

Class 2 Highlights

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We discussed how to deal with a continuum based on its environment, the continuum itself (material properties), and how it responds (constitutive properties). When looking at force vs stress, we want to be able to discover a relationship between force and response (stress and strain) independent of the geometry. Looking at idealizations of material behavior, such as Hookean solid for elastic, and Newtonian fluid for viscous, we can assess the changes in stress and strain and how they relate to one another. Failure is also an idealization where a critical stress value needs to be met for deformation to occur. Understanding these concepts from an individual, idealized level can help us get a more realistic model for real materials.