Simulation of Chemical Processes

Schedule:

Week 1: Process flow diagram creation. Simulation of simple reactions, evaluation of results.

Week 2: Investigation of vapor–liquid equilibrium. Modeling of continuous equilibrium distillation.

Week 3: Simulation of rectification. Short-Cut and SCDS models.

Week 4: Simulation of other mass transfer operations: absorption, desorption, extraction.

Week 5: Simulation of special distillation methods: azeotropic distillation, pressure-swing distillation, extractive distillation.

Week 6: Simulation of pipelines, pump sizing, determination of operating point.

Week 7: Use of different reactor models.

Week 8: Parameter sensitivity analysis.

Week 9: Use of controllers to calculate and adjust individual simulation parameters.

Week 10: Modeling of heat exchangers.

Week 11: Modeling of recycled processes.

Week 12: Simulation of typical chemical processes.