

Rock and Fluid Physics (3 credit hours): This course reviews various physical properties of rocks and fluids and the seismic response to materials with those properties with direction applications to exploitation, exploration and geophysical modeling.

Course Outline

1. Introduction
2. Reservoir environment
3. Elasticity of porous media
4. Velocity of sandstone
5. Velocity of poorly consolidated rock
6. Velocity of carbonate
7. Gassmann equation
8. Optimal hydrocarbon indicator
9. Hydrocarbon fluids properties
10. Velocity dispersion and attenuation
11. Seismic Rock Physics: Applications