



STATISTICS I Fall semester, 2007

Professors:

Assoc. Prof. Nertila Gjini

e-mail: ngjini@unyt.edu.al

Aim and objectives:

Statistics is the mathematical analysis and the interpretation of the data, and drawing of inferences about a set of data when only a *part (subset)* of the data is observed.

Statistics aims at introducing the students to some core concepts such as random experiments, random events, and probability of the random event, random variables, and distributions of the random variables, probability models, and statistical inference.

After the course, the students will be able to analyze and solve problems of statistical nature in various fields of business: management, marketing, finance, and also in psychology, political sciences, economics, etc. We underline that a solid understanding of Statistics is a strong formal and essential prerequisite.

Prerequisites:

Students are expected to be familiar with College Algebra. Even though Differential and Integral Calculus is an important tool in Statistics for Business, it will be revised as simply as possible. During the course, approximately 4 hours will be devoted to the derivative and integral in their simplest forms (see the Syllabus section below).

Teaching Methods:

There are 3 hours per week in the form of lectures. The teaching experience at UNYT shows that Statistics I should not be considered as an easy course.

Therefore, students are expected to devote about three hours of their time, for every 3 hours of lecture, to study theory, exercises and problems.

Assessment Criteria:

Active participation & Home works	10%
Test	10%
Midterm exam	30%
Test (SPSS)	20%
Final Exam	30%

Exams are closed books. Also, you use your own calculator and nothing else will be allowed. **Mobile phones are strictly not tolerated in the class for any use (including computations).** Active participation is meant as the effort and the interest that a student shows in the class, including homework. After each session students are expected to study all the relevant material, read all the associated exercises, identify the difficult points and pose their questions in the next session either directly to me or in the class. **Cheating and plagiarism in any form will result immediately in the grade F. Students who are absent more than 20% of the total hours of the semester (i.e. 9 hours) may be required to withdraw from the course.**

Main Textbook:

Lind, Marchal, and Wathen, *Basic Statistics for Business & Economics*, fifth edition, McGraw-Hill, 2006.

Reference Book:

G. Attwood, G. Dyer, and G. Skipworth, *Statistics 1*, Heinemann Modular Mathematics, 2000.

G. Attwood, G. Dyer, and G. Skipworth, *Statistics 2*, Heinemann Modular Mathematics, 2000.

SYLLABUS:

- What is Statistics?
- Descriptive Statistics 1
Tabular and graphical approaches. Relative frequency distribution, Bar graph and Pie chart, Histogram, Frequency polygon.
- Descriptive Statistics 2
Numerical Methods. Mean, range, variance, standard deviation, coefficient of variation, median, mode, percentiles.

- Elements of Probability
Random experiment, sample space, sample points, random events, algebra of random events. Basic rules for the probabilities of random events. Venn diagrams. Conditional probability and Multiplication rule. Tree diagrams. Independent and mutually exclusive random events. Permutations. Combinations.
- Discrete Random Variables
The law of distribution, expectation, variance. The uniform distribution. The binomial distribution and Poisson distribution.
- Basic Mathematical techniques
Differentiation, rules of differentiation, differentiation of polynomials, exponential and trigonometric functions. Indefinite Integral. Definite Integral: Newton-Leibniz Formula.
- Continuous Random Variables
Probability distribution function, expected value, variance, standard deviation, median, mode. The uniform distribution. The normal distribution.

Grading Scale and Quality Points:

<u>Grade</u>	<u>Percentage</u>	<u>Quality points</u>
A	96-100	4.00
A-	90-95	3.67
B+	87-89	3.33
B	83-86	3.00
B-	80-82	2.67
C+	77-79	2.33
C	73-76	2.00
C-	70-72	1.67
D+	67-69	1.33
D	63-66	1.00
D-	60-62	0.67
F	0-59	0.00

Class Conduct: You are responsible for everything that is announced, presented or discussed in class. The way to avoid any misunderstanding associated with this course is to attend class. You are expected to attend class and I do keep attendance

records. Please, be courteous during class; both to me and your colleagues. I find late arrivals distracting, which cause a decline in the quality of my lecture. Importantly, it is also disruptive to your colleagues. Please, refrain from talking during class; it is disruptive to your colleagues and the lecture. I expect the best behavior from all of you. This is what education is all about. Please, consider that **the language of instruction is English, so all our conversation into the class must be in this language.**

If you feel that you have special academic difficulties, please, make an appointment with Ms. Anxhela Gramo. Ms. Anxhela Gramo is trained to help students with learning difficulties. She shall provide this service to our students, just as it is offered in all American universities.