UCLouvain

lstat2310a

2025

Controle stat. de Qualité : Partim A

The version you're consulting is not final. This course description may change. The final version will be published on 1st June.

2.00 credits	12.0 h + 4.0 h	Q1

Language :	French > English-friendly
Place of the course	Louvain-la-Neuve
Prerequisites	Basics of probability and statistical inference
Main themes	- Statistical tools for quality insurance - Principles and classes of Shewhart control charts - CUSUM and EWMA control charts - Control charts for autocorrelated and multivariate data - Capability analysis - Decomposition of sources of variability. Gauge analysis. - Reception sampling
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 At the end of this course, the students will have gain knowledge and a critical view of the statistical tools usefull in the setup of quality insurance policy, in process control and daily follow up of analytical devices. They will be able to apply these tools to industrial data sets.
Evaluation methods	Writing exam
Teaching methods	Lectures (15h) • Methods presentation on the basis of real-life situations. • Formal but intuitive discussion of theoretical concepts and formulae for most methods. • Interpretation of software outputs. • Interactive lectures: students are encouraged to participate during the course. Computer labs (5h) • Case studies on JMP, methodological exercises, and JMP Output interpretation.
Content	The themes discussed in this course are : • Statistical tools for quality insurance • Principles and classes of Shewhart control charts • CUSUM and EWMA control charts • Control charts for autocorrelated, multivariate and short run data • Capability analysis • Reception sampling
Inline resources	See the Moodle site: https://moodleucl.uclouvain.be/course/view.php?id=9935
Bibliography	D. C. Montgomery, Statistical Quality Control. New York: Wiley.
Other infos	Prerequisite : • First course in statistical inference ; • Use of Word and Excel ; • Ideally : knowledge of the software JMP.
Faculty or entity in charge	LSBA

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Agricultural Bioengineering	BIRA2M	2		🔍