e-tivity: Glossary Human × AI – Basic Concepts of Chemical Engineering

Objective

To develop a solid understanding of fundamental concepts and equipment in chemical engineering, to explain them clearly and precisely in one's own words, and to practice the reflective and critical use of generative AI.

Tasks / Action (Your Steps)

Step 1 – Choose a term (2 minutes)

Select one basic term from the list below (or from the lecture slides):
Reactor types: Stirred tank reactor, tubular reactor, fluidized-bed reactor, bioreactor/fermenter, electrolytic cell, autoclave, rotary kiln
Kinetics / performance: Conversion, yield, selectivity, production rate, residence time, reaction order, equilibrium constant
Operation / process: Batch operation, continuous operation, back-mixing, plug flow, catalyst

Step 2 – Create a Moodle glossary entry (10–15 minutes)

Create a glossary entry with the following structure (use these headings):

1. **Term** – (term only)
2. **Your own explanation (Human) –** max. 80–120 words, in your own words, including one short practical reference (e.g. "typically used in …").
3. **AI explanation –** generate a definition using an AI tool.
4. **Comparison & Reflection (5–6 sentences)**
    - Where do both explanations agree?
    - Where is the AI explanation imprecise, too general, or too specific?
    - What did you explain better or in a more context-specific way?
    - Validation: How did you verify correctness (script/lecture notes/source)?
5. **Sources / references** – if used (script pages, reliable sources).
6. **Transparency statement** – add a short AI transparency line at the end of your entry: *"AI use: tool = … / prompt = …"*

Reaction / Interaction (Peer Exchange)

Step 3 – Comment on two peers' entries (3–5 minutes each)

Choose two other terms (not your own) and write a concise comment focusing on Human vs. AI:

- Which explanation (human or AI) is clearer and more comprehensible – and why?
- Provide one concrete suggestion for improvement (e.g. missing apparatus reference, insufficient practical context, unclear distinction).
- If you notice any technical ambiguity, formulate a specific follow-up question.

Step 4 – Author response (2–3 minutes)

Respond briefly to at least one comment on your own entry:

- What you would adopt or change – and why or why not (1–2 sentences).