

## COURSE TIMETABLE

### Day 1 PVT

Integrated Production Systems  
Review of PVT Data, Correlations  
How to Evaluate Laboratory PVT Reports  
Matching PVT Data in PE Programs  
Examples and Exercises

### Day 2 MBAL

Relative Permeability and Fractional Flow Curves  
Theory & Physics of MBal  
Oil MBal Models  
Gas MBal Models (Conventional)  
Examples and Exercises

### Day 3 VLP & IPR THEORY

Horizontal Flow Theory  
Vertical Lift Performance Theory  
Inflow Performance Relationships  
Intro to PROSPER  
Examples and Exercises

### Day 4 PROSPER

Horizontal Wells  
Skin & Sand Control  
Artificial Lift, Gas Lift Equipment  
Design of Continuous Gas Lift System  
Mandrel Spacing & Valve Sizing  
Calculation of Valve Opening and Closing Pressures  
Introduction to Pump Performance Curves & Basic ESP Sizing  
Troubleshooting  
Examples and Exercises

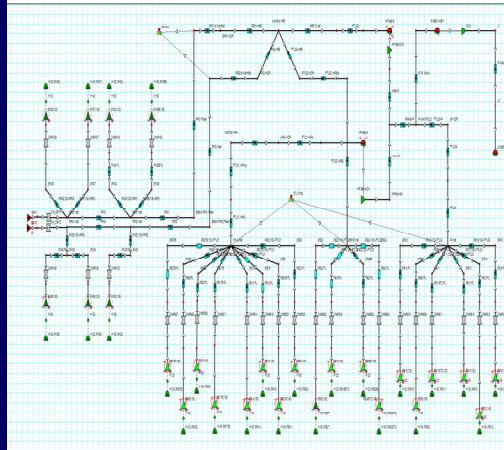
### Day 5 GAP & IPM

Integrated Modeling - building surface network models linking PROSPER and MBAL models  
Gas Lift Allocation  
Review and Discussion  
Examples and Exercises

### OPTIONAL MODULES

Static Linking to Eclipse using an RSM Importer  
IAM Manager for Data Import, Export and Reporting  
Dual Bore Gas Lift Design and Troubleshooting

## Integrated Production System Modelling



### COMPANY BACKGROUND

Sapella is an independent petroleum consulting company focused on providing engineering and technical services to the global upstream oil and gas industry. Our services and software are utilized by our clients during planning, development, commissioning and operational phases of their oil and gas projects. Our clientele includes majors, super-majors, national oil companies, independents, and international service and equipment companies where we provide niche skills to allow detailed equipment design.

### DESCRIPTION

The aim of this course is to develop IPM users knowledge to the point where they will have the skills to independently construct, quality check and apply Integrated Production Modelling in actual field operations.

Using GAP, PROSPER and MBAL the course is designed to improve the participants understanding of both the underlying principals used in building Integrated Production Models, as well as the dexterity skills required to effectively run the programs.

Concepts will be explored & presented interactively. The course includes a number of relevant real-life examples to consolidate the theoretical framework covered.

With offices in both Europe and South East Asia, the company is managed by an experienced and reputable workforce. Sapella has developed innovative solutions for the E&P business by leveraging our core engineering skills with economic analysis. We assist our clients to achieve world class performance from their assets by providing expertise, novel methods, and tools to realize the maximum potential.

Sapella has conducted numerous reservoir and petroleum engineering courses to develop IAM Modelling skills. Due to the niche skill sets available in our company, particularly in integrated asset modelling, the company has developed unique tools that improve the functionality of the Petex suite. This combination increases our client's efficiency as well as flattening the learning curve.

We have also developed numerous tool kits and models, covering subsurface to surface facilities, to assist in detailed evaluation and modelling of any production system

### WHAT IS UNIQUE?

- Practical Worked Examples
- Class Exercises
- Interactive Sessions
- Workshop
- Real examples and experiences

### WHO SHOULD ATTEND?

- Reservoir Engineers
- Production Engineers
- Petroleum Engineers

### DURATION

- 5 Days

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