

## **Geological, Geophysical, and Other Technical and Non-Technical Skills Needed by the Canadian Based Mining Industry**

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Increasing global competition for depleting reserves combined with political, social uncertainties and a deep recession have forced companies restructure and adapt new skills or practices. Employees lacking the right skill mix are now unemployed. This paper attempts to identify these new skills to help departments develop new curricula so that young students are properly prepared for mining jobs upon graduation. Forty six Canadian and international mining companies employing over 3200 geoscientists, completed questionnaires evaluating the relative importance of over 150 geoscientific, computer, business and other non-technical soft skills.

The principal findings were:

1. Roughly 50% of skills needed by employers relate to Geoscientific competency.
2. The remainder are evenly divided between computer competency and non-technical or soft skills.
3. Large companies have higher expectations than do smaller companies.
4. About one third of the 80 geoscience evaluated had little or no value in the eyes of mining companies.
5. All students need to be educated in both geology AND geophysics.
6. All forms of mapping skills remain important, but the ability to integrate, analyze and interpret field data is equally critical.
7. Computer competency is becoming essential, but students are often dissatisfied with university computer education.
8. Competence in non-technical or soft skills are becoming very important. Some, while innate, are enhanced through the education process although education in Ethics, and Teamwork seem weak.
9. Many employers undervalue the importance of Language, Risk taking and Entrepreneurial Skills in the global economy.

Closer industry-university communication and cooperation is essential. While many companies seemed willing to work with universities, but some faculty seem reluctant to change: to the detriment of students and society.