

NEW COURSE **Landscape Evolution and Neotectonics**

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Why should YOU take this class: Have you ever wondered what builds mountains and then wears them down? Or how long these processes take? Have you considered that as mountains rise, the streams cut down and carry the mountains away as sand and gravel? Does this effect plant and animal populations? Aquatic species? Riparian areas? Bunny Habitat?

This class is an introduction to modern study of Earth surface processes and landforms. Geomorphic analysis of landscape evolution, dynamic equilibrium, and topographic response to tectonic and climatic forcing. Terrain analysis using geomorphic field data, remote sensing imagery, and computer models.

Topics covered

- Fundamentals
 - Tectonic and climate forces
 - Drainage Basins and Stream Networks
 - Channel Morphology and Fluvial Processes
 - Hillslope Hydrology and Flood Dynamics
 - Tectonic Deformation
 - Tectonic Geomorphology
 - Tectonics, Erosion, and Isostasy

Class Research Project – examples –

- How has Costa Rica's Telamanca Range evolved in response to the subduction of the Cocos Ridge beginning 1.4 Million years ago? (below left)
- Is there evidence of active faulting in the eastern side of the Central Valley? Can we distinguish active deformation (potential earthquake hazard) along west flank of the Sierra foothills? (below right)



Classes: 2 hours lecture/discussion weekly
Supervised activity/project– 2 hours weekly
1 weekend field trip

Prerequisite GEOL 2100 or permission of instructor. Please come see me if interested.

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