

# Scuola Superiore di Catania

Corso specialistico

a.a. 2019-2020

Progettazione degli Esperimenti per il Miglioramento della Qualità in Ambito Produttivo

Design of Experiments (DoE) for Quality Improvement in Manufacturing

The role of DoE in quality improvement projects. Planning the identification of the potential factors affecting a quality parameter. Criteria to select the most effective experimental plan in an organization's improvement project. Software for DoE implementation in quality improvement.

The Analysis of Variance as the statistical means to identify one or more factors affecting a quality parameter. One-Way ANOVA and its implementation in a manufacturing process.

Full factorial experiments with more than one factor and screening designs  $2^k$ . Examples of applications to manufacturing processes for the identification of the optimal product configuration.

Modeling the relations among quality parameters and the influencing factors: the role of multiple linear regression models in the selection of the optimal process configuration.