Modulbezeichnung	Thermal Power Plants
Semester (Häufigkeit)	3 (jedes Wintersemester)
ECTS-Punkte (Dauer)	5 (1 Semester)
Art	Pflichtmodul
Sprache(n)	Deutsch oder Englisch
Studentische Arbeitsbelastung	60 h Kontaktzeit + 90 h Selbststudium
Voraussetzungen (laut BPO)	
Empf. Voraussetzungen	
Verwendbarkeit	BEEEE, BIBS
Prüfungsart und -dauer	Klausur 2h oder mündliche Prüfung, berufspraktische Übung
Lehr- und Lernmethoden	Vorlesung
Modulverantwortliche(r)	C. Jakiel

Qualifikationsziele
During this lecture students learn about different types of thermal power plants and their functions. This includes knowledge of different primary heat sources and heat engines. And they should be able to choose the heat engine suitable to the available heat source. Students should be able to classify and evaluate the power plants regarding efficiency, emissions and power density. They can describe, analyze and compare the different steps of energy conversion from primary to electric energy in thermal power plants.

Lehrinhalte
Structure, function and operating behavior of thermal power plants for conventional (coal, oil, natural gas, nuclear) and renewable (solar, geothermal, biomass, (process) waste heat) heat energy sources, including sector coupling. Global energy ressources. Energy conversion processes, including losses and efficieny definitions.

Literatur
D. K. Sarkar, Thermal Power Plant - Design and Operation. Amsterdam: Elsevier, 2015.
R. Zahoransky, Ed., Energietechnik - Systeme zur konventionellen und erneuerbaren Energieumwandlung, 8th ed.. Wiesbaden: Springer Vieweg, 2019.

Lehrveranstaltungen

Dozenten/-innen	Titel der Lehrveranstaltung	SWS
C. Jakiel	Thermal Power Plants	4