depend on PRACTICE, outside of class. Out-of-class time will be split between:

1) Reading the assigned pages in the text BEFORE coming to class.
2) Seriously attempting to solve the assigned problems BEFORE coming to class.
3) Practicing using the tools discussed in class FOLLOWING the class session.

Working in groups is encouraged since peers often help the group understand the concepts and operations required to successfully complete the course. However, each student is encouraged to complete the homework assignments by him/herself. It is essential that everyone struggle with the problems. On the other hand, it is not expected that anyone will "beat his/her head against a wall" until she/he is bloody and exhausted trying to complete the assignments. If you have difficulties, try to work with other class members to gain an understanding, and if assistance is requested of you, please be generous with your time. You will often gain more than the struggler from helping your classmate. An excellent way to learn is to explain "how it is done" to someone else. If, after struggling, you are simply unable to solve a problem, request assistance from the instructor.

A word of caution: Leaning too heavily on others to do the work assigned will seriously undermine your ability to perform well on things that will determine your grade. Having the correct solutions in your notes will be of little benefit. DAILY practice on homework problems is the best way to prepare for examinations. Again, statistics is somewhat like a foreign language and, as with language study, thoughtful and frequent practice is essential to success. Osmosis is NOT an effective means of gaining an understanding of statistics.

Assignments: Problem sets from the textbook are to be completed PRIOR TO COMING TO CLASS on the day assigned as scheduled on the assignment sheet. Students will be selected "at random" to present their solutions to assigned problems to the rest of the class. Presenting an incorrect solution will not be cause for criticism. The only cause for disparagement will be failure to try.

Examinations: During the semester students will be required to demonstrate their grasp of the subject-matter through examinations and a group project. There will be five examinations and a comprehensive final examination. The point structure of each examination is given below.

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Group Project: Groups of 4 students will complete a group project and deliver a written report based on the project. In addition, each group is expected to provide an oral presentation covering their project on either April 27th or 29th. A description of the group project, based upon the content in Chapter 15 of the Triola textbook, as well as an outline of the project's content will be reviewed in class. A written description will also be distributed in class. Each student in each group will receive the same number of points for the written portion of the group project; the oral portion will be graded individually. The group project is worth 80 points.

Attendance and Participation: Attendance and participation is extremely important. Students are expected to attend class on a regular basis – attendance will be monitored at every class. Participation is also important – each of us can learn from one another during oral discussion and assignment reviews. Institutional excused absences and other necessary absences must be cleared with the instructor.

Extra Credit Assignments: Three extra-credit assignments will be offered to the class. The first assignment, worth 20 points, will entail writing a 1-2 page paper on a statistical topic, which will be distributed by the instructor. Assignments 2 and 3, each worth 10 points, will entail completing problems from the Triola text. All extra credit assignment points will be added to the final grade.

Grading:

Exam 1 (Chpts. 1-3)	= 75 pts
Exam 2 (Chpts. 4-5)	= 50 pts
Exam 3 (Chpts. 6-7)	= 50 pts
Exam 4 (Chpts. 8-9)	= 50 pts
Exam 5 (Chpts. 10-11)	= 50 pts
Final Exam (All Chpts.)	= 120 pts
Group Project	= 80 pts (30 Written, 50 Oral)
	475pts

PERCENT OF TOTAL
POINTS AVAILABLE	GRADE	
100 – 94%	A	
93 - 90% **	A-	** <u>Rounding example</u>: =/> 89.5% -> A-
89 – 87%	B+	: < 89.5 -> B+
86 – 84%	B	
83 – 80%	B-	
79 – 77%	C+	
76 – 74%	C	
73 – 70%	C-	
69 – 67%	D+	
66 – 64%	D	
63 – 60%	D-	
LESS THAN 60	F	

To determine what grade you have earned at any point in the semester you need only divide your score by the total number of points available to that point. As a word of caution, there will be no negotiating grades except that if you feel a grade you received on a particular problem has not been fairly assigned you may ask for a reevaluation, but only within a 24 hour period after receiving the grade. Once the suspense period has ended there will be no further discussion about grades.

