Modulbezeichnung	Energy System Simulation
Semester (Häufigkeit)	5 (jedes Wintersemester)
ECTS-Punkte (Dauer)	5 (1 Semester)
Art	Pflichtmodul
Sprache(n)	English
Studentische Arbeitsbelastung	60 h Kontaktzeit + 90 h Selbststudium
Voraussetzungen (laut BPO)	
Empf. Voraussetzungen	Sustainable Production, Energiesysteme, Einführung in das Programmieren
Verwendbarkeit	BEEEE
Prüfungsart und -dauer	Berufspraktische Übung
Lehr- und Lernmethoden	Projektseminar
Modulverantwortliche(r)	A. Pechmann

Qualifikationsziele
Students will be able to model and dynamically simulate the data, energy and material flows in an energy system. The Anylogic software is used for the simulation.

Lehrinhalte
Using the example of an exemplary learning factory, the energy system with its data, energy, and material flows is analyzed and related to a possible virtual power plant as an energy producer. The essential resources and flows (energy, material, data) are identified, represented in suitable models, simulated dynamically (discrete-time / agent-based), and visualized. For the introduction to the simulation software used, material flows of a simple system known to the students are simulated first.

Literatur
Grigoryev, Ilya: AnyLogic 8 in Three Days: A quick Course in Simulation Modelling, 2023

Lehrveranstaltungen

Dozenten/-innen	Titel der Lehrveranstaltung	SWS
A. Pechmann	Energy System Simulation	4