

# **GEOL 344 Stratigraphy and Sedimentation**

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## Course Description:

- Description, identification and classification of sedimentary rocks and their physical structures; Interpretation of formation mechanisms of sedimentary structures; combining changes in character of sedimentary rock successions into depositional models; introduce basic concepts of stratigraphy and basin formation, and how they apply to understanding sedimentary successions.

## Learning Outcome:

- Knowing how sedimentary rocks originate, and the processes that form them
- Understand sediment transport mechanisms and bases of fluid mechanics, and how this relates to forming sediments and sedimentary rocks
- Describe and classify siliciclastic and carbonate sedimentary rocks
- To be able to recognize sedimentary structures in the field and in hand sample, and to be able to reconstruct processes responsible for forming sedimentary structures
- To recognize indicators of erosion and synsedimentary deformation in sedimentary rocks
- To be able to reconstruct depositional environments in ancient rock successions based on indicative sedimentary structures, and recognize changes in environment in the succession of sedimentary rocks
- To know basic stratigraphic rules (rule of superposition, facies reconstruction etc.) and apply them to sedimentary successions
- Know basics of hydrocarbon formation, types of reservoirs, and geological elements necessary for forming hydrocarbons; general approaches to evaluate the hydrocarbon potential of a rock succession
- General aspects of how to classify sedimentary basins