

DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGY COURSE SYLLABUS

Course Details											
Code						Academic Year			Seme	Semester	
EBT304						3			6		
Title						Т	Α	L	ECTS		
Wind Energy						2	1	1	6		
Language	German										
Level	Undergraduate	e X Graduate				Postgra			aduate		
Department / Program	Energy Science and Technology										
Forms of Teaching and Learning	Face-to-face										
Course Type	Compulsory		х			Elective					
Objectives	How the wind occurs, its formation processes and its effects are explained to the students. Information about the design, structure, production and operation of wind turbines is given. It is aimed to teach the power generation calculation of wind turbines, wind speed statistics and the calculation of the loads on the turbine. By applying wind energy economics, cost calculations and deployment examples, it is aimed that the student who takes the course has a basic knowledge level about this field.										
Content	Wind formation process and sources, wind characteristics and wind potential, wind power calculation methods and statistics, turbine installation, structure and aerodynamics, turbine structure and operational systems, turbine deployment and wind energy economics.										
Prerequisites	None										
Coordinator											
Lecturer(s)											
Assistant(s)											
Work Placement	None										
Recommended or Required R	eading										
Books / Lecture Notes	Burton, T., Sharpe, D., Jenkins, N., Bossanyi, E., 2001, Wind Energy Handbook, John Wiley & Sons. Jarass, L., Obermair, G., Voigt, W. (2009). Windenergie: Zuverlässige Integration in die Energieversorgung. Springer Science & Business Media.										
Other Sources											
Additional Course Material											
Documents											
Assignments											
Exams											
Course Composition											
Mathematics und Basic Sciences		2	20						%		



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	COOKSEST		
Engineering	40		%
Engineering Design	40		%
Social Sciences			%
Educational Sciences			%
Natural Sciences			%
Health Sciences			%
Expert Knowledge			%
Assessment			
Activity	Coun	Percentage (%)	
Midterm Exam	1	40	
Quiz			
Assignments			
Attendance			
Recitations			
Projects			
Final Exam	1	1	
		Total	100
ECTS Points and Work Load	l		
Activity	Count	Duration	Work Load (Hours)
Activity Lectures	Count	Duration	Work Load (Hours)
	Count	Duration	Work Load (Hours)
Lectures	Count	Duration	Work Load (Hours)
Lectures Self-Study	Count	Duration	Work Load (Hours)
Lectures Self-Study Assignments Presentation / Seminar	Count	Duration	Work Load (Hours)
Lectures Self-Study Assignments Presentation / Seminar Preparation	Count	Duration	Work Load (Hours)
Lectures Self-Study Assignments Presentation / Seminar Preparation Midterm Exam	Count	Duration	Work Load (Hours)
Lectures Self-Study Assignments Presentation / Seminar Preparation Midterm Exam Recitations	Count	Duration	Work Load (Hours)
Lectures Self-Study Assignments Presentation / Seminar Preparation Midterm Exam Recitations Laboratory	Count	Duration	Work Load (Hours)
Lectures Self-Study Assignments Presentation / Seminar Preparation Midterm Exam Recitations Laboratory Projects	Count	Total Work Load	Work Load (Hours)
Lectures Self-Study Assignments Presentation / Seminar Preparation Midterm Exam Recitations Laboratory Projects			Work Load (Hours)
Lectures Self-Study Assignments Presentation / Seminar Preparation Midterm Exam Recitations Laboratory Projects		Total Work Load	
Lectures Self-Study Assignments Presentation / Seminar Preparation Midterm Exam Recitations Laboratory Projects Final Exam		Total Work Load	
Lectures Self-Study Assignments Presentation / Seminar Preparation Midterm Exam Recitations Laboratory Projects Final Exam Learning Outcomes		Total Work Load	
Lectures Self-Study Assignments Presentation / Seminar Preparation Midterm Exam Recitations Laboratory Projects Final Exam Learning Outcomes		Total Work Load	



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Contribution o	f Learning Out	comes to Prog P2	ram Objective	s (1-5) P4	P5	P6	P7
Contribution o					P5	P6	P7
1 2					P5	P6	Р7
1 2 3					P5	P6	Р7
1 2 3 4					P5	P6	P7
1 2 3 4 5					P5	P6	P7
1 2 3 4 5					P5	P6	P7
1 2 3 4 5 6					P5	P6	P7
1 2 3 4 5 6 7	P1	P2	P3	P4		P6	P7
1 2 3 4 5 6 7 8 Contribution Lev	P1	P2 1: Low 2: Low-in	P3	P4	P5 High 5: Very High	P6	P7
1 2 3 4 5 6 7 8 Contribution Lev P1 Working with P2 Having mode	P1 vel n modern scientirn scientific kno	P2 1: Low 2: Low-in fic sources. owledge and scientific sources.	P3 Itermediate 3: In	P4 Itermediate 4:	High 5: Very High		
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