Learning Goals – Plate Tectonics Module

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

Identify the main characteristics of oceanic and continental lithospheric plates in terms of thickness and relative density

Compare and contrast the ways that lithospheric plates interact at convergent, divergent and transform plate boundaries

Explain how mantle plumes or “hotspots” interact with lithospheric plates

Discuss the main driving forces for plate motions

Compare and contrast the mechanisms by which magmas are generated at convergent and divergent margins, and at mantle plumes or “hotspots”

Discuss what is meant by a “Wilson cycle”

Explain the tools used to reconstruct the movement of lithospheric plates through time

Discuss the general plate configuration during the Pangaean supercontinent stage and compare it to that during the less well understood Rodinian supercontinent stage