



# Introduction to Tensor Calculus

## Professor

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## Email

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## Institution

Institute of Information  
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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, 1<sup>st</sup> 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
<b>Total 18 Hours – 3 Credits</b>	

For any information [www.indicee.unifi.it](http://www.indicee.unifi.it) - dott-dicea@unifi.it