

REGISTRATION DEADLINE September 20, 2019

Send registrations to:

Deborah Frankland
Canada Research Chair and Laboratory Administrator
COSMO - Stochastic Mine Planning Laboratory
Department of Mining and Materials Engineering
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CIM, SME, AusIMM, and SAIMM Members:
\$1,450 USD (Excluding taxes)

Non-members:
\$1,700 USD (Excluding taxes)

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I will bring a laptop: Yes No

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Registration includes course notes, lunch, and morning and afternoon tea.

Participation in this course may be a valid activity towards continuing professional development with up to **26 contact hours**. Participants receive a Certificate of Completion.

Notification of Cancellation received in writing up to **September 20, 2019** (minimum of 10 working days before the course) will incur a 20% cancellation fee. No refund will be made after this time. An alternative participant may be nominated.

INSTRUCTOR



Lawrence Devon Smith is Principal Consultant at LDSA.

Larry Smith is a mining engineer with over 40 years experience in economic evaluations and project engineering for mining, metallurgical, and industrial projects. He holds a B.A.Sc. from the University of

Toronto and an M.Eng. Mining from McGill University.

He has worked as Director Project Evaluations at Barrick Gold and has held similar positions with BHP-Billiton Base Metals, Rio Algom, SNC-Lavalin, Kilborn, Inco, and Vale.

Larry's evaluation experience includes economic evaluations, targeting and ranking studies, scoping studies, optimization studies, pre-feasibility and feasibility studies, risk assessment, and due diligence work for banks and mining companies. Larry has published a number of papers on mineral project evaluation, discount rates, and risk assessment, and is considered an expert in these fields.

He teaches mineral project evaluation and mineral economics at the University of Toronto, Schulich School of Business at York University, as well as in-house courses and seminars. He also presents "Introduction to Mining" workshops for investors, management, finance personnel, lawyers, and indigenous peoples.

Larry is on the executive of CIM Mineral Economics Society (MES), and was chair of CIM Toronto. He is the recipient of the CIM Robert Elver award for Mineral Economics, is a Fellow of CIM, and is a CIM Distinguished Lecturer.

VENUE DETAILS

McGill University, Department of Mining and Materials Engineering
3450 University Street
Frank Dawson Adams Building, Room 105
Montreal, Quebec, Canada H3A 0E8
admrcr.mining@mcgill.ca

LOGISTICS

Lectures are given from 9 AM (refreshments at 8:30 AM) to 5 PM with two 15 minute coffee breaks and a 1 hour lunch break.



cosmo.mcgill.ca

COSMO - Stochastic Mine Planning Laboratory, a global center for leading-edge research and graduate education in "orebody modelling and strategic mine planning with uncertainty", is supported by AngloGold Ashanti, Barrick Gold, BHP, De Beers, IAMGOLD, Kinross Gold, Newmont Mining, Vale, and the Canada Research Chairs Program, NSERC, and CFI.

PROFESSIONAL
DEVELOPMENT SERIES **2019**
STRATEGIC RISK QUANTIFICATION & MANAGEMENT
FOR ORE RESERVES & MINE PLANNING



**MINERAL PROJECT
EVALUATION: DUE DILIGENCE,
DATA, DCF, AND RISK**

Lawrence Devon Smith
Lawrence Devon Smith & Associates, Canada

October 8-9, 2019
Montreal, Canada





OBJECTIVES AND DESCRIPTION

This course approaches the evaluation of a mineral project from the point of view of your role as the evaluator. Your task is to create and present a complete picture of the project using a discounted cash flow (DCF). The DCF model provides the means to assess the economics of the project and present the results and risks in a clear and meaningful way.

Developing a mineral project evaluation is like putting together a large puzzle where the pieces are held by different participants in different disciplines. While the math is important, what really matters is really matters is sourcing and understanding the data, risks, and assumptions that go into the cash flow.

To do this you will need to:

- Identify the data that is needed
- Identify the various sources of the data
- Assess the data for reasonableness (due diligence)
- Identify any duplications and omissions in the data
- Align and coordinate the data
- Combine the data into a straightforward, consistent representation of the project (cash flow)
- Evaluate the project as an investment (DCF metrics)
- Identify risks and assess the impact of risks and variations on the project (risk assessment)
- Present the results of your evaluation in a clear, meaningful, and transparent way (evaluation report)

COURSE CONTENT

Topics include:

- Data Requirements
 - Production schedules, tonnes, grade, recovery
 - Metal price forecasts
 - Revenue calculations
 - Operating costs
 - Initial and sustaining capital costs
 - Closure costs
 - Working capital
 - Royalties & Taxes
- Cash Flows and DCF Metrics
 - What is a cash flow? (cash versus accounting)
 - Why is mining different?
 - Time value of money
 - DCF metrics
 - Discount rates, project risk, country risk
- Risk assessment & due diligence
 - How good is the data?
 - How have we done in the past?
 - Sensitivities and probability assessment
 - Representing risk
- Other DCF applications including; cost flows, expansions, “hot” new projects, incremental evaluations.

An Excel cash flow model for a case study will be provided and will be referenced throughout the course.

WHO SHOULD ATTEND

The course will familiarize the participant with the development, content, and form of discounted cash flow evaluations as they are used in the mineral industry for studies and projects.

An understanding of this evaluation process is essential for:

- The practitioner who is undertaking the detailed development of evaluation and cash flow.
- Managers who will be receiving, reviewing, and approving the evaluation.
- Senior managers who will be approving investment in the project.

Please note:

- A laptop computer with Excel is required.
- A basic working knowledge of Excel is required.
- The course does not include Excel training.
- The course does not include reserve estimation, production planning, or cost estimation.

www.cim.org/mcgill



2018 Springer publication entitled:
“Advances in Applied Strategic Mine Planning”
(Editor Roussos Dimitrakopoulos)
is included with the course materials.

