

Title

Professor

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Institution

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General Information

The course presents an introduction to the classical theories of continuum mechanics, in particular to linear and nonlinear theories of elasticity. These theories are important both for their applications and because they constitute the basis for further developments in the study of the behaviour of materials and structures.

The course is held both in presence (room to be defined in Pisa) and online.

Materials

M. E. Gurtin "An introduction to Continuum Mechanics" Academic Press (1981).

M. E. Gurtin, E. Fried, L. Anand "The Mechanics and Thermodynamics of Continua", Cambridge U. P. (2010).
Lecture notes.

Schedule

| Dates | Description |
|---------------------|---|
| 23-03-2026, H 10-12 | Bodies and deformations |
| 25-03-2026, H 10-12 | Motions |
| 30-03-2026, H 10-12 | Conservation of mass; linear and angular momentum |
| 01-04-2026, H 10-12 | Force, stress, balance of momentum |
| 13-04-2026, H 10-12 | Constitutive assumptions |
| 15-04-2026, H 10-12 | Change of observer |
| 20-04-2026, H 10-12 | Finite elasticity |
| 22-04-2026, H 10-12 | Linear elasticity |
| 27-04-2026, H 10-12 | Linear elastodynamics |

Total 18 Hours - 3 Credits. For any information www.indicee.unifi.it