Course Title: AIChE’s Chemical PE Exam Review Course

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<thead>
<tr>
<th>Course ID:</th>
<th>Course Type:</th>
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<td>ELA260</td>
<td>eLearning</td>
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Course Outline

- Mass/Energy Balances
  - mass balances without reactions
  - mass balances with reactions
  - energy balances without reactions
  - energy balances with reactions

- Thermodynamics
  - work and energy
  - ideal fluids
  - real fluids
  - phase equilibria

- Fluids
  - flow behavior
  - mechanical energy
  - pumps and compressors
  - flow networks and fluid measurements

- Heat Transfer
  - without phase change
  - with phase change
  - equipment design
  - analysis of performance

- Mass transfer
  - distillation
  - absorption-stripping
  - liquid extraction
  - miscellaneous processes
- **Kinetics**
  - general definitions
  - chemical equilibrium, complex rate expressions
  - single reactors
  - complex reactors, ionic equilibrium

- **Plant Design and Operation**
  - economics
  - design
  - operation, safety and environment