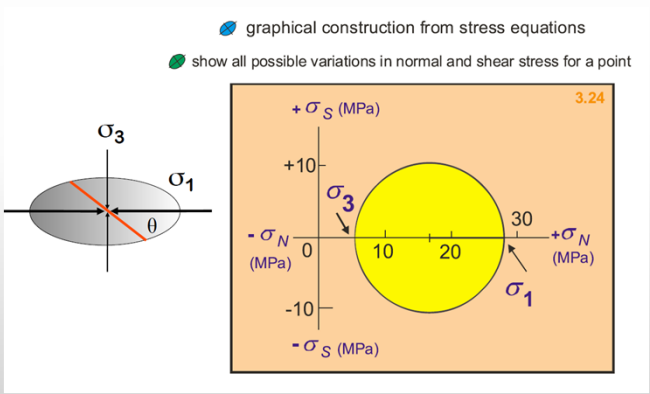
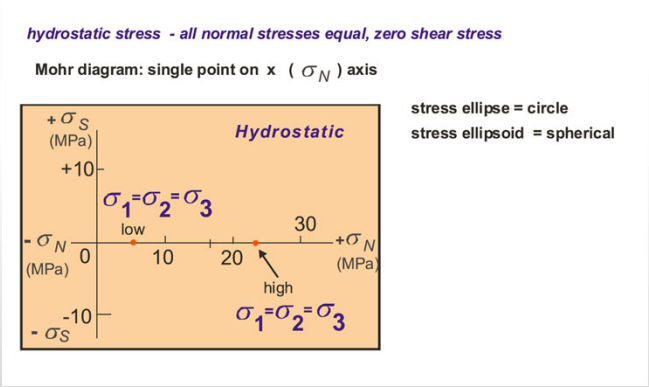
Lecture 05, OPTIONAL slides reviewing Mohr circles.

- These could be converted to “real” slides.
- They are provided as an alternative way of conveying Mohr circle construction and use.