STATISTICS: What is "it"? You may have a toolbox in your car or garage. If so, a variety of tools reside in that box. As you gain experience or watch others, you develop an ability to select, and use, the most appropriate tool for the task at hand. Statistics is a toolbox of a slightly different kind. The tools in this kit are designed to help people in a wide variety of enterprises, including almost every business entity, to **make decisions and solve problems**. Developing a proficiency in the use of these tools is essential to any manager or decision maker in any business organization. What you take away from this course will be immediately applicable. Any time you spend developing proficiency with these tools will pay dividends when you become affiliated with any business organization. In addition, becoming proficient in statistical methods will enable you to assess the validity of information people present attempting to persuade you to see their point of view.

Resource materials: It is not expected that you will memorize formulas. Accordingly, the following materials may be used when taking quizzes and examinations (unless the instructor states otherwise):
1) The textbook and your notes.
2) Your own compilation of formulae.
3) A calculator
4) The computer.

EXCEL in this course: Statistical tools require numerical manipulations. Without calculators and computers these manipulations can be extremely difficult and time consuming. In their absence we would be able to acquaint you with only a fraction of the tools we will actually deal with in this course. EXCEL, which resides on the classroom computers, will be employed almost exclusively.

EXCEL will be used in two different ways:
1) As a sophisticated calculator. In this mode we will use EXCEL to perform multiplication, division, addition, subtraction, extracting roots, raising values to powers calculations and constructing tables.
2) Using the functions embedded in EXCEL and those in "Data Analysis" we will employ formulae to solve problems.

In the beginning of the course EXCEL will be used primarily in the calculator mode, but toward the end of the semester we will be using EXCEL almost exclusively in the formulae mode.

General: There will be no make-up examinations. If one examination is missed **for a very good reason**, a grade for the missed exam will be calculated based on the average grade for all other examinations – **this may be offered for only one missed exam**. If more than one exam is missed, the student will receive a zero for that or those missed exams. If the final examination is missed **for a very good reason** an incomplete (I) in the course will be assigned until the examination is taken.

Cheating and Academic Discipline: Students are expected to perform their academic work with high standards of personal integrity. Academic dishonesty in any form will not be tolerated including but not limited to plagiarism on written assignments, submitting other person's work as one's own, and cheating on exams or quizzes. Students who are academically dishonest may 1) receive a failing grade on the specific assignment where dishonesty occurred, 2) fail the entire course, and/or 3) immediately be dismissed and removed from the course.

Disability Resource Center: If you are a student with a physical or mental impairment and would like to request accommodations, please contact the Disability Resource Center (652-7516) in Room 201 of the Student Services Center. The disability Resource Center will determine your eligibility for services based upon complete professional documentation. If you are deemed eligible, the Disability Resource Center will further evaluate the effectiveness of your accommodation requests and will authorize reasonable accommodations that are appropriate for your disability.

Blackboard: Blackboard will be used as an additional class resource. The class syllabus will be retained at the class Blackboard site as well as other information. The instructor will keep the class informed as to what is posted at the Blackboard class website.

Communication: Important class and college information will be sent to your Dmail email account. This information includes your DSC bill, financial aid/scholarship notices, and notification of dropped classes, reminders of important dates and events, and other information critical to your success in this class and at DSC. All DSC students are automatically assigned a Dmail email account. If you don't know your user name and password, go to www.dixie.edu and select "Dmail," for complete instructions. You will be held responsible for information sent to your college email, so please check it often.

