MONEY ENGINEERING

Historically, the mining industry has coped with some of the greatest development challenges faced by any industrial enterprise. This is due to its exposure to the:

- Commodity markets’ “push and pull”, i.e. supply and demand;
- Vagaries of mineral reserves’ grades and accessibility—the “mother nature” factor;
- High capital requirements;
- High visibility in the environmental and political sectors; and
- Long time intervals—for both development and operation of mines.

Moreover, there are unprecedented economic challenges now confronting mining. The reasons are two-fold: a ‘boom’ in commodities with the ensuing ‘bust’ precipitated by the global economic crises.

So, now more than ever, a key for project success: knowing what the financiers—whether situated within a mining company or externally—need to make a positive decision on a proposed project.

This course, examining all aspects of mining financing, is based on industry involvement spanning almost four decades and significant roles in mining: operations, engineering, commercial finance, and journalism. The intent is to go beyond a quantitative approach in providing the student with a solid understanding of what constitutes ‘substance’ in successful financing. Atypical examples also will be addressed, including the $C6.3-billion Bre-X gold-mine scam and the over-$C1-billion Quintette Coal operational and financial debacle.

Course-specific fundamentals:

1. Coursework will be posted on the MST Mining Engineering Dept.’s Blackboard in Powerpoint format containing embedded lectures (movies).
2. Three tests will comprise 75% of the grade with conventional 90-100% equaling an “A” etc. The remaining 25% will be generated by the student’s independent analysis of a historic or recent mine financing.

3. The condensed general outline of the material to be covered is as follows:

**Introduction**

**Internal corporate financing—mine to headquarters**

- Budgeting
- Prioritization
- AFEs

**External financing**

- Equity sources
- Commercial (debt)
  - Criteria to qualify
  - Risk issues (national and local)
  - Types of finance
  - The commercial ‘details’ that can challenge a developer

**The ‘good, the bad, and the ugly’**

- Specific projects that give real-world perspective of what can go wrong.

**Final analysis**

- A student selected, researched and evaluated mine financing