

Studies Plan

Mineur : Statistique 2025-26

Minor : Statistics

| Courses | | | | Exam Session | Exam | Credit |
|---------|---|-------|--------------------------------|--------------|---------------------|--------|
| Lang. | Code | Sect. | Teacher | | | |
| E | Algorithms II CS-450 | IN | Kapralov | Win | Written | 8 |
| E | Applied biostatistics MATH-493 | MA | | Sum | During the semester | 5 |
| E | Applied data analysis CS-401 | SC | Brbic | Win | Written | 8 |
| E | Applied statistics MATH-516 | MA | Mhalla | Sum | During the semester | 5 |
| E | Biostatistics MATH-449 | MA | | Sum | Written | 5 |
| E | Computational linear algebra MATH-453 | MA | Kressner | Sum | Written | 5 |
| E | Computational optimal transport MATH-528 | MA | Chizat | Sum | Written | 5 |
| E | Convex optimization MGT-418 | MTE | Kuhn | Win | Written | 5 |
| E | Data visualization COM-480 | SC | Vuillon | Sum | During the semester | 6 |
| E | Deep learning EE-559 | EL | Cavallaro | Sum | During the semester | 4 |
| E | Deep reinforcement learning CS-456 | IN | | Sum | Written | 6 |
| E | Derivatives FIN-404 | IF | Hugonnier | Sum | Written | 6 |
| E | Empirical processes MATH-522 | MA | Limnios | Sum | Written | 5 |
| E | Exploratory data analysis in environmental health ENV-444 | SIE | Joost Nehme | Win | During the semester | 4 |
| E | Financial big data FIN-525 | IF | Challet | Win | During the semester | 3 |
| E | Foundations of Data Science COM-406 | IN | Gastpar | Win | Written | 8 |
| E | Gaussian processes MATH-426 | MA | Aru | Win | Oral | 5 |
| E | Genetics and genomics BIO-373 | SV | Deplancke Waszak | Win | Written | 4 |
| E | Genomics and bioinformatics BIO-463 | SV | Bitbol Luisier Rougemont | Sum | During the semester | 4 |
| E | Information security and privacy COM-402 | IN | Payer | Win | Written | 8 |
| E | Learning theory CS-526 | IN | Macris | Sum | Written | 6 |
| E | Machine learning for behavioral data CS-421 | IN | Käser | Sum | Written | 6 |
| E | Markov chains MATH-332 | MA | Mountford | Sum | Written | 5 |
| E | Martingales in financial mathematics MATH-470 | MA | Schmutz | Sum | Oral | 5 |

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|---|---|-----|-----------------------------|-----|---------------------|---|
| | Mathematical modelling of behavior | | | | | |
| E | MATH-463 | MA | Bierlaire | Win | Written | 5 |
| | Mathematics of data: from theory to computation | | | | | |
| E | EE-556 | EL | Cevher | Win | Written | 6 |
| | Measure theory | | | | | |
| E | MATH-303 | MA | Ackelsberg | Win | Written | 5 |
| | Multivariate statistics | | | | | |
| E | MATH-444 | MA | Panaretos | Sum | Written | 5 |
| | Nonparametric estimation and inference | | | | | |
| E | MATH-524 | MA | Chandak | Sum | Written | 5 |
| | Nutrition: from molecules to health | | | | | |
| E | BIO-441 | SV | Descombes Hager Rezzi | Win | During the semester | 4 |
| | Optimization for machine learning | | | | | |
| E | CS-439 | IN | Flammarion Jaggi | Sum | Written | 8 |
| | Probability and stochastic calculus | | | | | |
| E | FIN-415 | IF | Perazzi | Win | Written | 6 |
| | Probability theory | | | | | |
| E | MATH-432 | MA | Mountford | Win | Written | 5 |
| | Randomization and causation | | | | | |
| E | MATH-336 | MA | Sturma | Sum | Written | 5 |
| | Randomized matrix computations | | | | | |
| E | MATH-403 | MA | | Win | Oral | 5 |
| | Regression methods | | | | | |
| E | MATH-408 | MA | Limnios | Win | Written | 5 |
| | Risk and environmental sustainability | | | | | |
| E | MATH-383 | MA | Mhalla | Win | Written | 5 |
| | Sensing and spatial modeling for earth observation | | | | | |
| E | ENV-408 | SIE | Berne Skaloud Tuia | Sum | Written | 5 |
| | Statistical analysis of network data | | | | | |
| E | MATH-448 | MA | Olhede | Win | Written | 5 |
| | Statistical computation and visualisation | | | | | |
| E | MATH-517 | MA | Mhalla | Win | During the semester | 5 |
| | Statistical inference | | | | | |
| E | MATH-562 | MA | Chandak | Win | Written | 5 |
| | Statistical machine learning | | | | | |
| E | MATH-412 | MA | Obozinski Zemel | Win | Written | 5 |
| | Statistical theory | | | | | |
| E | MATH-442 | MA | Zemel | Sum | Written | 5 |
| | Statistics for genomic data analysis | | | | | |
| E | MATH-474 | MA | | Sum | During the semester | 5 |
| | Stochastic simulation | | | | | |
| E | MATH-414 | MA | Nobile | Win | Written | 5 |
| | Theory of stochastic calculus | | | | | |
| E | MATH-431 | MA | Dalang | Win | Written | 5 |
| | Time series | | | | | |
| E | MATH-342 | MA | Olhede | Sum | Written | 5 |
| | Topics in machine learning | | | | | |
| E | MATH-520 | MA | Chizat | Win | Written | 5 |