Assignments for Statistics 2040-50

Spring 2010

All Assignments Are To Be Completed Prior To Close of Class On The Day Assigned

DATE	CLASS SESSION	LECTURE	READING (PAGES)	PROBLEMS
Jan. 12	1	Preface & 1-1,1-2, & 1-3		Achievement of solutions to ALL problems must be ATTEMPTED <u>PRIOR</u> to the beginning of each class session
14	2	1-4 & 1-5	Preface, 2 – 42, 50 - 59	1-2: 1,3,5,7,9,11,15,17,19,21,23 1-3: 1,3,5,7,9,13,15,17,21,23,25,29
19	3	1-6, 2-1 & 2-2	62 - 79	1-4: 1,3,5,7,9,11,13,15,21,23 1-5: 1,3,5,7,9,11,13,21, 23
21	4	2-3 & 2-4	94 - 122	2-2: 1,3,5,7,9,11,13,15,19 Study 1-6 and Do All of the Described Exercises
26	5	3-1, 3-2 & 3-3	127 - 140	2-3: 1,3,5,7,9,11,13 2-4: 1,3,5,7,9,13,17, 21, 23
28	6	3-4	150 - 161	3-2: 1,3,5,7,9,11,13,21 3-3: 1,3,5,7,9,11,13,21
Feb. 2	7	Exam 1 4-1 & 4-2	166 - 181	3-4: 1,3,5,7,9,15,19,21,23 **Exam 1: Chapters 1 - 3**
4	8	4-3 & 4-4	185 - 194	4-2: 1,3,5,7,9,11,13,15,25
9	9	4-5 & 4-6	197 - 202	4-3: 1,3,5,7,9,15,17,21,27,33 4-4: 1,3,5,7,9,13,17,21
11	10	4-7	207 + CD-ROM	4-5: 1,3,5,7,9,11,13,23,25 4-6: 1,3,5,7,9
16	11	4-8	216 - 239	4-7: 1,3,5,7,9,13,15,27,29 **Group Project Plan Proposals Due**
18	12	5-1, 5-2 & 5-3	244 - 252	4-8: Study Bayes' Theorem Unit on Data Disk
23	13	5-4 & 5-5	262 - 276	5-2: 1,3,5,7,9,13,15,19 5-3: 1,3,5,7,9,15,17,21,23,25
25	14	Exam 2 6-1 & 6-2	277 - 298	5-4: 1,3,5,7,9,13,15 5-5: 1,3,5,7,9,11,13 **Exam 2: Chapters 4 - 5**
Mar. 2	15	6-3 & 6-4	300 - 319	6-2: 1,3,5,9,13,17,19,21,37,41,45 **Extra-Credit Assignment 1 Due**
4	16	6-5 & 6-6	340 - 365	6-3: 1,3,5,7,9,11,13,15,21,23 6-4: 1,3,5,7,9,11
8-12	**Spring**	**Break**		**No Classes**
16	17	7-1, 7-2 & 7-3	369 –379 404 - 422	6-5: 1,3,5,7,9,13,17 6-6: 1,3,5,7,9,13,15,17,23

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18	18	7-4, 8-1 & 8-2	426 - 434	7-2: 1,5,7,9,13,17,21,25 7-3: 1,3,5,7,9,13,17,21
23	19	Exam 3 8-3	439 - 454	7-4: 1,3,5,7,9,13,17,23 8-2: 1,3,5,7.9.11,13,17,19,25,29,31,37,41 **Exam 3: Chapters 6 - 7**
25	20	8-4 & 8-5	476 - 498	8-3: 1,3,5,7,9,15,17
30	21	9-1, 9-2 & 9-3	504 510	8-4: 1,3,5,7,9,11,13,17 8-5: 1,3,5,7,9,11,13,19,23
Apr. 1	22	9-4	534 - 549	9-2: 1,3,5,7,9,13,15,21 9-3: 1,3,5,7,9,11,13,17
6	23	Exam 4 10-1 & 10-2	555 –567 606 - 616	9-4: 1,3,5,9,11,13,17,19 **Exam 4: Chapters 8 – 9** **Extra-Credit Assignment 2 Due**
8	24	10-3, 11-1 & 11-2	621 - 629	10-2: 1,3,5,7,9,11,13,17
13	25	11-3	650 663	10-3: 1,3,5,7,9,13,17,21 11-2: 1,3,5,7,9,11,13,19,21
15	26			Group Activity
20	27	Exam 5 12-1 & 12-2		11-3: 1,3,5,7,9,11,19 **Exam 5: Chapters 10 – 11** **Extra-Credit Assignment 3 Due**
22	28	12-2		12-2: 1,3,7,9,11,13 Review for Final Comprehensive Examination
27	29			Review for Final Comprehensive Examination **Group Project Oral Presentations**
29	30			**Group Project Oral Presentations; All Written Projects Due**
May 4	31	Final Exam		**Final Examination** **5 – 7 PM**