Modulbezeichnung	**Laboratory Course Wind Energy**
Semester	WPM
ECTS-Punkte (Dauer)	2 (1 Semester)
Art	Wahlpflichtmodul für BaSES, BaCTUT und BaMD
Studentische Arbeitsbelastung	30 h Kontaktzeit + 30 h Selbststudium
Voraussetzungen (laut BPO)	Wind energy
Empf. Voraussetzungen	
Verwendbarkeit	BCTUT, BMD
Prüfungsform und -dauer	Klausur 1,5h oder mündliche Prüfung
Lehr- und Lernmethoden	Vorlesung
Modulverantwortlicher	I. Herraez

Qualifikationsziele
The students apply the theoretical concepts learnt in the lecture “Wind Turbines“ for performing small scale experiments on wind tunnels and drive trains of wind turbines. They broaden their understanding of the physical principles of the wind energy utilization and expand their abilities for performing experimental work. They are capable to evaluate and analyze measurement results from wind turbines and extract conclusions about their operation. They deepen their knowledge about the blade aerodynamic design as well as the transmission system of wind turbines. In addition, they improve their social and intercultural competences by working in teams in an international environment.

Lehrinhalte
Blade aerodynamic design and influence of different factors like e.g. pitch angle, airfoil shape, blade shape, yaw missalignment, tip speed ratio on the aerodynamic performance of wind turbines. Drive train mechanical design and influence of different parameters on its efficiency.

Literatur
Gasch/Twele; Windkraftanlagen: Grundlagen, Entwurf, Planung und Betrieb; 9. Auflage, Springer Vieweg, 2016
Hau, E.; Windkraftanlagen; 6. Auflage, Springer Vieweg, Berlin, 2017

Lehrveranstaltungen

Dozent	**Titel der Lehrveranstaltung**	**SWS**
I. Herraez	Laboratory Course Wind Energy	2