From Jason Ott:

Class Meeting 1 Highlights:

Continuum mechanics is a way of considering mechanics for bodies that are not uniform throughout. To treat an object using continuum mechanics, we must be able to approximate the average properties, so the intrinsic properties (of the material) should be continuous (few discontinuities) and should vary smoothly at the scale we are interested in, which may range from microscopic (molecular) to macroscopic (hand sample/outcrop/terrane/etc). Where classical mechanics treats bodies as point particles and focuses on force (F), in continuum mechanics we instead focus on the relationship between stress (force/area) and strain.