Class hours for the 5-day program are 8 a.m. to noon and 1:15 to 5 p.m. Monday through Thursday and 8 a.m. to noon on Friday. The 3-day program runs from 8 a.m. to noon and 1:15 to 5 p.m. Monday through Tuesday and 8 a.m. to noon on Wednesday. A reception will be held after class on Tuesday for each session. All participants should bring a financial calculator capable of making NPV and IRR calculations. Hewlett Packard HP10BII is recommended. Hewlett Packard 12C, 17BII, or Texas Instruments BAII or equivalent models are suitable substitutes. Laptops with Excel are an alternative to calculators and are welcome. Application of both will be addressed during the courses.

Registration & Fees

Fees cover tuition and includes a three-textbook set. Participants are responsible for their own meals and accommodations.

Any modification, including cancellation, of your registration requires written notice that must be emailed (spaces@mines.edu) or faxed (303.277.8683) to the SPACE Office. The following also applies:

- Attendee substitutions may be made without cost penalty at any time up to the date of the start of the event.
- Registrants may transfer their registration to a different session ONCE without cost penalty. Requests for transfer after one transfer has been granted will be subject to a $150 service fee.
- Cancellations will be accepted if notice of cancellation is received at the SPACE Office no later than five business days prior to the event start date with the following service fees:
  - > 5-day course: $250
  - > 3-day course or 3-day attendance of the 5-day course: $170
- No refunds will be made to registrants who fail to cancel within the specified cancellation period.

Sponsor reserves the right to cancel the course and return all registration fees if enrollment is insufficient.

Online Registration

www.csmspace.com/events/econeval/registration.php
This course, presented over 925 times to more than 20,000 people, is designed for managers, engineers, geologists, landmen, scientists, accountants and others concerned with evaluating investments. It addresses the economic analysis of income and service producing investments based on discounted cash flow analysis procedures. Covering economic analysis techniques used to optimize the development and operation of mining, petroleum, non-natural resource and processing operations, the 5-day course addresses both before-tax and after-tax considerations while the 3-day course focuses on before-tax considerations. The textbook for both courses, “Economic Evaluation and Investment Decision Methods,” 14th Edition, 2014 by Franklin J. Stermole and John M. Stermole, demonstrates the evaluation techniques presented using a variety of applications for people with technical and non-technical backgrounds, with or without previous evaluation experience.

3-Day Outline

**MONDAY: Time Value of Money, Discount Rates and Decision Criteria**
You will learn to apply the concepts of time value of money in calculating rate of return (internal rate of return), net present value, ratios and other criteria. Other topics include understanding calculator and spreadsheet functions, graphical approaches illustrating the meaning of rate of return and net present value, and methods used to determine an appropriate discount rate. Evaluating service producing investment alternatives will be presented including cost analysis and incremental calculations.

**TUESDAY: Application of Decision Criteria**
The application of decision criterion to mutually exclusive and non-mutually exclusive alternatives will be reviewed. This discussion will also introduce related problems concerning cash flow streams exhibiting a cost-income-cost pattern and the subsequent dual rates of return and the meaning of economic results. Application of inflation as it relates to escalated (or current) and constant (real) dollar analysis will be introduced.

**WEDNESDAY: Inflation, Risk & Sensitivity Analysis**
Continued discussion of inflation will focus on understanding how this important parameter may impact the type of dollars and the appropriate discount rate in escalated and constant dollar calculations. Sensitivity analyses addressing uncertainty are explored along with an introduction to quantifying risk through expected value calculations.

5-Day Outline

**MONDAY: Time Value of Money, Discount Rates and Decision Criteria**
You will learn to apply the concepts of time value of money in calculating rate of return (internal rate of return), net present value, ratios and other criteria. Other topics include understanding calculator and spreadsheet functions, graphical approaches illustrating the meaning of rate of return and net present value, and methods used to determine an appropriate discount rate. Evaluating service producing investment alternatives will be presented including cost analysis and incremental calculations.

**TUESDAY: Application of Decision Criteria**
The application of decision criterion to mutually exclusive and non-mutually exclusive alternatives will be reviewed. This discussion will also introduce related problems concerning cash flow streams exhibiting a cost-income-cost pattern and the subsequent dual rates of return and the meaning of economic results. Application of inflation as it relates to escalated (current) and constant (real) dollar analysis will be introduced.

**WEDNESDAY: Inflation, Risk, Sensitivity Analysis & After-Tax Cash Flow**
Continued discussion of inflation will focus on understanding how this important parameter may impact the type of dollars and the appropriate discount rate in escalated and constant dollar calculations. Sensitivity analyses addressing uncertainty are explored along with an introduction to quantifying risk through expected value calculations. Development of after-tax cash flow will focus on related tax deductions including: costs that may be expensed, expenditures that are capitalized and deducted by methods such as depreciation, depletion, amortization along with write-offs and loss forward deductions.

**THURSDAY: After-Tax Applications**
The details of calculating after-tax rate of return, net present value, and ratios for a variety of investment situations are presented. Other topics include the impact of an investor’s financial position on economics and the handling of working capital, the conversion of before-tax operating cost savings into after-tax cash flow, the handling of sunk costs and opportunity costs and understanding the meaning of after-tax NPV in estimating before-tax market value of properties.

**FRIDAY: Related Issues in an After-Tax Environment**
After-tax cost analysis of service applications will focus on different methods of evaluating replacement and leasing vs. purchasing equipment and related issues concluding with discussion pertaining to evaluations involving borrowed money.

“Overall content was excellent for individuals with no prior experience with economic evaluations and considerations.”

“Material was presented clearly, lots of examples and opportunities for practice. Instructors were always willing to help and answer questions.”