

NEW MEXICO TECH OFFERS

Online-Distance Education MSc-PhD COURSE

PIT LAKE GEOCHEMISTRY GEOC 571, ME 589-3, EARTH 491, FALL 2015

Ore deposits, especially mined and processed, are a potential environmental hazard. Exposure of fresh rock surfaces during mining, as well as the produced crushed and milled waste and pit walls, will be subject to weathering processes, causing large-scale environmental damage if not sufficiently managed. Sulfide-bearing mineralization, in particular, is readily oxidized at surface, and has the potential to produce acid/neutral rock drainage (A/NRD), as well as release of heavy metals. After exploiting the ore and waste material, large open pits are left behind; and if they are below the groundwater, lakes may form.

Goals: The potential environmental threat and appropriate mitigation action associated with pit lakes can only be assessed through a thorough understanding of the hydrogeological and geochemical processes within the lake and during its formation. The course will provide students with the advanced knowledge required to evaluate pit lake formation, the resulting potential geochemical hazards, and possible mitigation options.

Issues to be covered:

- Introduction groundwater – lake interface theories and modeling
- Lake hydrology
- Lake geochemistry
- Element Cycling in Mine Pit Lakes
- Characterization for Mine Pit Lake predictions
- Mitigation options for pit lakes

Teacher: Drs. Ingar Walder, Assoc. Prof. Geochemistry and Dan Cadol, Assist. Prof. Hydrology

Location: NMTech, Room Cramer 123 or Distance Education interactive web-class

Time: Monday and Wednesday
15.15-16.30

First lecture November 2
Last Lecture Dec. 2

Contact : Ingar Walder
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Credits: 1 crt.

Cost: distance education cost see details <http://distance.nmt.edu/tuition-and-fees.html>

Registration: registrar@admin.nmt.edu / See also registration help file

