

A First Course on Kinetics and Reaction Engineering

Unit 35. Lesson Plan

Before Class

- Provide the redacted slides to the students
- Tell the students to print the worksheet for Activity 35.1 and bring it to class
- Tell the students to print the equations from Unit 17 or, preferably, the AFCoKaRE Exam Handout and bring it to class

During Class

- Introduce today's topic and where it fits in the course
 - Slides 1 and 2
- Review of Unit 35 (5 minutes)
 - Slide 3
 - ▶ point out that this unit is almost the same as unit 29; the difference is that in unit 29 networks of actual reactors were modeled whereas here a network of hypothetical reactors is being used to model one actual reactor
 - ▶ the other "new" thing is a well-mixed stagnant zone which is just a CSTR whose inlet and outlet are connected to the same point in the network
 - Slide 4: ask whether the students have any questions from their pre-class preparation and answer them
- Learning Activity 35.1 (~40 minutes)
 - Slide 5: Read through the problem statement.
 - Slide 6: Remind them of the general process for analyzing reactor networks
 - Slide 7: Optionally show them the diagram and given quantities so everyone starts with the same labeling
 - ▶ Since they have previously solved reactor network problems, the slides do not lead them through the solution step-by-step. If you feel that is necessary, introduce slides to do so here. Otherwise, have them work on the problem while you circulate, observe and answer questions
 - Slides 8 through 14: When the class is nearly over, show them the solution so they can check their work
- Summary
 - Slide 15: Put the material covered in this class into the overall context of the course.

After Class

- Make the complete slides available to the students