

COURSE SYLLABUS

COURSE TITLE:	Business Statistics	COURSE CODE:	MATH210
PREREQUISITES:	NONE	SEMESTER:	FALL 2020
INSTRUCTOR:	Bruno FISCHER COLONIMOS	CREDITS:	3
EMAIL:	bruno.fischer.prof@free.fr	SCHEDULE:	Wednesday Group 1 8h30-11h30 Group 2 12h30-15h30

COURSE DESCRIPTION:

Decision-making is a key management skill. Very often, a good decision is based on the answers to questions such as: which group of customers might enjoy this new product? How good is the quality of our current products? The answers to these questions should not only reflect the opinion of the decision-maker but should also be supported by facts. Data is a name for measured facts. Data is not the same as information. Information has meaning; data by itself has none.

Statistics is essentially the art of extracting information out of data. This course is an introduction to this art and science.

COURSE OBJECTIVES:

The purpose of this course is to provide the student with

- a practical understanding of standard statistical tools and methods,
- the ability to use this knowledge to prepare a quantitative study, process the gathered data and interpret the results.

Applications will be considered very often (but not exclusively) in the field of Marketing Research. Presence in class is mandatory. More than 2 absences will lead to a failing grade.

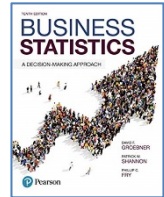
EXPECTED LEARNING OUTCOMES:

Upon completion of this course students should be able to:

- Use measures of position and dispersion as well as graphs, to describe a given set of data and interpret the result
- Understand basic probability concepts.
- Assess estimates of proportions and means

MANDATORY TEXTBOOK AND CALCULATOR:

Groebner, Shannon, Fry: *Business Statistics: A Decision-Making Approach*;
Pearson/Prentice Hall. 10TH EDITION



Copies of this textbook are available in the school library

Additional course material (Handouts, class exercises, special projects, tests and exams) may be handed out by the professor, although the main source for printed material will be the textbook.

A personal pocket calculator is required and should be brought to every class. An advanced calculator is not necessary. Any calculator **with statistical functions** is suitable. The recommended calculator type is an **inexpensive graphical calculator** from one of the major manufacturers (Texas Instruments, Casio... A TI 82 or 83 would be an example of a suitable calculator). Such a calculator may be acquired new for about 80€, or second-hand for 20 to 30 € (on Ebay, for example).

During the exams, the student will be allowed to use their own calculator.

EVALUATIONS:

Exams: a midterm exam and a final exam will take place and will contribute to the final grade for 60%.

Assignments and in-class tests: the students will be assigned homework and may be required to participate to additional in-class tests.

Big Data project: In class, the students will analyze a dataset.

Group project: The student will work in teams of three to treat a case study. The written report will be graded and will contribute to the final grade for 10%.

The final grade will be determined as follows:

Continuous Assessment	40%
Attendance, participation	10%
Homework	10%
Big Data project (in-class assignment)	10%
Group project	10%
Midterm exam	30%
Final Exam	30%

Presence in class is mandatory. More than 2 absences will lead to a failing grade.

GRADING CRITERIA:

Grades will be based on the standard ABS Grading Rubrics available on beecome.

COURSE SCHEDULE:

Dates	Reading/Homework	Session Content
Session 1: 16 Sept	Book: Chapters 1 + 2	Introduction Business Statistics. Why? Descriptive Statistics. Introduction. Examples. Data. Data types, levels of measurement. Graphical representations
Session 2: 23 Sept	Book: Chapter 3	Descriptive statistics: Graphical representations; measures of position (1) Representing graphically continuous data. The mode, the median and the mean. Computation and interpretation.
Session 3: 30 Sept	Book: Chapter 3	Descriptive statistics: measures of position (2), measures of variation (1) Range, Quartiles. Standard deviation
Session 4: 7 Oct	Book: Chapter 3	Descriptive statistics: measures of variation (2) Using measures of position and variation together: Coefficient of variation, standard score z.
Session 5 14 Oct		Big Data Project. (in-class assignment)
Session 6: 21 Oct		Midterm exam
Session 7: 28 Oct	Book: Chapter 5	Comments on midterm exam Elements of Probability Theory: Vocabulary, basic concepts. Discrete probability distributions. Expected value and standard deviation, Independence
Session 8 4 Nov	Book: Chapter 7	The Normal distribution
11 Nov		No class: Veterans Day
Session 9: 18 Nov	Book: Chapter 8	Sampling, Sampling distributions
25 Nov		No class: Business Games
Session 10: 2 Dec	Book: Chapter 8	Sampling distributions II
Session 11: 9 Dec	Book: Chapter 9	Estimation of a population mean, Estimation of a population proportion.
Session 12: 16 Dec		Final Exam

The schedule of Final Exams will be confirmed and published by 31 October 2020. The last day of the semester is 18 December 2020. DO NOT PLAN ANY TRAVEL BEFORE THIS DATE AS THERE ARE NO MAKE-UP EXAMS.