BRINGING GEOLOGY HOME TO UNDERGRADUATES USING YOUR SURROUNDING

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Abstract

Field-based study benefits undergraduates as it helps to relate theory to real world situations. Unfortunately, not many schools have all the materials or field sites close enough that students can visit during normal class time. At Indiana University – Purdue University Fort Wayne (IPFW) campus, we have the opportunity to take entry-level students outdoors to relate what they learn to things around them. Within the campus are a creek, a major river and several wetlands. Processes and features in and around the campus include: Erosion, Deposition, Ripple marks, Meanders, Sediment sizes and shapes…associated with fluvial processes. Creep as an example of Mass wasting process. Glacial till is exposed along the creek. Sand dunes, Terminal Moraine (Fort Wayne Moraine) Buildings with different rock types and the IPFW Geo-garden (also available online at http://www.geosci.ipfw.edu/geogarden.html)

Students see the above geologic materials and process during campus field trips. Also within a 15-minute drive from IPFW campus are sand beaches, beach ridges, and lake bed sediments. Feedbacks from students indicate that the majority of the students appreciate the exposure to the field geology on campus. Use what you have on campus to show geology to your students.

Poster presentation at the 2005 NC GSA meeting.

Geomorphology of Allen County, Indiana

Relate map features with real features

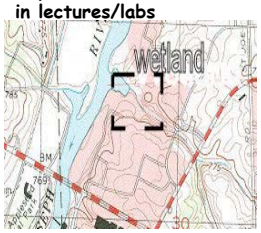
Indiana University-
Purdue University
Ft. Wayne (IPFW)

Current courses using campus as field area
Introductory Geology
General Geology Lab
Environmental & Urban Geology
Environmental
Conservation
Hydrogeology

Aerial view of IPFW Campus

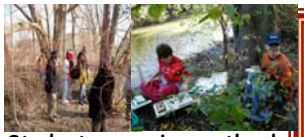
Topographic map...draw & walk along cross section...determine scale of map

Current map of IPFW
Well field and river/campus trips…ID materials covered in lectures/labs

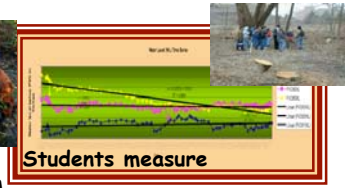


Wetlands
Hydrology, Hydrophytes & Hydric soils

Well field
used to show relationship between surface water and groundwater



Students examine wetland
groundwater level and perform basic water chemistry (pH, temperature & conductivity)



Students measure

Modern ripple marks

Old ripple marks

Students learn condition under which they form

Modern tracks

Old (Dinosaur) tracks

River meanders

& Sediment deposition

Creep (mass wasting)

Exposed Till

Building materials

Granite Travertine

Limestone on campus

Sundial Obelisk

Sand dune
on campus

Beach
Ancient Lake Maumee

Visit IPFW Geogarden
http://www.geosci.ipfw.edu/geogarden.html