### Day 1 (Thursday May 31st)

1. Reactive Flow and Permeability Dynamics – I  
   [09:00-10:15]
2. Reactive Flow and Permeability Dynamics – II  
   [10:30-11:45]
3. Introduction to Computational Reservoir Geomechanics  
   [11:45-14:30]  
   [Self-Study]
4. Fluid Flow and Pressure Diffusion  
   a. Finite Element Methods  
      [14:30-15:45]
   b. Conservation Equations and Galerkin Approximation  
      [16:00-17:15]

### Day 2 (Friday June 1st)

1. Fluid Flow and Pressure Diffusion, Continued  
   [09:00-11:45]
   a. 2D Triangular Constant Gradient Elements  
      [14:30-15:45]
   b. 1D Isoparametric Elements  
      [16:00-17:15]

### Day 3 (Saturday June 2nd)

1. Geomechanics of Coal and Gas Shales  
   [09:00-10:15]
2. Fluid Flow and Pressure Diffusion, Continued  
   a. 2D Isoparametric Elements and Numerical Integration  
      [10:30-11:45]
   b. Transient Behavior – “Mass” Matrices  
      [14:30-15:45]
   c. Transient Behavior – Integration in Time  
      [16:00-17:15]

### Day 4 (Sunday June 3rd)

1. Gas Fracturing in Unconventional Reservoirs  
   [09:00-10:15]
2. Mass Transport  
   a. Conservation of Mass and 1D Models  
      [10:30-11:45]
   b. 2D Constant Gradient Elements  
      [14:30-15:45]
   c. Sorption and Reactive Transport  
      [16:00-17:15]

### Day 5 (Monday June 4th)

1. Solid Mechanics  
   a. Propagation, Proppant Transport and Conductivity of HFs  
      [09:00-10:15]
   b. 1D and 2D Elements  
      [10:30-11:45]
   c. Self Study – Constitutive Equations  
      [Self-Study]
   d. Self Study – Preamble for Coupled Systems  
      [Self-Study]
   ---- Lunch ----  
   [11:45-14:30]
2. “Coupled” Multiphysics Systems  
   a. Dual-Porosity/Dual-Permeability Models  
      [14:30-15:45]
   b. Coupled Hydro-Mechanical Models  
      [16:00-17:15]
   c. Self Study – ComSol Models for HM Coupling  
      [Self-Study]
   d. Self Study – EGEEfem Models for HM Coupling  
      [Self-Study]