A First Course on Kinetics and Reaction Engineering

How To Express C_A (or P_A) in Terms of n_B (or ἡ_B) in a Single Reaction System*

- 1. Write an expression for n_B (or \dot{n}_B) in terms of the extent of reaction, and solve it to get an expression for the extent of reaction
- Write the defining equation for C_A (or P_A) in terms of the moles (or molar flow rates) of A and, if relevant, the total moles (or molar flow rate)
- 3. Each place moles (or molar flow rate) appears in the equation from step 2, express them in terms of the extent of reaction
- 4. Substitute the expression from step 1 for each occurrence of the extent of reaction in the equation resulting from step 3
- * It is very common to need to do this when analyzing kinetics data from a batch or plug flow reactor; you will need to do this when solving problems in Part II of this course.