

Wind Energy EFA

Wind energy has become a major source of clean energy. Wind generation is expected to grow over the next decades and create new jobs. Professionals with diverse backgrounds and knowledge of wind energy fundamentals are needed to fill these jobs. The Wind Energy EFA prepares students for a career in wind energy, and allows for completing all requirements for the Certificate in Wind Energy. Information on the Certificate in Wind Energy can be found at <http://catalog.registrar.uiowa.edu/engineering/wind-energy/certificate/>. The wind energy certificate requires 18 sh of course work, including two required courses (IE:4550 and GEOG:3560) and 12 sh of wind energy elective courses. The EFA schedule below is designed to satisfy the Certificate in Wind Energy requirements. The Math/Science Elective is required for any EFA and suitable courses are listed in the second table.

The following courses are required for this EFA:

Semester	EFA Course	Session	SH	Pre/Co-requisites
4 (Spring)	GEOG:3560 Spatial Analyses of Wind Energy	S	3	None
6 (Spring)	Wind Energy Elective #1		3	
7 (Fall)	Wind Energy Elective #2		3	
7 (Fall)	Wind Energy Elective #3		3	
8 (Spring)	Wind Energy Elective #4		3	
8 (Spring)	IE:4550 Wind Power Management if IE:4550 is <u>not</u> used as the system elective, or Above 3000-level engineering course if IE:4550 is taken as the system elective		3	
8 (Spring)	Math/Science Elective		3	

The following courses are wind energy electives:

Course #	Course	Session	SH	Pre/Co-requisites
CBE:4410	Sustainable Systems	S	3	None
CBE:2030	Energy and Society	F	3	None
CBE:3160	Eng Analysis Alternative Energy Systems	S	3	ENGR:2130
ECE:5620	Electric Power Systems	S 2019, 2021	3	ENGR:2120 and PHYS:1611
ECE:5630	Sustainable Energy Conversion	F 2018, 2020	3	ENGR:2120 and PHYS:1611

The following courses are math/science electives:

Course #	Course	SH	Pre/Co-requisites
PHYS:2704	Physics IV	3	MATH:1860 and PHYS:2703
CHEM:1120	Principles of Chemistry II	4	CHEM:1110
STAT:4510	Regression, Time Series, & Forecasting	3	STAT:4101 or STAT:5101
STAT:3210	Experimental Design & Analysis	3	STAT:3200
MATH:3800	Elementary Numerical Analysis	3	Grade of C- or higher in MATH:1860 or MATH:1560
MATH:3550	Engineering Mathematics V	3	MATH:2560
BIOL:1411	Foundations of Biology	4	CHEM:1110

For further information, please contact: Professor Andrew Kusiak, Department of Mechanical and Industrial Engineering, University of Iowa, Iowa City, IA 52242, Tel. (319) 335-5934, e-mail: andrew-kusiak@uiowa.edu