Soft Condensed Matter: An Introduction

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Vatsal Sanjay

Web version

A journey through soft materials, from everyday foams and gels to polymer networks and interfacial dynamics. We develop the conceptual and mathematical foundations to understand why soft matter behaves so differently from hard solids and liquids.

Subject notes

1. Different Faces of Soft Condensed Matter
    - The Taylor–Culick Paradox
    - Questions and answers
2. Viscosity and Momentum Diffusion
    - From Newton's Laws to Conservation Equations
    - Questions and answers
3. Soft Matter Instabilities
4. Soft Matter Singularities
5. Elastic, Viscous and Viscoelastic Behaviour
6. Sheets, Bubbles and Drops

Course years

Dates, slides and assessment arrangements belong to each course year:

- 2026 course
- 2025 course

No prior knowledge of soft matter or materials science is required.