Geology 314 Test 1 Review Sheet

**Bulk Properties of Rocks**
Be able to define the following and use them in calculations (e.g., subsidence in a trench).

- bulk density
- specific gravity
- porosity
- particle density
- unit weight
- isotropic and anisotropic materials

**Engineering Properties**
Be able to define the following and use them in calculations (e.g., room & pillar analyses).

- normal stress
- shear stress
- unconfined
- confined
- ultimate stress
- Hooke’s law
- axial strain
- transverse strain
- shear strain
- Poisson’s ratio
- lithostatic stress
- compressive versus shear versus tensile strength

Young’s modulus
shear modulus
bulk modulus
coefficient thermal expansion
factor of safety

Describe the relationship between seismic wave velocity and elastic properties.

**Rock Slope Stability**
Be able to define the following and use them in calculations (e.g., translational slides and topples).

- driving force
- normal force
- cohesion force
- topples
- resisting force
- shear force
- cohesion stress
- road cut slopes
- friction force
- coefficient of friction
- factor of safety
- engineered slopes (bolting)

I suggest knowing the equations on the equation sheet and what the variables in those equations represent. You will get the same equation sheet for the exam.