

Minerals Engineering Education – Past, Current and Future

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Minerals and energy have been essential elements for survival of humanity over centuries. They enabled developments in manufacturing, communications, water and energy supply, medical, farming, transportation, infrastructure, aerospace technology and the renewable energy. They will continue playing a major role in advancement of civilization and technology.

Over the last decade, as in all other industries, technology has also transformed the minerals industry. Automation, digitalisation, artificial intelligence and data analytics have been embedded in daily operations. The need for minerals engineers has also evolved with declining undergraduate student numbers. This evolution has been recognised by many universities in Australia and elsewhere. A number of revisions in the mining programs have been introduced, including dual-degrees, minor and major degrees. Inevitable merger of mining programs is also provoked as a solution to reduced student numbers and future skills needs. A notable observation in those new programs is that they still focus on “Mining Engineering” education. This paper explores the past, current and future needs of the minerals industry and examines minerals engineering education if it was introduced today.