

41004 Design and Analysis of Computer a.y. 2021-22

PhD in Statistics & Computer Science
Bocconi University

Course Responsible: Emanuele Borgonovo, Department of Decision Sciences and BIDSa, Bocconi University. Emanuele.borgonovo@unibocconi.it

The course offers students an in-depth journey into the use of computer experiments in scientific modelling. It illustrates designs based on finite changes, on replicates and designs based on the functional ANOVA expansion. The link between design, interpretability and sensitivity is analysed in depth. A variety of sensitivity methods (from partial dependence functions to mean dimensions) is discussed and illustrated with applications in simulation (deterministic and stochastic) and artificial intelligence (neural networks).