

WIND ENERGY/TURBINE TECH (WTT)

WTT-101 Wind Turbine Orientation (1)

Offers summer internship option. Discusses the on-campus utility-scale wind turbine and allows tours of the internal structure. Offers designation as an authorized climber. Arts & Sciences Elective Code: B

Hours per week: 0.5 lecture, 1.0 lab

Prerequisite: Take the OSHA-10 Construction safety course.

WTT-210 Wind Energy Systems I (4)

Reviews the history of wind energy and the evolution from ancient windmills to modern-day electricity generating wind turbines. Explores technical concepts that govern wind turbine operation. Teaches wind industry safety, wind turbine designs, siting and construction considerations, generator types and operation, the aerodynamic principles of lift and drag, and basic maintenance practices. Introduces turbine control systems, communications and networking, and HMI programs. Arts & Sciences Elective Code: B

Hours per week: 2.0 lecture, 4.0 lab

Prerequisite: Take ELT-224. Take the OSHA-10 Construction safety class.

WTT-310 Wind Energy Systems II (4)

Continues the concepts learned in WTT-210-Wind Energy Systems I. Explores additional turbine subsystems as well as preventative maintenance concepts. Teaches maintenance safety, generator control, braking and mechanical systems, blade pitch, emergency circuits, and all facets of scheduled maintenance, including torque and tensioning, lubrication, and inspection techniques. Addresses electrical, hydraulic, and mechanical troubleshooting techniques through hands-on practice.

Arts & Sciences Elective Code: B

Hours per week: 2.0 lecture, 4.0 lab

Prerequisite: Take WTT-210.