PETRO1
TECHNICAL CONSULTANCY FOR OIL & GAS INDUSTRY

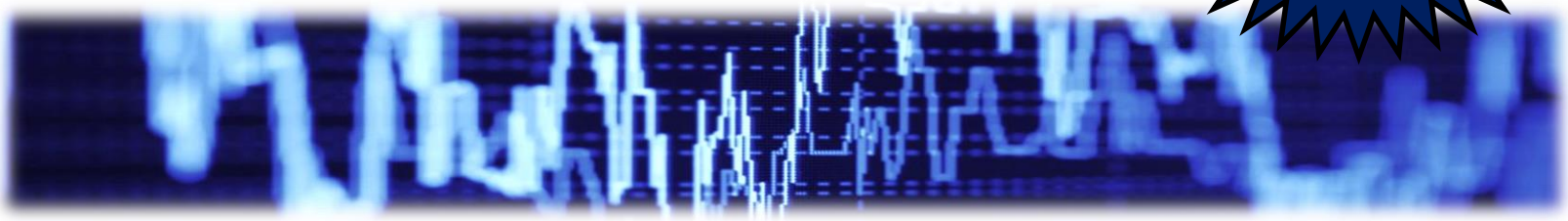
# Economic Evaluation &

## Investment Decision methods

## "A Real Life Case Study Course"

95% practical Involvement with problems real world case studies

**23rd – 26th May 2016 Kuala Lumpur, Malaysia**



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

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

"Strong examples. Clear visuals. Real world examples. Good interaction.

The course "used real life problems that applied to our industry"

"Excellent range of knowledge that I've found more helpful than any other economics course."

"Instructor content knowledge was great. He was able to address a variety of specific questions ranging in subject matter"

**Media Partners:** WorldOils, VungtauHR, OilVoice, PTIT FOCUS, PetrolPlaza, Oilfield Conference

## Program Overview

This 4 day course 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 4-day course addresses both before-tax and after-tax analysis considerations while the 3-day course focuses on before-tax considerations. This course demonstrates the evaluation techniques presented using a variety of applications for people with technical and non-technical backgrounds, with or without previous evaluation experience.

The overall course objective is to develop the ability of course participants to handle the concepts of time value of money and the application of those concepts to after-tax analyses of virtually any investment situation. This includes investment in the mineral, petroleum and non-mineral sectors and can be modified slightly for specific industries.

The course is made of **95% practical with problems and real world case studies** to help participant understand and develop correct methods to properly evaluate investment and will solidify the process of evaluating investment.

### Attend this course to Master:

**Before–tax considerations**

- Achieve familiarity with present, future and annual value calculations and the related terminology and proper application of these concepts.
- Achieve familiarity with the calculation of Rate of Return, (ROR), Growth Rate of Return, (GROR), Net Present Value, (NPV), and Ratio Analyses for "income-producing" and "service-producing" investments.
- Understand the proper application of rate of return, net present value and ratios when evaluating mutually exclusive and non-mutually exclusive alternatives.
- Consider the dual rate of return analysis problem common to acceleration scenarios and reclamation or decommissioning costs and how to make a valid economic analysis of investments involving cost-income-cost in the sequence of cash flows.
- Introduction to inflation and its relationship to the proper use of escalated and constant dollars in economic analyses.
- Continue discussion on escalated, constant and today's dollar evaluations.
- Become familiar with the basics of "sensitivity" analysis as well as "risk adjusted" evaluations. The later concept addresses the basic elements of expected value and its incorporation into discounted cash flow calculations.

**After-tax considerations**

- Achieve understanding of expensing vs capitalizing costs and related depreciation, depletion and amortization tax deductions for determination of project taxable income for state and federal income tax purposes.
- Continued discussion of tax issues such as the distinction between tax credits vs deductions will lead to familiarity with making after-tax discounted cash flow analyses of various investment scenarios. An investor's financial ability to utilize deductions from expenditures and its impact on cash flow will be discussed.
- Review of the elements of working capital and its impact on cash flow and project economics.
- Development of the ability to make after-tax break-even calculations in escalated or constant dollars and an understanding of the relationship between operating cost savings and before-tax revenue will be presented.
- Develop an ability to relate after-tax NPV results to the before-tax value of projects and investments.
- Understand the application of after-tax cost analysis and incremental DCFROR, NPV and Ratio analysis for evaluating replacement alternatives and for leasing versus purchase decisions as well.
- Discussion of the use of secondary evaluations such as leasing and leverage in economic models.

