Highlights Class 15
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We discussed different Mohr circle scenarios and why failure is not on the plane with the maximum shear stress – the ratio between the normal stress and the shear stress needs to be at the right point (corresponds to point on the Mohr circle) rather than the plane with the maximum shear stress.

Rocks and crystal aren't perfect. The rounding of the failure envelope indicates you may not need as much tension so you can fail much more easily

The conventions of stress in engineering/mathematical: positive principal stresses indicate extension, ordered from sigma1 to sigma3 from greatest to least. (Ed likes this convention). In geologic/rock mechanics, positive principal stresses indicate compression, ordered from sigma1 to sigma 3 from greatest to least (sigma1 > sigma2 > sigma3).

Differential stress: essential to have failure: sigma1 – sigma3 – to achieve failure we can increase or decrease sigma1 or sigma3 to increase/decrease the mohr circle until it reaches the failure envelope

Types of faults
Orientations of the principal axes of stress e1, e2, and e3 for reverse, normal, and strike slip faults
In reverse faults, e1 is the vertical axis
In normal faults, e3 is the vertical axis
In strike slip, e2 is the vertical axis