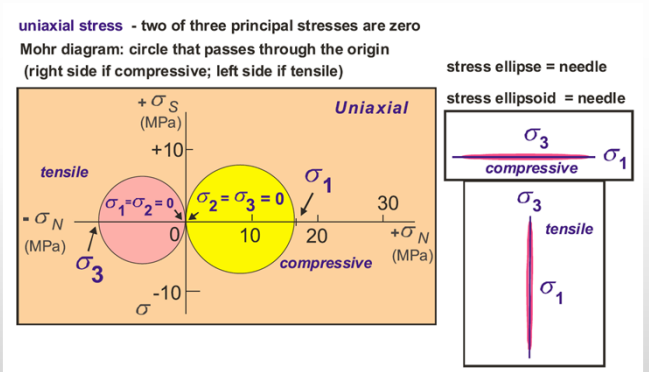
Mohr circle stress diagram



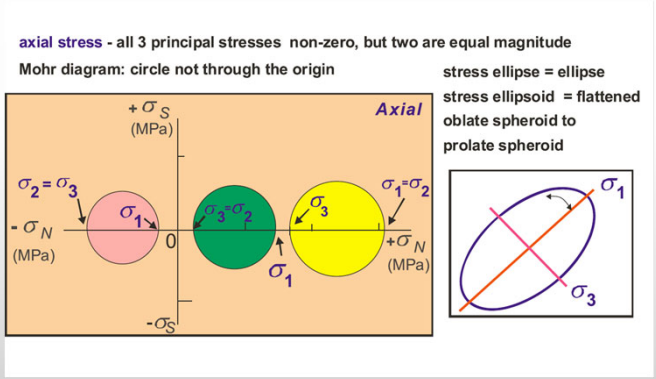
“Imaging” stress: hydrostatic



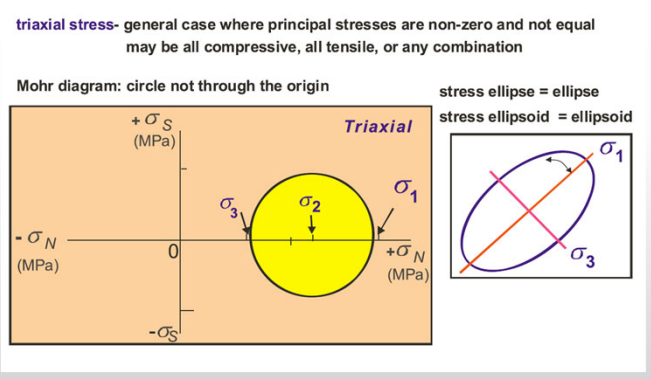
“Imaging” stress: Uniaxial



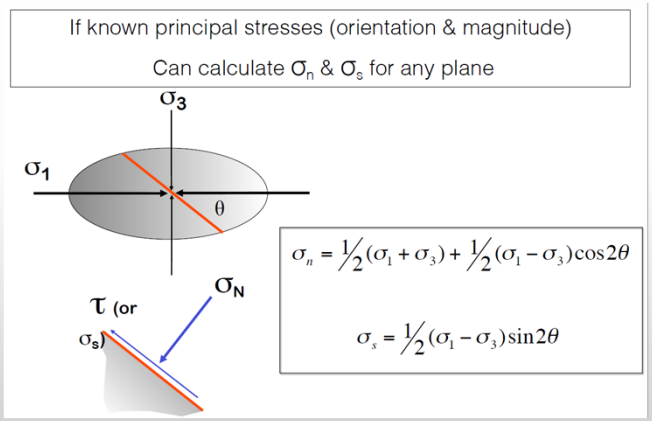
"Imaging" stress: axial stress



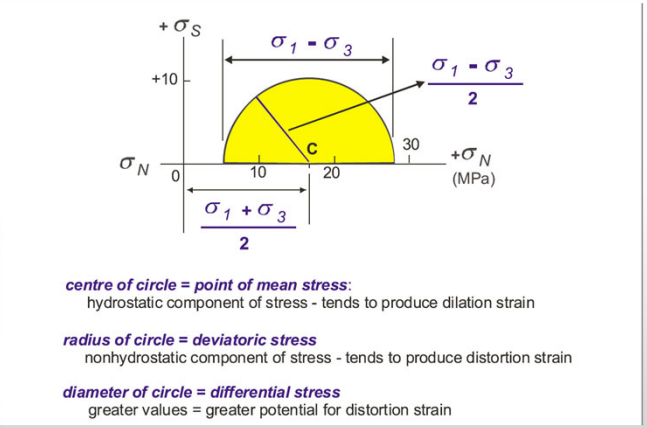
"Imaging" stress: triaxial



2D stress – fundamental equations



Making the Mohr circle

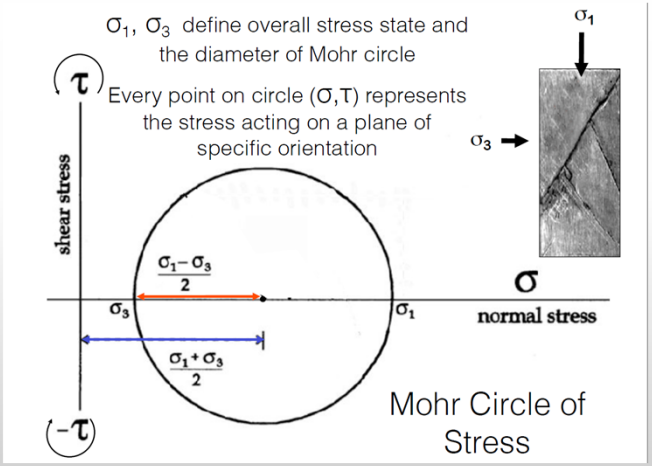


centre of circle = point of mean stress:
hydrostatic component of stress - tends to produce dilation strain

radius of circle = deviatoric stress
nonhydrostatic component of stress - tends to produce distortion strain

diameter of circle = differential stress
greater values = greater potential for distortion strain

What do Mohr circles reveal?



What do Mohr circles reveal?