COURSE DETAIL

MATHEMATICAL TOOLS FOR PSYCHOLOGISTS
Country Italy
Host Institution University of Padua
Program(s) Psychology and Cognitive Science, Padua
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Statistics Psychology
UCEAP Course Number 109
UCEAP Course Suffix
UCEAP Official Title MATHEMATICAL TOOLS FOR PSYCHOLOGISTS
UCEAP Transcript Title MATH FOR PSYCH
UCEAP Quarter Units 5.00
UCEAP Semester Units 3.30

Course Description

This course presents some basic techniques for the analysis of the uncertainty inherent in statistical information, with the goal of providing a correct evaluation and communication of risk. Basic notions of elementary probability theory and of Bayesian probability are introduced and discussed, and their application is illustrated in problems connected with the medical and psychological practice, also within the framework of recent Italian legislation on informed consent which imposes to all health care professionals a correct risk assessment and the adequate communication of it to patients. The course discusses topics including uncertainty in statistical information; problems related to the evaluation of risk and communication of risk; real-world examples; Bayesian inferences through the use of probabilities and by means of natural frequencies; suitability of the natural frequencies for a more intuitive and direct insight in both risk estimation and in a transparent representation of risk; examples focusing on the correct judgement of the probabilistic predictive value of medical diagnostic tests, and aiming at avoiding misleading risk information; cases related to the ongoing Covid-19 public-health emergency; evaluation of the effect of interventions, including relative risk and absolute risk, and relative and absolute risk reduction (or increase); and number needed to treat or to harm.

Language(s) of Instruction
English

Host Institution Course Number
PSP5070177

Host Institution Course Title
MATHEMATICAL TOOLS FOR PSYCHOLOGISTS

Host Institution Course Details
https://en.didattica.unipd.it/off/2019/LT/PS/PS2192/000ZZ/PSP5070177/N0

Host Institution Campus

Host Institution Faculty
Psychology

Host Institution Degree
First Cycle Degree in Psychological Science

Host Institution Department

Course Last Reviewed
2021-2022

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