

WindLab

mint-lab

The WindLab makes wind energy technology exciting and easy to understand at universities and in our professional education seminars.

Students learn about the complex technology of a wind turbine in a practical and simple way by doing experiments.

mint-lab

WE
INSPIRE
PEOPLE
IN
LEARNING



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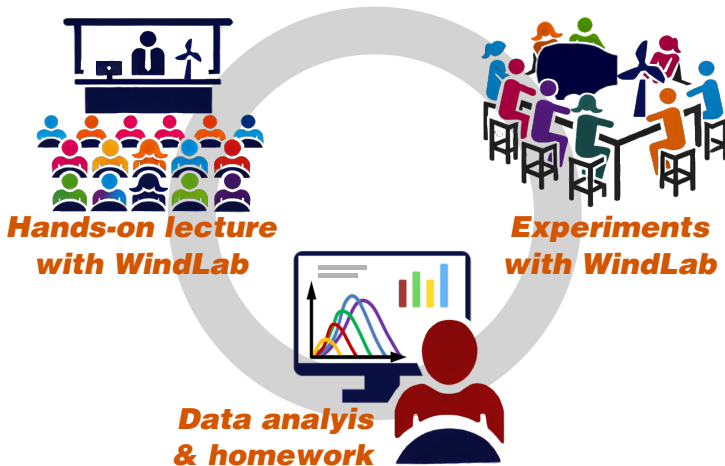


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Positive learning experience

Our wind laboratory provides an experimental approach to knowledge and can be used in three modes:



Improving the wind energy curriculum

The wind laboratory offers 20+ experiments and tasks to gain a deep understanding of a wind turbine in all aspects:

Aerodynamics of wind turbines

How is lift generated by an airfoil and how does it cause the rotor to turn? For what purpose do we use the pitch system and what is the effect on the power?

Power curves and control

How to measure power curves and read a data sheet? What is torque control and pitch control? How can we start and stop the wind turbine and optimize the energy yield?

The electrical System

How is mechanical energy converted into electrical energy? Do we need a gearbox? What are the effects of the inverter and an electrical consumer on the drive train?

Dynamics and design

How can we avoid heavy oscillations during power production in a wind farm? Can we design and 3D-print a rotor blade that increases the energy yield in our measurements?