

Learning Goals – Terminology and Tools Module 2

At the end of this module the student will be able to:

Explain the main causes and consequences of tectonism at convergent, divergent and transform plate margins

Discuss the detailed stages of evolution of a continent-continent collision and the various tectonic elements created during each stage of the collision process

Compare and contrast the styles of tectonism at releasing and restraining bends on transcurrent fault zones

Discuss the composition and significance of ophiolites

Explain the application of the Principle of Uniformitarianism in construction of tectonic models for previous stages of Earth history and some potential problems with this application

Explain how igneous petrogeochemistry can be used to constrain the possible tectonic setting(s) in which an igneous rock suite formed

Explain the importance of isotopic and fossil dating for constraining the rates and absolute ages of tectonic processes and events

Explain how the metamorphic history of a rock unit can be used to constrain the tectonic processes that the unit has experienced

Explain what information can be obtained by geophysical methods to help constrain the three-dimensional structure of the lithosphere