

Introduction to Tensor Calculus

Professor

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Institution

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General Information

Course contents: Finite-dimensional vector spaces, scalar products, norms, bases, subspaces, maps, functionals, convergence of vectors, projections, differentiation. Second-order tensors, symmetric and skew-symmetric tensors, orthogonal tensors, eigenvalues and eigenvectors, the spectral theorem, the square-root theorem, the polar decomposition theorem, the Cayley-Hamilton theorem, coaxial tensors. Third and fourth-order tensors. Isotropic functions. Derivatives of tensor functions.

The lessons (in English) will be held in a mixed mode: in person (ISTI-CNR, Via G. Moruzzi 1 Pisa, Building B, gate 19, 1st floor, room C 29) and online (the link will be provided by the teacher).

Schedule

Dates	Description
03/03/2026	h 10:00-12:00
06/03/2026	h 10:00-12:00
10/03/2026	h 10:00-12:00
13/03/2026	h 10:00-12:00
17/03/2026	h 10:00-12:00
20/03/2026	h 10:00-12:00
24/03/2026	h 10:00-12:00
27/03/2026	h 10:00-12:00
31/03/2026	h 10:00-12:00
Total 18 Hours – 3 Credits	

For any information www.indicee.unifi.it - dott-dicea@unifi.it