Modulbezeichnung	Process Modeling
Modulbezeichnung (eng.)	Process Modeling
Semester (Häufigkeit)	5 (jedes Wintersemester)
ECTS-Punkte (Dauer)	5 (1 Semester)
Art	Vorlesung, Übung
Sprache(n)	English
Studentische Arbeitsbelastung	60 h Kontaktzeit + 90 h Selbststudium
Voraussetzungen (laut BPO)	keine
Empf. Voraussetzungen	keine
Verwendbarkeit	BNPT, BNPTPV, BBT, BBTPV
Prüfungsart und -dauer	Vorlesung: Klausur 1h oder mündliche Prüfung (Prüfungsleistung) Praktikum: Experimentelle Arbeit (Studienleistung)
Lehr- und Lernmethoden	Lecture, Intership
Modulverantwortliche(r)	S. Steinigeweg

Qualifikationsziele

After completing the module students are able to

- create a static model of a chemical or biotechnological process
- implement the model in standard software
- use simulation to evaluate the process

By

- analyzing the process and identify subprocesses
- assigning subprocesses to simulation objects
- creating a flowsheet simulation

In order to

- create mass and energy balance of a process
- carry out process evaluations (technical, economical, ecological) -create approaches for process optimization

Lehrinhalte

Students will learn how to set up a process simulator using the Aspen Engineering Suite as an example. They learn to analyze existing technical processes from the perspective of process modeling. Components of a simulation model and functions of a process simulator are discussed. Students will learn how to create a process model and implement it in simulation software. They apply the created model for process analysis. In the practical part, you will carry out the work independently on an example from industry.

Literatur

Haydary; Chemical Process Design and Simulation, Wiley, 2018
Chaves et al.; Process Analysis and Simulation in Chemical Engineering, Springer, 2016
Gmehling et al.; Chemical Thermodynamics for Process Simulation, Wiley, 2019

Lehrveranstaltungen		
Dozenten/-innen	**Titel der Lehrveranstaltung**	**SWS**
S. Steinigeweg	Introduction to process modeling	2
S. Steinigeweg	Process simulation project	2