



| HISTORY OF MATHEMATICS |   |
|------------------------|---|
| Enrollment year        | 2020/2021   |
| Academic year          | 2020/2021   |
| Regulations            | DM270   |
| Academic discipline    | MAT/04 (COMPLEMENTARY MATHEMATICS)  |
| Department             | DEPARTMENT OF MATHEMATICS "FELICE CASORATI"   |
| Course                 | MATHEMATICS   |
| Curriculum             | PERCORSO COMUNE   |
| Year of study          | 1°  |
| Period                 | 1st semester (01/10/2020 - 20/01/2021)  |
| ECTS                   | 6   |
| Lesson hours           | 48 lesson hours   |
| Language               | Italian   |
| Activity type          | ORAL TEST   |
| Teacher                | ROSSO RICCARDO (titolare) - 6 ECTS  |
| Prerequisites          | Knowledge of elementary probability at the level of an undergraduate student.   |
| Learning outcomes      | The course aims to presenting the historical development of the theory of probability.  |
| Course contents        | Prehistory of probability. Problems in combinatorial analysis related to game of chances. The problem of points from late-medieval manuscript to De Moivre. Early applications of the calculus of probability to mortality tables and life annuities. Jacob bernoulli's "Ars Conjectandi". The Bernoulli-De Moivre theorem. The Saint Petersburg's paradox. The birth of inverse probability: Bayes, Price and Laplace. Error theory. The criticism on the foundations of probability. The different approaches to probability: frequentist (von Mises), logicist (Keynes), subjective (De Finetti and Ramsey). The axiomatic approach to probability calculus from Bohlmann to Kolmogorov. |

|  |   |
|--|---|
| <b>Teaching methods</b>                            | Lessons in a class  |
| <b>Reccomended or required readings</b>            | <p>I. Hacking "L'emergenza della probabilità" Il Saggiatore (1975).</p> <p>A. Hald: "History of Probability and Statistics and their applications before 1750" Wiley (2003).</p> <p>A. Hald: "A History of Mathematical Statistics From 1750 to 1930" Wiley (1998).</p> <p>M.C. Galavotti: "Philosophical Introduction to Probability" CSLI (2005).</p> <p>I. Dale: "A History of Inverse Probability. From Thomas Bayes to Karl Pearson" Springer (1999).</p> <p>T.M. Porter: "The rise of statistical thinking 1820-1900" Princeton University Press (1986).</p> <p>S.M. Stigler: "The History of Statistics. The measurement of Uncertainty before 1900".</p> <p>J. von Plato: "Creating modern probability" Cambridge University Press (1998).</p> <p>Notes available on the website of the course.</p> |
| <b>Assessment methods</b>                          | Oral exam. The student chooses a topic to present among those covered in the course. Other questions are chosen by the teacher, clearly among topics covered in the course  |
| <b>Further information</b>                         |   |
| <b>Sustainable development goals - Agenda 2030</b> | <a href="#">\$ibl_legenda_sviluppo_sostenibile</a>  |