**We are using Economic evaluation software, how will this be beneficial to me:**

PEEP or (Petroleum Economic Evaluation Program) and other software programs (AIRES, PHDWIN, PowerTools, Excel) are tools that companies use to run economic models. We describe our masterclass as teaching participants what their software programs are actually doing and help them understand the outcomes in the software. We will also point out area's where the software is lacking and ways to handle those situations.

## This program is intended

This course, presented over 950 times to more than 21,000 people, is designed for "managers, engineers, geologists, economist, commercial project, planning, exploration, Rig asset integrity, project appraisal, landmen, scientists, accountants, analyst, and upper management including CFO's CEO's, COO's and others concerned with evaluating investments". For the individual who knows the subject this course will help them solidify a process to evaluate investments so they eliminate mistakes in economic modeling.

**Visit us: www.petro1.com.my**

# Economic Evaluation & Investment decision methods

## PART A – Before Tax consideration *(Supported with Problems and real world case studies)*

### 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 & 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.

Course terminates at lunch-time on the third day.

## PART B – Both before-tax and after- tax analysis considerations *(Supported with Problems and real world case studies)*

### 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 & 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. Understand the application of after-tax cost analysis and incremental DCFROR, NPV and Ratio analysis for evaluating replacement alternatives and for leasing versus purchase decisions as well. Discussion of the use of secondary evaluations such as leasing and leverage in economic models.

Course terminates around afternoon break time, approximate 3:00pm.

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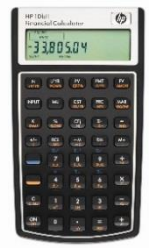
All participants should bring a financial calculator capable of making NPV and IRR calculations. Hewlett Packard HP10BII is recommended. Hewlett Packard 12C, 17BII, or Texas Instruments BAII or equivalent models are suitable substitutes. Laptops with Excel are an alternative to calculators and are welcome. Application of both will be addressed during the courses.



# Principal Program Facilitator

## Andrew H. Pederson **(Program Facilitator)**

Andrew Pederson, has been working with Investment Evaluations Corporation since March of 2010. In 2007 he received his B.A. in Economics from Pacific Lutheran University and has a Masters degree in Taxation from Denver University in the College of Law, August 2012.

From 2012 thru 2015 Andy has worked as an Adjunct Professor in the Division of Economics and Business teaching Engineering Economics to undergraduate students at Colorado School of Mines (CSM). In 2011 Andy served as a Teaching Assistant for the academic courses taught in the Division of Economics and Business, and the Division of Chemical and Biological Engineering at CSM. As an Adjunct Professor, Andy lectured and worked in course development and assisting students in building their understanding of the concepts presented in class. More than 800 combined undergraduate and graduate students have taken this course in each of the last two years at CSM.

While working with Investment Evaluations Corporation, Andy has lectured in the Colorado School of Mines public short courses, as well as in-house courses for the companies listed below. During those courses he provided lecture and addressed questions during problem solving. Andy is also responsible for website support, course management and revision work leading in part to the 14th Edition of the course textbook.

Prior to working for Investment Evaluations Corporation Andy worked for the YMCA of Pierce and Kitsap County's where Andy gained management and budgeting experience, managing a branch, writing the budget, and developing and teaching programs for adults as well as running youth development programs for inner city youth.

INVESTMENTEVALUATIONSCORP.

Investment Evaluations Corporation is a private Colorado firm providing public and private seminars and publishing textbooks related to discounted cash flow analysis techniques. These concepts are developed and applied to a range of investments including oil and gas, mining, energy, transportation and other non-natural resource scenarios.

