

OPTIMIZING THE STRATEGIC MINE PLAN: UNLOCKING INTRINSIC VALUE

Date: August 5 - 9, 2019
Location: Busua Beach Resort, Ghana

Duration: 5 days
Limit: 20 seats

Course Fee: 2,700 USD (exclusive of taxes)
Includes accommodation and all meals

COURSE OUTLINE

Principal and fundamental concepts in open-pit limit optimization

- Strategic mine planning and economic performance
- Mining revenues and costs
- Open-pit limit optimization
- Practical pushback design with minimum mining width

Principal and fundamental concepts in strategic mine planning optimization

- Life-of-mine production planning/scheduling
- Mine-life estimation
- Cut-off grade optimization and Lane's theory
- Stockpiling strategy
- Directional mining control
- Simultaneous optimization of mining value chain
- Multi-mine multi-process production scheduling
- Mine-to-mill production planning
- Blending and non-linear recovery in processing streams
- Mine planning considerations for contract mining
- Characterization of mineralized mine waste as future resource

Introduction to mathematical programming for integrated mine planning and waste management

- Principal concepts of linear programming
- Application of MILP/MILGP for integrated production and waste disposal scheduling
- Strategic mining options optimization: open-pit mining, underground mining or both
- Open-pit/underground mining transition optimization

Risk-based mine planning

- Mine production risk management and integrated optimization
- Stochastic pit limit optimization and pushback design
- Stochastic mine planning optimization methods
- An approach to mine planning with grade, tonnage and metal uncertainty

Computer Labs: Geovia Whittle, Excel Solver

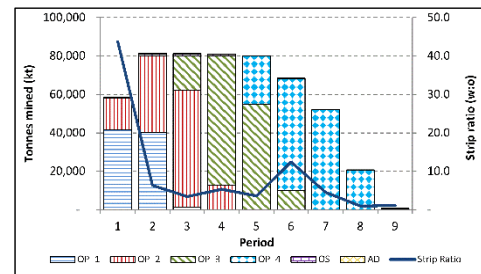
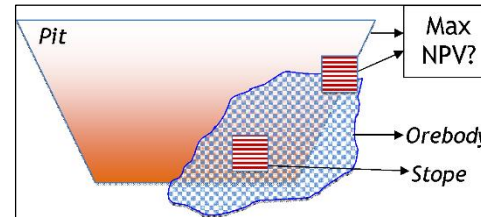
- Case Studies: Oil Sands, Gold, Iron Ore Deposits
- Participants are required to bring laptops; software will be provided
- Twelve (12) detailed step-by-step computer application labs

- 15% Discount if registered before April 30th, 2019; **OR**
- 5% Discount if registered before May 31st, 2019; **OR**
- 15% Discount for multi-person registration (>2) before May 31st, 2019; **OR**
- 10% Discount for WAIMM members if registered before May 31st, 2019.

OBJECTIVES

Learn how to improve your mine planning techniques by:

- Understanding the principal concepts of strategic mine planning and improving economic performance such as revenue and cost
- Exploring practical stochastic pit-limit optimization, pushback designs and mine-life estimation
- Learning the principles and concepts of mathematical programming and its applications to integrated mine planning and waste management
- Knowing about open pit/underground mining options optimization
- Understanding mine production scheduling and its financial risk management
- Discovering practical implementation techniques in mine planning with grade, tonnage and metal uncertainty
- Exploring cut-off grades, stockpiling and waste management strategies
- Participating in hands-on computer labs on the applications of new optimization concepts



Learn More @ <http://optimmining.ca/> and <https://laurentian.ca/faculty/EBenAwuah>

ABOUT THE INSTRUCTOR

Eugene Ben-Awuah is an Associate Professor of Mining Engineering at the Bharti School of Engineering, Laurentian University, Sudbury, Canada. He is also the IAMGOLD Research Fellow in Open Pit Mining. He holds a MSc from the University of Mines and Technology and a PhD from the University of Alberta in Mining Engineering. Eugene is a registered professional mining engineer and has extensive operational, consulting and research experience from Ghana, Canada and Australia in mine design and optimization, and mine production management. He teaches and conducts research in strategic mining options optimization, integrated mine planning and waste management optimization, simulation optimization of intelligent and autonomous mining systems, and applications of discrete fracture network. He is the Principal Mining Consultant for OptiSim Mining Solutions on mine optimization and simulation. He is a member of the West African Institute of Mining, Metallurgy and Petroleum (WAIMM) and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM).

REGISTRATION

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