John M. Stermole, is currently President and has served as a Director of Investment Evaluations Corporation since 1984. He received a B.S.B.A. in Finance from the University of Denver and an M.S. in Mineral Economics from the Colorado School of Mines. In addition to co-authoring the textbook, "Economic Evaluation and Investment Decision Methods," now in the 14th Edition, 2014, other publications by Mr. Stermole include; (1) "Mining Royalties, A Global Study of Their Impact on Investors, Government, and Civil Society, 2006, by The International Bank for Reconstruction and Development, The World Bank. (2) The Global Mining Taxation Comparative Study, 1997, published by the "Institute for Global Resources Policy & Management, Colorado School of Mines," the (3) "Northwest Mining Association," (4) "Heavy and Highway Construction" and (4) "The Business of Petroleum Exploration," published by the American Association of Petroleum Geologists (AAPG)," 1992 and re-printed in 1993. Since 1986, John has presented the course "Economic Evaluation and Investment Decision Methods" more than 500 times to the companies and government agencies and institutions listed below.

## Companies who had attended the course "Economic Evaluation "

Access Midstream, Albian Sands, Alyeska Pipeline Service Co., Amerada Hess Corporation, Amoco Oil Co., Anadarko Petroleum Co., Anglo Gold North America, Apache Corp., Arch Coal, ARCO Oil and Gas Company, Australian Mineral Foundation, Barrick Gold Corporation, Basin Electric Co., BHP Minerals Burlington Resources, Cambior Inc., Chaparral Resources, Chesapeake Energy, Chevron, Cleveland-Cliffs, Cloud Peak, Colorado Interstate Gas Continental Resources, Conoco Inc., CuuLong Joint Operating Company (Vietnam), Cyprus Mineral Companies, Delta Airlines, Denbury Resources, Devon Energy,Diavik Mines Inc., Dubai Petroleum Inc., Duke Energy, Dow Chemical Co., Echo Bay Minerals, E.I. DuPont Co., EnCana, Enogex, Exxon (Intercor), Columbia Greens Creek Mining, Hess Corporation, HighMount Exploration, Homestake Mining, INCO Limited, Kennecott Energy Company, Kerr McGee Corp., Kinder Morgan CO2, Kinder Morgan, Korean National Oil Company, Kosmos Energy, Loyola University, Luscar Coal Co., Ltd., Marathon Oil Company Martin Marietta Co., Merit Energy, Mibrag Coal, Midland College, Minera Escondida Ltd., Chile, Newmont Mining, Nevada, Newmont Mining, Batu Hijau Newfield Exploration Corp., North American Coal Co., Occidental Petroleum, PanEnergy Corporation, Peabody Energy, PetroStar Energy Co., Phillips 66, Pioneer Resources, Polish Academy of Sciences, P.T. Arutmin (BHP), Indonesia, Rio Tinto Energy, Rio Tinto Minerals, RMAG, (Division of AAPG) Round Mountain Gold, Samson, Southern California Edison, Southern Natural Gas Co., SPE, Bakersfield, CA, Stone and Webster Inc., Suncor Inc., Oil Sands Group, Syncrude Canada Ltd., Teck, Texaco, Inc., The Coteau Properties, Inc., U.S. Bureau of Land Mgmt, U.S. Bureau of Mines, Washington Gas, WPX Energy and Western Gas Resource.

PETRO1
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PETRO1 provides Oil & Gas Trainings & Consultancy services ranging from Petroleum Engineering, Exploration & Production, Subsurface and business related activities in the oil & gas industry. We had successfully made impact to petroleum professional mainly the Top 50 Oil & gas players in the Asia Pacific Region.

- Total E&P
- Petronas
- Murphy Oil
- JX Nippon
- Scomi Oil
- Hess
- Saipem
- Clough
- Mubadala Petroleum
- Bureau Veritas
- Pertamina
- Peritus international
- Petrofac
- Keppel Corporation
- Singapore refining Company
- Salamander Energy
- Binh Son Refining Vietnam
- PTT Global Chemical
- Newfield
- Atkins Australasia
- Brunei Methanol
- Curtin univeristy
- Technip
- Premier Oil
- SGS
- PTT EP
- Halliburton
- Brunei LNG
- Shell Chemical
- Worley Parson
- China university of petroleum Beijing
- Thaioil
- Aker Solutions
- Star Petroleum
- Jurong Shipyard

# Investment Packages

| Economic Evaluation & Investment Decision methods | Before Tax consideration 23rd – 25th May 2016 (2.5 days) | Full 23rd – 26h May 2016 (Full 4 Days) |
|---|---|---|
| Standard Price | USD 2751 ( ) | USD 3815 ( ) |
| Early Bird Price | USD 2539 ( ) | USD 3603 ( ) |
| 5 or More | USD 3285 ( ) Per Delegate – 4 Days | |

TEAM DISCOUNT of 3 or more off 10%

- Team discount are not applicable to early bird pricing.
- Early Bird Promotion Deadline – 28th July 2016
- The price above are inclusive of GST 6%.

# Delegate Details

1. Name:_____Mr☐Mrs☐Ms☐Dr☐

Job Title: _____

Email: _____

Contact No: _____

Department:_____

2.Name:_____Mr☐Mrs☐Ms☐Dr☐

Job Title: _____

Email: _____

Contact No: _____

Department:_____

3.Name:_____Mr☐Mrs☐Ms☐Dr☐

Job Title: _____

Email: _____

Contact No: _____

Department:_____

Head of Department:_____

# Invoice Details

Invoice Attention to:_____

Company:_____

Industry:_____

Address:_____

Postcode:_____ Country:_____

Telephone:_____ Fax:_____

Email:_____

Authorized Signature : _____

# REGISTRATION FORM

**PROGRAM DETAILS**
Venue: Kuala Lumpur, Malaysia
Date: 23rd – 26th May 2016

**REGISTER NOW**
CONTACT: kelvin
MAIN: +603 7727 3952
FAX: +603 7727 5278
Email: registration@petro1.com.my

## Payment by Credit card

Please Debit my credit card:

☐ VISA ☐ MASTERCARD

Card Number: _____ - _____ - _____ - _____

Security Code: ☐☐☐ Expiry Date: ☐☐☐☐

Named printed on card:_____

Signature:_____

**REGISTRATION DEADLINE**
As an internationally operating training organization, PETRO1 would appreciate receiving registrations at least one (1) month prior to course commencement. Registrations after this date will be accepted provided that places are available. We strongly recommend early enrolment to avoid disappointment!

**GST input Tax claim**
Organization who have register under GST is allow to claim on any GST incurred (Known as input tax) on their purchase to the business.

**Payment Method**
By cheque/ Bank Draft: Made Payable to PETRO1 SDN BHD
By Direct Transfer: Please quote invoice numbers on remittance advice.

ACCOUNT NAME : PETRO1 SDN BHD
BANK : HSBC Amanah Malaysia Berhad
ACCOUNT NO : 054 – 048061 – 701 (SGD)
SWIFT CODE : HMABMYKL
**All bank charges to be borne by payers. Please ensure that PETRO1 SDN BHD received the full invoice amount.**
*** Credit card payment will include a charges 2.8%**

**Payment Policy**: Upon receipt of a completed registration form, it confirms that the organization is registering for the seat(s) of the participant(s) to attend the conference or training workshop. Payment is required with registration and must be received prior to the event to guarantee the seat. Payment has to be received 7 working days prior to the event date to confirm registration.

**Venue:** All of our training courses are held in 4 – 5 star venues.
The course fee does not include accommodation or travel cost. It's recommended to book the hotel room early as there are only limited room available at the discounted corporate rate.

**DATA PROTECTION**
The information you provide will be safeguarded by Petro1 that may be used to keep you informed of relevant products and services. We take it seriously when it come s to protection of our client data.

**Cancellation & Substitutions:** Upon receipt of a completed registration form, it confirms that the organization is registering for the seat(s) of the participant(s) to attend the conference or training workshop. Should you be unable to attend, substitutes are always welcome at no additional cost. Please inform us as early as possible. Payment is non-refundable if cancellation occurs 7 working days prior to event commencement. However a substitute is welcome at no additional charges. If cancellation occurs 5 working days prior to the registration date and there is no substitute, the organizer reserves the right to charge 50% of the total investment from your organization.

PETRO1 SDN BHD is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. PETRO1 SDN BHD shall assume no liability whatsoever in the event this training course is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, war, fire, labor strike, extreme weather or other emergency.

**Walk in Registration:** Walk-in participants with payment will only be admitted on the basis of seat availability at the event and with immediate full payment.

**Program Change policy**: The organizer reserves the right to make any amendments and/or changes to the workshop, venue, facilitator replacements and/or modules if warranted by circumstances beyond its control.